



in Color



BOOP! The Musical is a tale of two dimensions—and color palettes

By: David Barbour

Offering the kookiest, most audacious premise for a Broadway musical in several seasons, *BOOP! The Musical*, now at the Broadhurst

Theatre, pays tribute to the durable comic icon known as Betty Boop. Created by animator Grim Natwick for Max Fleischer, whose New York-based studio was a powerhouse in the early days of sound cartoons, Betty, conceived as part poodle, quickly morphed into the quintessential flapper, a curvaceous cutie porting a short-short skirt and rolled stockings, a squeaky-voiced jazz baby on the hunt for fun and adventure. (For most of her long run, she was voiced by Mae Questel, later a Broadway performer of note.) Because Betty was a creature of the pre-Code era (and because Fleischer ran an anything-goes operation with no interest in Disney-style wholesomeness), Betty's cartoons, extensively available on YouTube, look pretty wild for her era, and ours. For example, in 1934's *Red Hot Mama*, Betty goes to Hell, where she sees incoming "freshmen" plunging a slide straight into devil suits; surrounded by the fires of damnation, she lifts her skirt and sings "Hell's bells ringing in my ears."

BOOP! The Musical wonders what such a *recherché* figure might have to say to the world of 2025. Quite a lot, as it turns out: In Bob Martin's book, Betty, who inhabits a two-dimensional, black-and-white universe entirely built around her stardom, is transported to the three-dimensional world via a "trans-dimensional tempus locus actuating electro-ambulator" built by Grampy, her nutty inventor father figure. In modern Manhattan, she befriends Trisha, a winsome tweener with a fascination for all things Boop; strikes sparks with Dwayne, a struggling jazz musician, and gets entangled in the mayoral run of Raymond, a corrupt sanitation commissioner. However, Boopworld, is disintegrating in her absence, threatening the lives of her



Opposite: The show's starkly different palettes dictate black and white for Boopworld and full color for Manhattan. Above: A couple of scenes unfold on this rooftop, backed by a Manhattan skyline.

director, Oscar Delacorte, and has assistant, Clarence, who discreetly share feelings for each other. With so many clashing responsibilities, what's a gal to do?

A sleek, strictly-for-fun vehicle reminiscent of another Broadway era, *BOOP!* easily rests on Martin's gags, the classic sound of David Foster and Susan Birkenhead's score, and the sheer style of Jerry Mitchell's staging and choreography. (It is likely to go down in Broadway history as the debut of the phenomenally talented Jasmine Amy Rogers in the title role.) The latter is aided by a production design that moves quickly from the silvery, surreal Boopworld to a rainbow-hued Manhattan and back. The transitions can be instantaneous: The Act II opener, "Where is Betty?" shuttles between black and white and color every ten seconds or so. It's a sleight-of-hand approach that encapsulates the dilemma of a heroine caught between two dimensions.

Scenery

The show's unique premise is embodied in the scenic design of David Rockwell and the projection design of Finn Ross. Wherever *BOOP!* goes—Betty's movie studio, her apartment, New York's Jacob Javits Center, a Harlem brownstone, a jazz club, and Times Square—dimensional scenery and video imagery work in tandem. "It was a particularly unusual, interesting challenge to frame the show around this black-and-white character living in a very eccentric world," Rockwell says. Thus, providing crucial scenic context, the stage is framed in a portal populated by secondary characters from Betty's universe, including Koko the Clown (an earlier Fleischer Studios star).

Video also asserts itself in the first scene, featuring a cartoon titled "Betty Saves the Day," which morphs into the opening number, "A Little Versatility," in which Betty cycles through different personas, including cowgirl and aviatrix. "I love the way the show opens up," Rockwell says. "The screen comes in, showing 'Betty Saves the Day.' The screen opens, and then we have another screen with a real portal behind it. The portal flies away, and then we have all three layers of LED screens with curtains framing them. Also, the stage legs are real crystal; we have many layers to work with." This sequence also lays the

groundwork for the second number, "Ordinary Day," which establishes that, having played so many roles, Betty has no idea who she is.

From here on in, Rockwell's scenery and comic props are complemented by Ross' imagery. The scenic layout includes four LED screens: two downstage, one at mid-stage, and one that, Rockwell says, "can fly in upstage, creating an environment that allows Jerry to do big dance numbers. As a choreographer, he likes to have the environment move, which is why the screens fly and track. They come onstage in many surprising ways."

Visual surprises are everywhere; for example, the second scene, set in Betty's apartment, features the "chicken-o-matic," a rickety device, devised by Grampy, that turns poultry into banana split sundaes. Much of the scenery was realized in collaboration with Skylar Fox, designer of the show's illusions. These include Grampy's trans-dimensional tempus locus, etc., which looks like a well-padded easy chair that trembles and emits smoke. Each prop in Betty's world is carefully tailored to support gags and bits of business. Noting that Betty travels with her pooch, Pudgy, represented by a puppet manipulated by the performer Phillip Huber, Rockwell says, "When Betty disappears, she's got to do it in a chair with an edge that Pudgy can stand on."





Above and opposite: Betty's apartment. "Everything onstage comes from an original Boop drawing, but it's not necessarily an original Boop composition," Ross says. "It may have been cut out or roto-scoped from an existing thing, but we have not done any reinterpretation or remaking of the Boop world."

Envisioning Boopworld required intensive prep work, "We built very careful mockups," says Rockwell, who adds that the idea of black-and-white scenery is an illusion: "It is really hundreds of different shades; a little gray, a little bit of green, a little bit of blue until it felt dimensional as black and white with all these grays in between." Fortunately, he adds, there was no lack of source materials. "The Fleischer estate let us use anything we wanted."

Betty is blasted into Jacob Javits Center, Manhattan's top convention spot, in the middle of Comic-Con: This cues a number titled "In Color," and the contrast in looks is as stark as the transition from Kansas to Munchkinland in the film of *The Wizard of Oz*. Betty meets Trisha in this scene; later, the exterior of Trisha's brownstone is seen on one of the downstage video screens; the brownstone interior consists mostly of scenery. Trisha's bedroom, however, extends the hybrid theme, Rockwell says. "The windows, the fascia, and the molding all lead to a screen with poster art on it. The look is slightly 'Bettified,' when she talks about this being the most amazing world," the view outside her window offers a magical video view of the city.

Working with Ross required a different approach for each scene, Rockwell says. "In the case of the physical environments, I started with research. In working out sky-

lines [of which there are several], we worked together on the proportions of the content. Sometimes a scene is based on an animated short. A lot of stuff got developed and massaged in the theatre; the simplest things were the hardest to get right because we wanted to focus on the action."

A sense of proportion was key to designing several scenes, including the jazz club, site of the rousing first-act finale, "Where I Wanna Be." At the top of the number, with Betty singing, the space, which relies on dimensional scenery, feels intimate; then it expands to accommodate dance. "It was about making it so Betty feels big, and then the space opens up with those curtains framing it. There's a downstage set piece [a small set of steps] and pendant light fixtures repeated on the upstage wall. It's a perfectly massive physical environment, and [the transformation is] seamless."

Another dimensional set is Raymond's office at the Department of Sanitation, where he tries to have his way with Betty in the song "Take It to the Next Level." In a witty touch, the upstage wall is dominated by a painting of a sanitation truck with an enormous American flag on its side.

The most dazzling number is "Where is Betty?," which shifts between Boopworld and Times Square in lightning-



The jazz club, site of the first-act finale, "Where I Wanna Be." "I knew this was going to be a really, really heavy dance show," Rosenberg says. "One of the first things I talked to production management about was making sure our light ladders could get flown to the deck for the big numbers."

fast shifts. "That was a big change from Chicago [where the show tried out]," Rockwell says. "Jerry said that the second act opener needed to be as big a wow as 'A Little Versatility'." The number also called for a close collaboration with Barnes, whose two-sided costumes play a crucial role. "We had to make sure we supported each other's work very much in the black-and-white and color worlds, both of which have a ton of patterns. Between us, there's not a color that isn't used in the show."

The Times Square scenes often include the "red steps," the gathering place behind the TKTS booth that has become such a feature of the area. "It's a big unit," Rockwell says. "We created the part that gets danced on,

and each time we see it, the screens behind it are in slightly different perspectives. I think it works to have a simple, sculptural red set piece with the screens to provide an updated look. It's such a representative space, and it's my first time doing it." The scenery was built by ShowMotion.

Video

For his part, Ross says, "We spent a great deal of time in pre-production, working on the rules of this world. What does it do? How does it work? How is color used? How is shape or form used? How much of Betty's cartoon world comes into the real world, and how do we use that to shift the audience on a journey? The initial process involved a



Photo: Matthew Murphy and Evan Zimmerman

lot of R&D. We pushed around a lot of stuff in the studio until I was ready to take it to Jerry and David.”

Ross agrees that the projections break down into three categories: “Betty’s world was a fun, if slightly daunting, process of taking apart many, many, many cartoons to build an asset bank: chairs, tables, pictures, pieces of furniture. Everything onstage comes from an original Boop drawing, but it’s not necessarily an original Boop composition. It may have been cut out or rotoscoped from an existing thing, but we have not done any reinterpretation or remaking of the Boop world. It’s all authentic, which I feel pleased about.

“Then,” he adds, “there’s the more literal world, for the interstitial book scenes.” These include the front, interior, and roof of Trisha’s brownstone. We also get more poetic in big numbers or in songs that take us into a character’s

mind, giving us something fantastical as the world around Betty comes alive.” Examples of the latter include the spiraling musical notes seen in Dwayne’s production number “I Speak Jazz” and the lyrics, complete with bouncing ball, in “Why Look Around the Corner,” set on the roof of Trisha’s building. “We were encouraged to give free rein to the imagination in numbers like “I Speak Jazz,” Ross notes. “Jerry is a generous collaborator, and he doesn’t try to impose too much on you as a designer. He’s interested to hear what you have. Sometimes he will come with a specific idea, like [as in “Where is Betty?”] having Times Square switch from black and white to color and from color to black and white. An idea like that sets you off on a journey. Working with Mitchell, he adds, “is a wonderful kind of feed loop: You give him something, then he has an idea, and it loops and loops into something really exciting.”

Even with the presence of time code, Ross notes that the quicksilver color transitions in “Where is Betty?” were challenging to implement. “Once we had the initial structure, the question was: Can you do something for a two-count only and pop back to something else for a two-count? How tight can you get before it overwhelms the audience or you lose the performer? The number is in three parts: It starts slow, gets faster, then goes mad. It was about saving stuff for the button rather than hitting everything up front.”

Video gear, supplied by 4Wall Entertainment, includes 633 Absen Absen PL Pro 2.5mm LED panels, a Disguise d3 gx2 media server, four additional Disguise gx2cs, ten Brompton Technology Tessera SX40 LED processors, 20 Tessera XD distribution units, one Panasonic PT-RZ34K 3DLP projector, an Imagine Communications Platinum MX routing system, three Barnfind Technologies BarnOne BTF1-02 signal transport frames, four Ross oGx openGear frames, ten Cobalt 9904-UDX-4K cross converters, one Cobalt 9960-TG2 test signal generator, two Ross MUX-8258 SDI audio embedders, three Ross SPG-8260 sync pulse generators, five AJA OG-Hi5-4K-Plus converters, an AJA OG-2x4-SDI-DA SDI distribution amplifier, and an Vertiv/Avocent HMX6000 IP KVM system consisting of an Avocent HMX Advanced Manager, 14 Avocent HMX6200R KVM receivers, and 16 Avocent HMX6200T KVM transmitters.

The period between Chicago and New York kept Ross busy. “We refined the real-world scenes to align them more with the cartoon world. I felt they were a bit too disparate. Also, ‘Where is Betty?’ is a new number, and the Act II structure changed significantly. Should we do the show again, we will tweak and refine something. The process never ends; it just evolves.”

In any case, he notes, “We moved quite fast. We teched Act I in four days, with three days for Act II. The challenge was arriving in the theatre in a ready-enough place, with everyone understanding what they were going to get, so, as we teched, we could layer in new ideas and make the design come alive. It was very hard work but rewarding.”



Above and opposite: Raymond's office, featured in the number "Take it to the Next Level." Note the gorgeously painted sanitation truck, a tribute to his choice of career.

Lighting

In some ways, *BOOP!*'s distinctive blend of dimensional and video scenery shaped Philip S. Rosenberg's lighting design. "One challenge was to keep it feeling three-dimensional," he says. "David's idea, to always have a piece of three-dimensional scenery in front of the video works, incredibly well. There are scenes when you're not sure what is scenery and what is video." In such an environment, he adds, "It's always about keeping the space and actors as sculpted as possible."

Also, he says, "I knew this was going to be a really, really heavy dance show, so one of the first things I talked to production management about was making sure our light ladders could get flown to the deck for the big numbers. Nobody balked at that; everyone was on the same page about what the show needed to look like, which was amazing. Juniper Street Productions, especially Victoria Bullard, managed the show beautifully. I knew that we needed a lot of low sidelight, and the rest of the plot was built around that. Also, in those moments when we're very open scenically for choreography, you need to have a

strong lighting statement in the air."

Talking about the show's different realities, Rosenberg says, "It was fun to work in the black-and-white world. I never felt like I was running out of ideas there. Every once in a while, I'd tweak a bit of the "white" tones to give us more sculpture. It's tricky, though. There are four kinds of black and white on that stage: lighting, scenery, costumes, and video. It was interesting to see how lighting could tie everything together. Finn is such an incredible collaborator; he was willing to tweak anything to make it work. And David had ideas about how the black and white sometimes looked too green or too yellow. [Props supervisor] Kathy Fabian said, 'We all need to sit down and pick out some Pantone grays so that we know we're all working in the same world.' Everyone had a hand in the making of it."

The big revelation of *BOOP!*, Rosenberg says, was, "Because I had great collaborators, the light didn't have to do all the work. We're in the black-and-white world for the ten minutes, then we get to Comic-Con, and there's a song all about color. We had pre-lit [the latter scene] to be incredibly colorful; when we got to tech and showed it to

Jerry, he said, 'Gregg's costumes are telling the story. You just have to show the colors onstage.' That was a relief, actually. It's the same thing in the finale ["The Color of Love"], when everyone comes out in those gorgeous multi-colored costumes; all we needed to do to showcase them was to put warm-white light on them. It's the same thing at the top of Act II in 'Where is Betty?' It's basically cool white, warm white, cool white, warm white, although we do punch up the color moments a bit."

Rosenberg loves the Act II opening for showing "the worlds juxtaposed within moments of each other; you don't get to see that in the rest of the show. When Jerry first proposed it, I thought, Oh my God, that sounds crazy. But it's fun to see those instantaneous shifts." The black-and-white in "A Little Versatility" is, he says, "done with a bunch of shins. Because you don't have color, it's all about angles and cueing. The music is so good, it's easy to cue; it just demands lighting." In the case of "Where I Wanna Be," he says, "We found a lot of the hits in Chicago, but there was something about coming into New York—maybe it's the intimacy of the theatre, or maybe the slightly new orchestrations—but more ideas popped out. We added stuff here and there; it was like a little game at the lighting desk: Are we missing something here? Do we need something there? Or Finn would change something in his context that would inform an improvement on our part or vice versa. Lighting and video had an incredibly symbiotic relationship!"

Switching between warm and cool white looks is relatively easy because everything in the lighting rig is an LED unit. The designer says his workhorses on *BOOP!* include GLP impression X4 XLs, impression X5s, and impression X5 Compacts. "In Chicago, we had vertical impression X5 Bars in every bay for low sidelight. But when the ladders were flown, we were missing a low, head-high idea that the bars weren't giving us because they didn't have the punch. So we popped a little X5 Compact at the top of each boom; they're slim and very bright, so they came in very handy."

Running the numbers, the rig, supplied by PRG, includes 52 Martin MAC Encore Performance CLDs, 47 impression X4 XLs, 43 impression X5s, 18 impression X5 IP Bars, 16 MAC Viper Performances (for front light), 13 impression X5 compacts, nine Rosco Braq Cube 4CAs and five Miro Cube 4CAs, and three Lycian 1295 followspots. Atmosphere is supplied by an MDG ATMe haze generator plus two Martin JEM AF-1 fans. Power and distribution are via ETC Sensor and Motion Labs racks. Control is by an ETC Eos Ti. Gear from City Theatrical includes Multiverse transmitters; Multiverse nodes; QolorFLEX dimmers; QolorFLEX LED tape 24V indoor, adjustable white; QolorFLEX quad-chip four-in-one LED tape RGB + Indigo; QolorFLEX five-in-one LED tape, RGBWWCW; and accessories for the GLP and Martin gear. Record keeping is managed using Moving Light Assistant software.

In an especially amusing touch, "The Color of Love"

features Betty's world turning Technicolor, aided, in part, by Janet Hansen, whose company, Enlighted Designs, specialized in electrified costumes. In *BOOP!*, she says, "These pieces are built with a very high density of individually addressable RGB LED pixels, with a total of about 4,000 lights between the two garments. The lights are programmed with a series of effects, including a gradual expansion of red light to fill the whole surface, a red background with blue twinkling, and then a downward cascading rainbow. The patterns are triggered on cue via wireless DMX, using DMXpix receivers from RC4 Wireless. At each transition, a crossfade in the effects is computed by the Enlighted controller."

Hansen, who previously worked in aerospace engineering, developed her software for her costume work; she has been a regular customer of RC4 Wireless for roughly a decade. "The receiver is maybe 1" by 2" by about 1/2" thick. My controller, which is a little bit bigger than that, receives a full DMX stream for one universe. It is programmed to look at specific channels. For something with a large number of LEDs, it's not practical to send RGB values for every single pixel. I just send the brightness and a cue selection number through DMX, and then my software responds to that. If somebody wants a little extra control, we can also set parameters that work with the effects engine inside my software." She notes she worked with Barnes, Rosenberg, and Ross to incorporate the costumes into the overall design.

Sound

Only last year, we portrayed Gareth Owen as the go-to person on rock musicals like *Hell's Kitchen* and *The Who's Tommy*. Now, defying the stereotype, he's working on a classic-style show. "I've enjoyed showing Broadway I can



do something other than balls-to-the-wall rock and roll,” he says. “With my recent catalog of shows, it would be easy to get pigeonholed, and it’s been great to remind the world I can do the classic musical sound, too.”

He adds, “The challenges, as so often with the projects I work on, are the personalities involved: Jerry Mitchell, David Foster, and [orchestrator] Doug Besterman. These titans are serious heavyweights at what they do, and I feel privileged to be asked to join them.” Indeed, he admits, “I was a bit nervous about working with David. His pedigree [Celine Dion, Whitney Houston, Josh Groban, and Michael Bublé, for starters] is jaw-dropping, and he has a reputation for not suffering fools gladly. Luckily, we fell into an easy rhythm very quickly and rapidly realized we were both looking for exactly the same sonic aesthetic—a cinematic studio-type sound while retaining the live experience and keeping a connection to the performers onstage.”

Fortunately, he says, “Speaker positions were easy to achieve. It’s not my first outing with the lighting designer or the video designer, and we know how to find spots for our gear around each other. Considering he’s one of the most prolific scenic designers ever, it actually was my first time working with David Rockwell. Luckily, you don’t get to where he’s got to in life without being immensely collaborative, so I had no issues there either.

“The PA choice was dictated more by availability than my first choice,” he notes. “I wanted the new CCL boxes, but d&b [audiotechnik] couldn’t guarantee delivery in time—it would have been the first system in theatre anywhere—so we gladly substituted an XSL system that [the production’s audio gear supplier] Sound Associates had bought for another show which closed early. Their loss was my gain, and I was very happy with the rig.”

Interestingly, he adds, “My shows tend to oscillate backwards and forwards between traditional line array proscenium systems and the latest Soundscape technology [which his company developed with d&b]. How I decide which way to go can be quite arbitrary, but once I pick a direction, I tend to stick with it. *BOOP!* is a rare example of a show where I changed tack between versions: *Chicago* was a traditional proscenium system, but *Broadway* became Soundscape. While this added a huge amount of work for my associate Scott Kuker between productions, I felt that Soundscape could add an additional layer to the production for New York, and I like to think, with the addition of a zactrack smart tracking system, the additional work was more than justified.”



Rockwell's model for Betty's apartment displays the show's portal, which is populated with the full panoply of Fleischer Studios characters.

He adds, “Fun fact: one of our principals [Ainsley Melham, who plays Dwayne] mimes playing the trumpet. He’s actually very convincing, but by linking the sound of the trumpet from the orchestra pit to the performer’s tracker, the trumpet sounds like it is emanating from the performer—a subtle trick but quite convincing.”

The actors are miked with DPA 4066s, a typical choice for Owen. However, all principals are double-miked with Sennheiser MKE1s. In addition, Sennheiser MKE2s are used for the many tap sequences. “All the tap dancers have a mic on each foot, combined into a single pack,” Owen says. “The principal tap dancers have two packs to give stereo tap sounds—an idea that seemed fun in theory but didn’t actually add much to the final execution.”

Most of the show’s band is placed in the Broadhurst’s pit, Owen says, “with the exception of drums and bass, who have a refitted dressing room, complete with toilet, wash basin and light-bulbed mirrors, to live in. We have strived to leave the pit as open as possible with minimum baffling and screening, allowing the orchestra to play together as one cohesive unit. I’m a great believer that if the musicians—and cast, for that matter—enjoy performing together, they will play better, and if they play better, they will sound better—and then everyone is like, ‘Hey, the sound design is really good’.”

The sound is run via an Avid S6L-32D four-bay control surface, a product to which Owen is loyal, uniquely among Broadway sound designers. “All reverbs and effects are from the Fourier transform.engine,” he adds. “Obviously, as a founder of Fourier, I’m biased, but we built a product to fill a hole in the market, and the rapidly evolving platform is quickly becoming my definitive tool for all plug-ins and effects. We created several room tone ambience effects, which the vocals run through for the different worlds. It’s subtle, you won’t hear it unless it isn’t there, but it helps shift us back and forward quite nicely.”

Owen has a pronounced working model involving products from several manufacturers, most of them listed above. But he has a restless mind and is always looking for the next big thing. “I definitely have a methodology, which I try to stick to, not just for my own sanity but to make it easier on my team,” he says. “For example, for the Broadway version of *BOOP!* we changed associates [Broadway is Scott Kuker, but Chicago was Matt Peploe]. The fundamentals of system design and setup are very similar between *BOOP!* and *Hell’s Kitchen*, for which Scott is also the associate. Even though the shows could not be more different, Scott was able to pick up the design with zero effort, as so much of the configuration and setup are cross-compatible.

“I am, however, terrified of standing still. I have an innate fear of missing out, and as a result, I am always looking for the next big idea. It’s rare that I don’t try something new on a show, and while new ideas can be very hit-and-miss, the good ones migrate to all the new shows moving forward, as well as slowly trickling back down into the long-running shows and when work calls allow. For *BOOP!*, I am using a new plug-in on my vocal channels called God Particle [from Cradle]. While I’m still not entirely clear what it’s doing, the vocals just somehow sound better when it’s inserted.”

Like everyone interviewed for this story, Owen notes the extra kick of working on a show that features such an auspicious debut. “Not only is Jasmine a force of nature, but she’s also one of the nicest people I’ve ever worked with. She never lays back, never phones it in, never gives less than 100%—even at the 50th time of asking. She knows

exactly what she wants and exactly how to ask for it, and I never saw her lose her good humor, not even once. I wish I were half as cool as she is!”

Other key personnel on *BOOP!* include Bonnie L. Becker (production stage manager), Katherine Wallace (stage manager), TJ Greenway and Dick Jaris (associate scenic designers), Joel Shier (associate lighting designer), Scott Kuker and Tye Hunt Fitzgerald (associate sound designers), Simon Harding (associate projection designer), Letty Fox (animator), Dave Horowitz (head sound), Alex Brandwine and Chad Woerner (production carpenters), Michael Shepp (head carpenter/automation), Kaitlin Ciccarelli (assistant carpenter), T. J. King (advance flyman), James Fedigan and Patrick Johnston (production electricians), Curtis Sharma (heads electrician), Maxfield Bishop (assistant electrician/video), Alex Fogel (moving light programmer), Phil Lojo and Simon Matthews (production sound engineers), Asher Robinson (production video), Alex Joans (advance video), Zach Peletz (video programmer), Kathy Fabian/Propstar (production props supervisor), John Estep and Brian Staton (associate production props supervisors), Stephen Kolack (head props), John Paull (assistant props), I. Javier Ameijeiras (assistant scenic designer), Kirk Fitzgerald and Paul Vaillancourt (assistant lighting designers), Kevin Sweetser (assistant sound designer), and Robert McGarrity (assistant sound).

Nominated for three Tony Awards and 11 Drama Desk Awards, *BOOP!* continues its open run at the Broadhurst Theatre. 📶