

Sound Design for a World Premiere Opera: *Wakonda's Dream*

By: Alan Hardiman

“Our idea is that sound design can be completely integrated into the music with no clear division. What was previously thought of as sound effects becomes musical.”



In its world premiere at Opera Omaha in March, *Wakonda's Dream* leaned heavily on modern technology to tell a tale rooted firmly in the 19th century. Originally conceived as retelling of the 1877 trial of Ponca Chief Standing Bear, which saw North American Indians recognized for the first time as “human beings under the law,” the piece developed into a kind of meditation—on the relationship between contemporary native people, their culture, and the long-term effects of their assimilation into white American culture. Centered on the members of a single family, *Wakonda's Dream* explores how their dreams, longings, obsessions, and nightmares shape their destinies against the backdrop of their Ponca heritage, embodied by the ghostly Chief Standing Bear, who speaks to the family's young son, Jason, from his place in the tribal chorus located upstage.

With a libretto by Pulitzer Prize-winner Yusef Komunyakaa (*Malcolm X*, 1986; *Amistad*, 1997) and direction by Rhoda Levine, the opera's two acts are bookended by a prologue and postlude that provide a timeless context to the tragic events that engulf Jason and his family. The mythic nature of the prologue is established by a non-musical soundscape performed by sound designer Earl Howard, employing sonic elements that recur from time to time throughout the

proceedings and reassert themselves in the postlude. The ambient sounds of nature—chiefly birds and wind—are quickly augmented by restless footsteps suggestive of eternal wandering. These sounds function as question marks, inviting the audience not only to identify them absolutely, but to go further and contextualize them as heuristic elements. Soon, however, the sounds of something like yipping coyotes command attention, and it is one of the early delights of *Wakonda's Dream* that these sounds emanate not just from the JBL VerTec line arrays flown above and on either side of the Orpheum's proscenium, but from the mouths of the Ponca chorus unveiled in silhouette as the lights come up on the performance.

While the soundscape, in performance, was never particularly loud or imposing—my impression was that it did not exceed 80-85dB SPL in the orchestra seating—a good degree of technology was apparently required to disperse it with sufficient articulation throughout the Orpheum. Two line arrays, each comprised of 10 JBL VerTec VT4888 line-array elements, supplemented by four floor-standing VT4880 subwoofers—all powered by Crown Macro-Tech amplifiers—were provided for this purpose by Omaha production company Audio Visions. Howard performed the soundscape from the keyboard of a Kurzweil 2600 sampler located at

the rear of the 2,500-seat hall, just in front of the house mix position. The soundscape itself was a mix of sampled nature recordings made by Howard specifically for *Wakonda's Dream*, as well as synthesized elements created on the Kurzweil.

"You will hear things tonight that you've never before heard coming from an orchestra. They're coming from—well, I won't tell you where they're coming from," teased artistic director and principal conductor Stewart Robertson during a preview in the Orpheum Theatre lobby an hour before curtain. "The music is from different cultures—there's serious American music, native American music, and jazz—from members of the Omaha Symphony in the pit, along with two virtuoso multi-reed instrumentalists, a jazz drummer, and a jazz bass in addition to the symphony basses, to jazz up the orchestral music occasionally. There will also be strange nature and cosmic sounds, almost hallucinogenic sounds, riding on top of the orchestra."

Davis' original intent was that the soundscape would be immediately experienced by the audience entering the theatre. Prior to the action beginning onstage, the audience members—from the time they entered the theatre—were to be enveloped in "the sound environment of woods and nature," Davis said. "As the prelude eventually begins, synthesized sounds will transform and become more musical." Gradually, the audience will "recognize choral voices taking over and becoming the sound of the wind. Earl's and my idea is that sound design can be

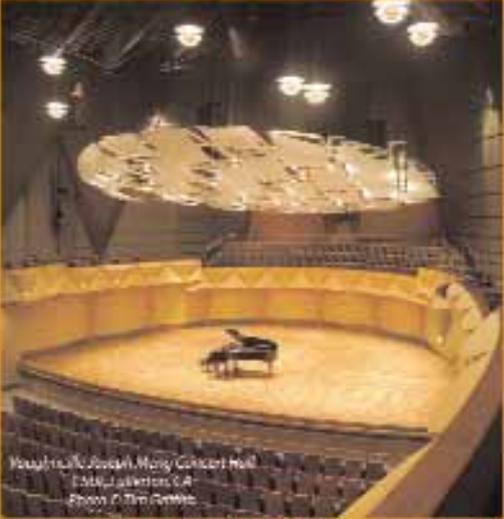
completely integrated into the music with no clear division. What was previously thought of as sound effects becomes musical."

As it turned out, however, the ritual of opera—specifically the entry of maestro Robertson to the effusive applause of an appreciative audience—proved impractical for the extended performance of the soundscape prior to the beginning of the work.

"I didn't understand all the rules about the orchestra, how much they were going to play before the opera began. In fact, they're supposed to warm up in the pit," Howard explained. "In the dress rehearsal, I tried to put the soundscape in the space and it just didn't work, because there was no context for it. Nobody was paying any attention to it, everybody was talking, the orchestra was playing. The way it was originally going to work was that the soundscape would be like an installation, and people would just walk into it, then I would fade it out and the orchestra would tune, and then it would come in again after Stewart got his applause to set the thing up like an overture before the chorus came in. It turned out that it just wasn't worth it," he said.

Furthermore, once it did begin, the soundscape fell short of enveloping the audience. When he first arrived in Omaha, Howard discovered that the less-than-pristine acoustics of the Orpheum, a renovated vaudeville house, posed difficulties. "I wanted to use surround," he said. "But when I got there and heard the space, I said no. Where would I sit? The only place I could do surround

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and balance with the singers and the orchestra was if I sat in the middle, and there was no way they were going to let me do that.”

Also, Howard elected not to use the four EAW JF80 stage-lip front-fill loudspeakers to bring the sound image down from the line arrays above the proscenium arch and localize it closer to the performers in anticipation of the cross-fade from Kurzweil to chorus. This left the sound design elements literally up in the air, and rendered the crossfade to performers somewhat less seamless than it might otherwise have been.

“That room has all these dead spots. I didn’t like the [stage-lip] speakers down there either. I didn’t like the harmonics, and I didn’t think it would have been a good broadcast for the sound,” Howard said. He added that if he had had carte blanche to design all the elements of the sound system, he would have put the loudspeakers on the stage itself, among the “rocks” that were part of the set design, and on which the members of the chorus sat for much of the performance. “But I have to defer to the designers in these matters. I was doing all those other sounds all the time. They needed harmonics—those sounds would sound crappy and you can’t blend them if you don’t get all the harmonics. When I went there, I forget what loudspeakers they had, but it was horrible,” Howard said. Of the JBL VerTec line

arrays that were eventually supplied, he said, “This is what they offered me, and I said they would do. For me, all reproduced sound is an illusion and a lot of the decisions I made were for that room, and how I could get it to sound the best out of those loudspeakers.”

Regarding the soundscape itself, Howard went to great lengths to fulfill Davis’ vision. “There were people walking in the woods; I had birds. The wind was really a band-pass filter where I could control the resonance. It was actually the wood sample and I just added resonance to it, and I had another sound that was wind that I could mix in. I had synthesized sounds to go with the whistles and the birds and the wood flute. I had another sound that was sort of a stochastic ringing sound with pitched transients and non-pitched transients to go with Wakonda’s call. That was the material for that whole prologue. And then, when the chorus came in, I was supposed to do opposite glisses. First of all, the strings came in with their harmonics. I had three different synthesized sounds that I tuned to their harmonics, which sometimes blended really well—you hardly heard them, but they were there. And then I had some that I played around those harmonics, since I didn’t always want to be in tune with multiples of those harmonics, so I played dissonance sometimes. And then

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when the chorus came in and they did their gliss, I glissed in the other direction. And when they howled, there were always electronic sounds that went with those," he said.

Howard recorded his custom sound effects on a Fostex FR-2 flash memory recorder at 44.1kHz sample rate, 24-bits. He used a Rode NT4 dual capsule stereo microphone and the built-in preamps in the FR-2. He said he really likes the sound of the on-board preamps, and the fact that with no moving parts, the FR-2 produces absolutely no ambient noise.

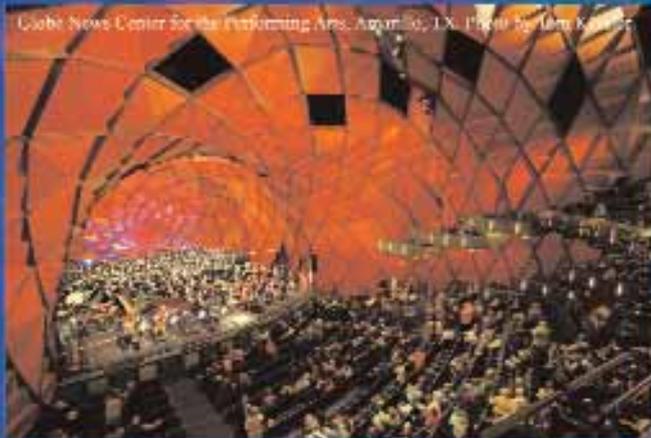
"I recorded walking towards and away from water. There's a recording where I'm standing still, there's an airplane that goes by and I recorded the Doppler [pitch shift] when the airplane goes by, and there's traffic off in the distance. I played all those. When we were originally going to do this long soundscape, I had all this stuff for it, but I had to condense everything and shorten it. The feet were pretty atmospheric. They could have been Jason's father wandering around or Standing Bear walking around or the coyote wandering around—there were pretty specific allusions that I had to make."

Why play such complex arrangements live from the Kurzweil and not as a playback of a prerecorded mix? "In this opera, I felt there was a real attempt to make it organic and not just played like effects from a different space. I thought it was very well integrated—the electronics, the improvisers, the orchestra, the singers, and also the ambient sound. It wasn't like an effect. It really did provide the atmosphere and made the illusion that Tony

Davis wanted to make. And I think that should happen more in opera, it should become part of the regular lexicon. He and I wanted it to be improvised. And besides, I like doing live electronics, and I'm hoping that opera starts to really take advantage of electronic music and ambient sound in more practical and creative ways," Howard said.

The only other concession to audio electronics in the production was the use of sound reinforcement for five child performers in the first act; they were equipped with Sennheiser 500 series wireless microphones routed through a Midas Verona 480 console to the Crown Macro-Tech powered EAW JF80 compact loudspeakers mounted on the lip of the stage. Elliot Nielsen, of Audio Visions, handled front-of-house mix duties.

Opera Omaha, the only professional opera company in Nebraska, began in 1958 as the Omaha Civic Opera Society, a volunteer association, and, with tremendous community support, became fully professional by 1970. Opera Omaha produces a season of original main stage productions presented at the Orpheum Theatre, and smaller productions and musical events throughout the community. Opera Omaha is internationally known for its productions of six world premieres and four American premieres of classical masterpieces, and is highly regarded regionally for an extensive education and outreach program that annually reaches as many as 15,000 people from elementary school through adult. *Wakonda's Dream* is the seventh world premiere Opera Omaha has staged. 📶



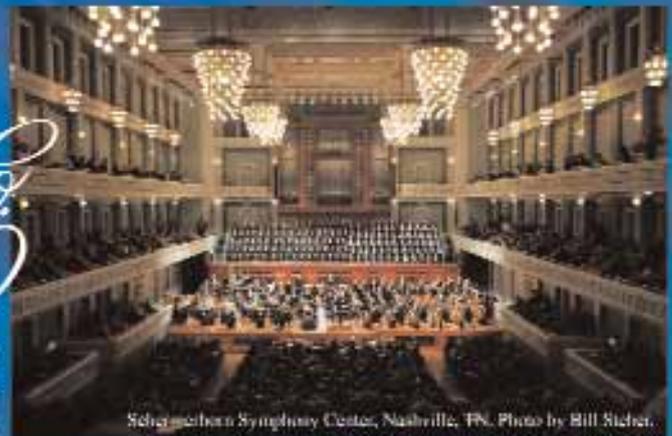
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