RICHARD LERMAN IS A SOUND ARTIST.

THE SHEER ESSENCE OF SOUND FASCINATES HIM.

IN ARIZONA'S SONORAN DESERT, HE'S FOUND A SONIC TREASURE-TROVE.

BY SHEILAH BRITTON
Arizona’s Sonoran Desert just north of Phoenix, a gentle spring rain falls in the first hours after sunrise. Richard Lerman, strapped with video gear, headset, and cables, is crouched next to a compass cactus weaving wires in and out of its needles. Attached to the wires are tiny, hand-built microphones carefully placed to record both the rain and the internal natural acoustics of the cactus. He stands back, adjusts the volume on his recording device, and takes in the sound. The rain gently plucks at the cactus needles, creating music not unlike the plucking of violin strings.

Lerman calls himself a sound artist—not a composer or a musician, as he might. It is the sheer essence of sound that fascinates him. “I think it’s the notion of sound being a kind of a larger field than music,” Lerman explains. “When I think of the word sound, it includes everything. Sound includes noise that we don’t like to hear. It includes music which is a very specialized activity. It includes natural sounds. All those things.”

Lerman moved from Boston to Arizona two years ago to teach media arts at Arizona State University’s West Campus as part of the Interdisciplinary Arts and Performance Program. While he is keenly aware of the visual, it is still sound that drives his research.

In 1995, Lerman proposed a unique project to Arizona State University’s Institute for Studies in the Arts. His idea was to sonically map the Sonoran Desert. During the past year, Lerman has been busy recording the soundscape of the desert with his miniature hand-built microphones. “I’ve recorded the sounds of rainfall plucking cactus needles, wind-harps strung between Saguaro cacti, hummingbirds hovering around ocotillo, bees in ironwoods, and ants crawling around desperately trying to move my mikes along the desert floor. I’ve even recorded one of our torrid monsoons,” he says.
By necessity, a sound artist’s research can lead to innovative ways of recording sound. That is the reality for ASU’s Richard Lerman.

“I’m fascinated with different ways of recording the vibration in things. For me, it’s an analog of the human eardrum,” he says.

Lerman is most interested in site-specific sound installations and soundscapes. His creative recording techniques result in the amplification of what most of us might never hear.

He began using contact microphones during the early 1960s. The first project was focused on recording a certain sound from a piano. His early technique was crude. He simply jammed the mike against the piano’s frame.

“When we use a regular microphone we’re actually counting on the vibrations in the air to move some element in the microphone to generate voltage which we can then record. With a contact device, we depend on the contact between two materials,” he explains.

In his early works, Lerman attached piezoelectric devices directly to window screens, sheets of metal, and glass. Scientists often use such devices to measure vibrations and tiny fluctuations in pressure. Lerman found that every object had its own sonic flavor.

Lerman also attached the devices to plants in their natural environment which led to his work in sonic mapping.

For a performance piece in the late 1970s, he built piezoelectric transducers to amplify the spokes of bicycle wheels. He progressed to building specific preamplifiers for specific piezo-disks, always looking for ways to achieve the best possible audio. Lerman would never claim to be an engineer. But he enjoys creating and building his own recording devices.

“Does this sound the way I want it to sound? That’s the bottom line,” he says. “The real work is all about composition, not engineering.”

— SHEILAH BRITTON

GOOD VIBRATIONS

JOHN C. PHILLIPS PHOTOS / VIDEO IMAGES COURTESY RICHARD LERMAN
Lerman grew up in Milwaukee in the 1950s. He played trombone in his high school band. Then he got involved with jazz. But it was a piece of music written in 1923 that gave him the focus for his fascination with sound. Darius Milhaud’s *The Creation of the World* synthesized his ideas about music.

“It’s a really wild, wonderful piece,” he says. “If you look at the structure of the piece, it’s much more jazz-like and free than say, *Rhapsody in Blue*, which is supposed to define that kind of synthesis. I think this piece does it a lot better.”

During his high school years, Milhaud’s music made him curious enough to begin studying contemporary musical scores at the library. It was at Brandeis College that he pursued his interest in electronic music.

While at Brandeis, Lerman studied with Alvin Lucier. He also gleaned valuable training from other visiting electronic music composers, among them, John Cage and David Tudor. Tudor became his mentor.

Lerman recalls Tudor’s generosity. “He was very open. He shared. He was very encouraging and could handle the questions from someone, who, let’s just say, was not so knowledgeable.” Lerman laughs. “I considered him to be a wonderful man and a great teacher.”

Lerman embraced the genre of music called Musique Concrete. Think of the genre as an assemblage of sounds similar to a montage in a film. The music involves taking natural sounds and changing them through mechanical means. The musician might speed up sounds, slow them down, or splice them together. Much of Lerman’s early work was done with reel-to-reel tape recorders.

There were no such thing as computers or synthesizers in those days. “It was a very process-oriented kind of thing. In fact, very hands on,” Lerman recalls. “There was a lot of physical activity in the studio. Lots of knob turning, splicing, stuff like that. Not activities associated with playing a keyboard of any type.”

Lerman continued with graduate studies in film-making at Brandeis, taking his sound work and tracking it on an oscilloscope, a device that visually displays a sound’s electronic signature on a fluorescent screen. Using gels and manipulating the images, he began working in multimedia.

“In all of my work, regardless of the media, sound has always been the primary focus. Sound is the driving force,” he says.

Lerman began mixing film and sound, then added performance to his work in the late 1960s. In 1977, he created a piece for amplified bicycles called *Travelon Gamelon*. By reconfiguring phonograph cartridges beneath tightened nuts on the wheels of bicycles, he was able to amplify the sounds of the spokes. “The sonic image was the sound of the bicycle spokes,” Lerman explains. “The sound is very similar to the sound of an Indonesian Gamelan orchestra.” Gamelan orchestras include metal gongs and drums as well as wooden and metal instruments similar to xylophones, marimbas, and flutes.

Lerman has recorded environments and landscapes throughout the world. He’s done rice paddies in Japan, cacti in the Argentine desert, and a cornfield near Neerijnen, Holland.

He describes the eerie sound of the Dutch cornfield. “It has a kind of visual transparency when the light shines through the plants. Sonically, it’s a kind of ominous sound—very raspy and flappy. That whole field was amplified with only three or four disks. But it really comes alive.”

Lerman uses sound to give his work a sonic sense of place. Consider “Threading History,” a collaborative installation he and visual artist Mona Higuchi exhibited at the dedication of the Thomas Dodd Center for Human Rights at the University of Connecticut. Lerman shot video and recorded sound at the 1940s era Japanese-American internment camps at Tule Lake in northern California and at Manzanar in eastern California. He did the same at Dachau, the infamous Nazi concentration camp near Munich.


“At Tule Lake, American citizens were imprisoned in very bad conditions,” Lerman explains. “I recorded the barbed wire from the fence. The sound of the reeds and the grass growing there speak to me of a sense of place.”

As part of his Sonoran Desert project, Lerman videotapes the landscape as he records the soundscape. Together, they will form the components of performance pieces which also will include live and recorded music.

“Another extension of the work is actually writing notes for live players,” Lerman adds. “Each sound from the soundscape will have a kind of orchestration. That goes back to the idea of composition.”

For desert ants, he is thinking of a layer of plucked strings with an occasional staccato reed instrument thrown in for fun. For the bees, he is leaning toward low brass instruments.

Lerman will digitize his visual and sonic desert maps for a CD ROM being developed in the ISA Media Lab.

His desert gatherings are an extension of the work he has pursued through sound—both natural and created. Inspired by the music he “sees” and hears in the Sonoran’s natural environment, he documents a sense of place and creates a composition based on rich symphonic sound and the desert landscape.

“Composers have been investigating new ways to orchestrate for centuries. I see my work as part of that continuum.”

RICHARD LERMAN