

# SOUND UNBOUND

**Sampling Digital Music and Culture**

edited by Paul D. Miller aka DJ Spooky that Subliminal Kid

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# An Introduction, or My (Ambiguous) Life with Technology

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**Steve Reich**

In the mid-1960s I became extremely interested in tape loops, particularly of people speaking. At the same time I was looking at musical notation of Ghanaian drumming in A. M. Jones's great book, *Studies in African Music*. In late 1964 I recorded a black Pentecostal preacher in Union Square in San Francisco. He was preaching about Noah and the Flood. At home I made various tape loops of his incredibly musical voice. One was of him saying "It's gonna rain!"

I had two cheap mono recorders and made two identical copies of the loop. I put one on each machine and put on my headphones. By chance, the two loops were exactly lined up in unison. The sound appeared to be in the middle of my head, but as I listened, it started to move to the left—first to my left ear, then down my left arm, out across the floor to the left, then finally a kind of reverb between the channels. I kept listening until the loops were 180 degrees out of phase and I could hear "It's gonna, its gonna, rain, rain." I kept on listening and slowly, very slowly, the two loops came back into unison. This was clearly something to pursue.

In late January 1965 I finished "It's Gonna Rain." Later that year I moved back to New York and in 1966 I did a second speech-loop piece called "Come Out." The voice was that of Daniel Hamm, arrested for murder and later acquitted, describing how he had been beaten by police and had to show he was bleeding in order to get to the hospital. He said, "I had to like open the bruise up and let some of the bruise blood come out to show them." His speech

melody was very clearly E-flat, C, C, D, C on the words “come out to show them.”

I remained totally involved with this idea of gradually shifting phase between two identical loops, but I also kept feeling that unless the process could be performed by live musicians then it was just a gimmick. This ate away at me for several months since I assumed that while gradual phase change happened with railroad warning bells and windshield wipers on old buses, it just wasn't possible for people to perform. Finally I decided “OK, I'm the second tape recorder.” I recorded a short melodic pattern I played on the piano, made a tape loop of it, sat down at the piano, and to my amazement found I could actually move slowly ahead of the stationary tape. A little later I discovered that a friend and I could play it on two pianos.

This quickly led to “Piano Phase” (1967), “Violin Phase” (1967), and finally “Drumming” (1971). By that point I felt enough was enough and I never used the phasing process again. I also used no technology in performance except microphones for the next eighteen years.

In 1988 I discovered first that I could use a music notation program on a Macintosh computer to make scores and second that there were sampling keyboards. This led to “Different Trains” later that year for string quartet (Kronos) and tape. The idea was to finally combine speech melody with live instruments. As the documentary voices on the tape (my nanny, then in her seventies, a black former Pullman Porter then in his eighties, and three Holocaust survivors) spoke, I wrote. Their speech melodies were doubled by viola for the women, and cello for the men. The violins often doubled the train whistles, also on the tape in the background. “Different Trains” won a Grammy and became a line in the sand for me. Now there was a technology I really was interested in sampling.

What about synthesizers? Well, I really didn't like them. If I need a violin, then I use a violin, and so on for all other instruments. I did use a synth in “Sextet” in 1986 because it was too expensive to tour with two extra English horns and two clarinets. Beyond such a marriage of convenience, I had no use for synths.—But samplers are another story. They made it possible to bring in noninstrumental, documentary sounds, like speech, on the third beat of the fifth measure.

“Different Trains” and samplers also opened the door to opera and music theater. Years earlier I had been asked by the Frankfurt Opera, and separately, by the Holland Festival, “Would you write us an opera?” I told them I was

happy to be asked, etc., but, “No.” I didn’t have any sympathy for operatic bel canto voices, and I had stopped writing for the orchestra. (I don’t need eighteen first violins—I need one, amplified.) I always felt there must be *something* that I could do instead of conventional opera, but I just didn’t know what. Then, in 1988 it came to me: what if you could not only hear the pre-recorded voices, but also see them on videotape, while you would simultaneously see musicians and singers doubling their speech melody? *This* was my way to make music theater. Video artist Beryl Korot proved to be the perfect collaborator. The result was “The Cave” in 1993. Here the voices were Israelis, Palestinians, and Americans answering the questions, “Who for you is Abraham?” “Sarah?” “Hagar?” “Ishmael?” “Isaac?” Their edited answers became the libretto.

After that I wrote “City Life,” where samplers are played live as part of the ensemble. Sounds I had recorded in New York City became part of the instrumental fabric. After that I really felt I needed a break—from technology.

“Proverb” (1996), for singers, organs, and vibes, was the answer. The text was from Wittgenstein: “How small a thought it takes to fill a whole life.” It was a pleasure and a relief to just write music.—Then back to the lab.

In late 1997 Beryl Korot and I began the second video opera, “Three Tales,” which is actually about technology in the twentieth century: “Hindenburg,” “Bikini” (the A-bomb tests in 1946–54), and “Dolly” (the cloned sheep). In the first two acts we used archive film and sound mixed in with the live ensemble of musicians and singers. In “Dolly” the tale was pretty short and we decided to use it as a springboard to let prominent scientists talk about cloning, artificial intelligence, robotics, and where we’re headed. We videotaped interviews with James Watson (genetics), Rodney Brooks (robotics), Richard Dawkins (Darwin), Stephen Jay Gould (cloning), and many others. Their edited interviews became the libretto for “Dolly.” Some of their remarks were instructively amusing:

We’ve always thought of our brains in terms of our latest technology. At one point our brains were steam engines. When I was a kid, they were telephone-switching networks. Then they became digital computers. Then, massively parallel digital computers. Probably, out there now, there are kids’ books which say that our brain is the World Wide Web. We probably haven’t got it right yet. (Rodney Brooks)

Other remarks were amusing in other ways:

You go and buy this module in the Mind Store and have it connected to your brain and then you do four- or five-part counterpoint. (Marvin Minsky)

Actually, as soon as we finished “Hindenburg,” I felt I needed a break from technology again and spent most of 1999 composing “Triple Quartet” for Kronos. The bonus here was that the harmonic structure of that piece became a model for the harmony in “Bikini.” By the time we finished “Three Tales” in 2002, I felt I needed a few years of just instrumental vocal music before I was ready for another trip back to the lab.—And that’s where I am right now.

It seems to me that composers can learn a great deal from sampling both in concert music and music theater of all sorts. At the very least it’s a new area of instrumentation to be developed where you can literally use any sound at any precise (or not so precise) point in time.

I know there are folks making music with their PowerBook only, and I really understand how that came to be. I can imagine young composer-DJs bringing these strands together in unforeseen ways. But I don’t see live music showing the slightest sign of fatigue. Whether it’s post-garage rock, postminimal, DJs, neo-Romantic, or what have you, the music goes on.