

The World Ear Project (1970–87)

Soundscapes, Politics, and the Genesis of Acoustic Ecology

ABSTRACT This article presents an examination of the World Ear Project, a radio program developed by Charles Amirkhanian and Richard Friedman in August 1970 in Berkeley, California, that reframes the birth of acoustic ecology, conventionally viewed as a discipline created by R. Murray Schafer in Canada during the 1960s and '70s. The article begins by presenting the sociocultural and musical circumstances that led to the creation of this radio program, emphasizing the compositional work of Luc Ferrari, whose interest in recording ambient environments was a major influence on Amirkhanian and Friedman. Analysis of archival broadcasts suggests that the World Ear Project was a space in which composers could contribute and use the medium of field recording to interrogate their creative practices, while average KPFA listeners also steadily provided diverse soundscape recordings of environments from across the globe.

Further analysis of broadcasts, scripts, and other archival materials related to the World Ear Project reveal that this egalitarian, listener-driven radio series exemplified the democratic, activist principles at the core of its parent organization, the Pacifica Foundation. Crucially, we find many soundscape recordings related to contemporaneous Cold War inflection points and decolonization efforts on the World Ear Project, highlighting the broader progressive contours in which the program was conceived. The article concludes by suggesting that the World Ear Project reframes our understanding of the early history of acoustic ecology, having developed independently of Schafer's work in Canada and taking an optimistic view of recording technology and the soundscapes of the modern, industrial world.

KEYWORDS soundscapes, radio, politics, music

The 1960s and '70s saw substantial growth in environmentalism and renewed conservation efforts motivated by a broader awareness of human ecology. Rachel Carson's *Silent Spring* was published in 1962, the same year as the Operation Fishbowl high-altitude nuclear weapons tests launched from the Johnston Atoll. The yield of Starfish Prime on July 9 was so powerful that it created auroras and temporarily altered the makeup of the Van Allen belt, which is composed of the charged particles captured by Earth's magnetic field and that serve as protection from the solar wind. Even months after the explosion, residual energetic clouds straddling the planet from Starfish Prime were detectable and responsible for crippling the functionality of several satellites.¹ Paul Ehrlich's *The Population Bomb* (1968) and the disastrous 1969 Santa Barbara oil spill similarly indicated to humans the conspicuous impact they had on the earth.² The year 1970 was a particular watershed, with Richard Nixon signing into law the National Environmental Policy Act and establishing the President's Council on Environmental Quality, while crucial amendments to the Clean Air Act expanded the federal mandate for regulating and enforcing air pollution standards. December 1970 saw the establishment of the Environmental

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Protection Agency and the National Oceanic and Atmospheric Administration, out of an awareness that these agencies were needed to “effectively ensure the protection, development and enhancement of the total environment itself.”³

During this time, the preeminent American avant-garde composer John Cage was growing increasingly interested in the writings of R. Buckminster Fuller and his reflections on how technological innovation could produce a “post-scarcity” society that would simultaneously have a less negative impact on the natural environment. By the mid-1970s, Cage was actively incorporating ecological themes into his music, drawing on natural materials as the essential means for sound production in *Child of Tree* (1975), *Branches* (1976), and *Inlets* (1977).⁴ Cage would also graft such ecological concerns into his writings, most notably in his essay collection *A Year from Monday* (1967), which indicates a philosophical turn toward eco-anarchism that drew on not only Fuller but also the work of Marshall McLuhan, who argued that new technology, particularly media technology, was changing societal structures through the new interconnections it fostered.⁵ A central text expounding McLuhan’s perspective came in 1962 with *The Gutenberg Galaxy*, which notably features his conception of a “global village.” That notion of a global village suggested these new media technologies would allow individuals to involve themselves in worldwide affairs and communities in which they were not physically present, fostering a vast array of interconnected and easily accessible discourses and hubs of thought.

Out of this intellectual and cultural atmosphere came the release of Luc Ferrari’s *Presque rien no. 1: Le lever du jour au bord de la mer* on the Deutsche Grammophon label in 1970. The piece consists of a slightly altered recording made in 1968 of early-morning sounds at the town of Vela Luka, now part of present-day Croatia on the Adriatic coast. The recording itself was part of a larger series undertaken by Ferrari and was spurred on by his cultivation of a heightened listening approach. Embedded into *Presque rien* is a recognition of the capacity for a recording to serve as a sonic snapshot of a specific location at a particular time that allows one to engage in an affective performance through listening.⁶ In this way, Ferrari turns the documentary recording of sounds from a given locale into an aesthetic object through the subtle manipulations and framing provided by the firm beginning and ending. Crucially, Eric Drott has noted that Ferrari conceived of this work within the milieu of the social upheavals of 1968 in France and that *Presque rien* was seen by the composer as the harbinger of a new amateur art:

Made possible by the increasing affordability of portable tape recorders, the realization of this ambition would further require that tape music be demystified, stripped of its aura of technical complexity. In this regard, *Presque rien*, with its minimal editing, offered an ideal prototype for such a practice. More than simply an object of mass contemplation, the piece seems to have been conceived as an incitement to mass creation.⁷

Ferrari would later recall the heady protest days of 1968 and his artistic growth during the de Gaulle era in a June 1972 interview in Paris with the American composer Charles

Amirkhanian. During their discussion, Ferrari described the most salient aspects of French society at that time as a combination of conspicuous militarism and ubiquitous police presence. He contrasted this stifling atmosphere with his growing enchantment with ecology and how such ideas were informing his large-scale “ecological” multimedia spectacle *Allo! Ici la Terre*.⁸

Amirkhanian had previously interviewed Ferrari in 1970 about *Presque rien*. Out of Amirkhanian’s abiding fascination with this work came a desire to cultivate that underlying ethos of ecological awareness and amateur recording from the hotbed of counter-cultural artistic activity centered in the San Francisco Bay Area.⁹ From his position as a radio producer in KPFA’s music department in Berkeley, California, Amirkhanian would have just such an opportunity. Along with his colleague Richard Friedman, Amirkhanian envisioned a series of regular radio broadcasts that would be programmed using ambient environmental recordings made and submitted to KPFA by listeners themselves. The result of this radio program would be a vast repository of soundscapes drawn from across the world, serving as a library of unique environmental recordings. Amirkhanian and Friedman finally settled on an apt name for their radio program in the summer of 1970: the World Ear Project. The subsequent broadcasts of and contributions to the World Ear Project beginning in August 1970 reveal a unique nexus of egalitarian music and sound curation, with select composers contributing to the project and simultaneously revealing aspects of their compositional philosophies. More common were the many contributions from average KPFA listeners who steadily provided diverse soundscape recordings of ambient environments from across the globe. It is this history of the World Ear Project as an egalitarian and listener-driven radio program for sharing soundscapes and ambient field recordings that recasts and reframes the genesis of acoustic ecology, conventionally understood to have begun with R. Murray Schafer’s work in Canada in the late 1960s and early ’70s.

THE WORLD EAR PROJECT, SERIES I: 1970–73

The World Ear Project was first broadcast on KPFA on August 20, 1970. The series initially sought to feature only unedited recordings of ambient sound environments from around the world, urging listeners to take advantage of the proliferation of portable cassette recorders and the resulting ease with which recordings could be made.¹⁰ “Transmission One” was mostly local in color and flavor, featuring recordings of ocean sounds near the Golden Gate Bridge, singers performing at Union Square in San Francisco, and an ensemble of conga drummers on the UC Berkeley campus. The international scope was also apparent from the outset, however, as an early-morning animal feeding at a farm in Canada was featured among the soundscapes presented. Amirkhanian and Friedman were the two primary organizers of the World Ear Project and often included their own ambient recordings alongside those submitted by listeners. The collaborators had lofty aims for the radio program, as indicated in the series announcement in the August 1970 issue of KPFA’s *Folio*, the published monthly provided to subscribers:

There is more to the world than our poor eyesight and hearing would let us believe. Survival of man on earth may depend on the expansion of his consciousness to encompass the whole, integral earth, through the amplification of his perceptive powers beyond the normal limits of seeing and hearing. This month, KPFA initiates the World Ear Project, an attempt to bring all our ears a little closer. We are asking our listeners and friends all over the globe to send us recordings made in common places of the sounds that surround our daily existence on the surface of this planet. The settings will be both natural (the open fields of Nebraska) or man-made (a street corner in Amsterdam).¹¹

The series announcement for the World Ear Project also included instructions to readers on how to submit their recordings for inclusion on future programs (Figure 1). The underlying motivations of the project were further clarified by Friedman's opening monologue for the first broadcast in August 1970: "The object is better hearing and better vision too, as we become more aware of the sounds and sights that surround our distant neighbors on this planet, as well as ourselves. The one key step in trying to understand our neighbors is getting to know the setting in which they carry out their daily lives."¹²

The World Ear Project began with a view of the ambient environmental recordings submitted as being primarily documentary in function, as indicated in Friedman's introduction to the second broadcast on September 13, 1970:

We're not interested in creating works of art or being artistic with this project. Our only interest is in documentation and transportation. It is the environments which these recordings document that are the sole subject of the project, and the object is better hearing. We hope that by broadcasting these sounds, we will be able to transport the listener to settings which may not be familiar to him, but which are an everyday reality to someone else on this planet.¹³

From the very inception of the World Ear Project, however, there existed a tension between documentary and musical impulses, particularly when considering that both Amirkhanian and Friedman were composers. The recordings presented on the World Ear Project were ostensibly a means of "transportation" designed to give listeners a glimpse of other people across the world and their lives through the soundscapes they inhabited. Indeed, in the October 1970 issue of KPFA's *Folio*, the project was described with the language of scientific experimentation as "an international cooperative sound sensitivity information project."¹⁴ At the same time, there was a lingering subtext that the recordings could and should be assessed in aesthetic terms, as suggested by the hosts sometimes noting and commenting on salient sonic characteristics of recordings when introducing them or reflecting on distinctly musical features when changing from one submitted recording to the next. Moreover, during the August 1970 broadcast, Amirkhanian provided a composerly justification for the World Ear Project, belying its purely documentary aims while explaining how *musique concrète* bled into the technological innovations that allowed for the recording of electronic music synthesis and non-natural sounds. In addition, during this first transmission—in which the mission, aims, and objectives were

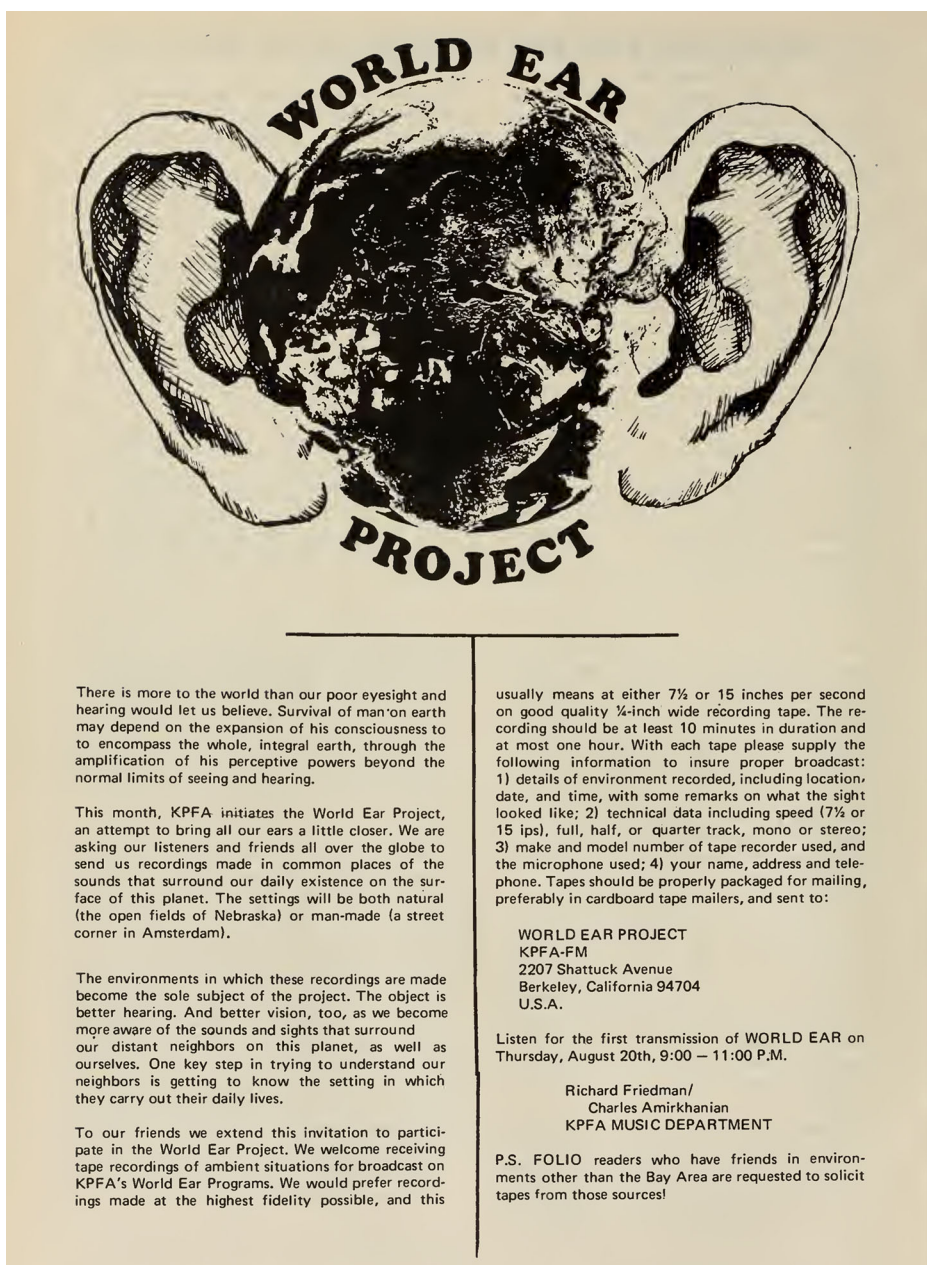


FIGURE 1. World Ear Project series announcement (August 1970). Courtesy of Pacifica Radio Archives.

laid out—Amirkhanian made clear it was his earlier interview with Luc Ferrari in 1970 that was the primary inspiration for the World Ear Project.¹⁵ In total, such lingering tensions between aesthetic and documentary orientations aligned well with the haphazard, do-it-yourself ethos that inspired the radio series.¹⁶

Further suggesting an important aesthetic dimension lay within the World Ear Project beyond simple documentation were the composers who contributed. Most notable in this

regard is Pauline Oliveros, who first submitted to the World Ear Project for its fifth transmission on February 12, 1971, a November 1968 recording she had made of a visit to the San Diego Zoo. She then later submitted a 36-minute ambient field recording of night sounds in Suita City, Osaka Prefecture, Japan, made in April 1971. Oliveros's interest in exploring the complexity of boundaries and the spheres beyond conventional understanding that later combined into her concept of Deep Listening exists in a nascent stage in these contributions to the World Ear Project in the early 1970s. Both recordings closely align with the desire of the radio series to expand listeners' perception of sounds to include previously unrecognized or unconsidered aspects and continuums, just as Oliveros would describe her concept of Deep Listening years later:

Simultaneously one ought to be able to target a sound or sequence of sounds as a focus within the space/time continuum and to perceive the detail or trajectory of the sound or sequence of sounds. [...] Deep Listening is a practice that is intended to heighten and expand consciousness of sound in as many dimensions of awareness and attentional dynamics as humanly possible.¹⁷

Oliveros's soundscape recording of Japan is especially suggestive of the nascent stages of Deep Listening through its distinctive expressive topography developing out of the chance events and sounds that conspire to create the Suita soundscape. Alongside the noise of traffic, footsteps, voices, a baby crying, skidding tires, train whistles, planes flying overhead, and doors opening, a jingle arises out of the ambient environment, creating a striking moment of conventionally "musical" material. The people, objects, and sounds captured in the recording unknowingly create a soundscape that provides a listening space in which Oliveros's interest in cultivating heightened awareness and expanded consciousness would be possible. Indeed, this recording made in Japan would satisfy the first step of realizing "The Flaming Indian" instructions from *Sonic Meditations* (1971), in which one records an environment, closely reflects and meditates on the "environmental dialogue" of the location, and then makes a translation:

Reinforce the pitches of the recorded sounds with vocal, instrumental, electronic or a combination of these sources. The resulting translation may exist in one or more channels as the translated sounds only or a combination of the translation and original dialogue. A new dialogue is then performed in the same or a different environment with the recorded translation and a soloist or a group, either vocal, instrumental or electronic or any combination. The live dialogue should include the sounds of the live environment as well as the recorded translation.¹⁸

When taken as a whole, this substantial early field recording by Oliveros underscores the importance that practical, in-the-field work had in informing the ideas that would later develop into Deep Listening. The recording emphasizes her view of the natural environment as a vibrant performance space while allowing the recording process to erase dichotomies between subject and object and listeners and performers.¹⁹ What results from Oliveros's substantial soundscape recording of Japan is an emphasis on "communication among all forms of life," a crucial feature of her contemporaneous work

on *Sonic Meditations* and a reflection of the burgeoning interest in sound and ecology during the early 1970s.²⁰

THE WORLD EAR PROJECT, SERIES II: 1985-87

A second World Ear Project series began in February 1985, which served as not only a retrospective of the initial broadcasts from over a decade earlier but also a springboard for new recording submissions and transmissions over the airwaves via KPFA. Most notable in this second series is a clearer orientation toward an aesthetic, as opposed to documentary, view of the recordings. More of the recordings submitted were deliberately edited to create distinctively ambient musical soundscapes, eschewing some of the previous emphasis on verisimilitude to the original environment to instead create a continuity that sounded more conventionally musical while spurred on by the technological advances that allowed for higher-fidelity recordings. Even in the case of recordings that were ostensibly documentary, an emphasis on the musical qualities of the soundscapes was paramount. In the first broadcast on February 5, 1985, for example, Susan Stone—a collaborator, composer, and contributor in the KPFA studio—presented recordings she had made in 1983 of the tombs of King Djoser in Saqqara, Egypt, outside of Cairo. While sharing the recordings, she explained that musically interesting differences in vocal resonances would result based on which chamber you occupied because of the change in elevation arising from the step pyramid design. Stone also included in this first broadcast a soundscape piece she had composed based on her riding the New York City subway system in December 1984. On the July 29, 1985, World Ear Project broadcast, Stone also provided decidedly musical soundscapes with recordings of a blacksmith in Luxor, a camel market in Aswan, and the sound of a freighter that was carrying Palestinian refugees through the Suez Canal and across the Mediterranean Sea.

Other composerly submissions emphasize the increased interest in aesthetic, as opposed to purely documentary, sound recordings in the revived World Ear Project of the 1980s. This focus is well attested in the third broadcast on April 22, 1985, which featured the Dutch composer Frits Weiland and his extensive 30-minute syncretic tape piece fusing natural soundscapes and electronic music synthesis: *Valencia, CA and The Ocean*. Weiland conceived of this tape piece while in residence at Cal Arts, viewing it as part of a cycle that explored ambient sounds of the American West and Southwest, with *Valencia CA and The Ocean* serving as a complement to the earlier *Abiquiu* (1982) and *Arcosanti* (1982–83). The work functions as a subtly mixed collage, blurring distinctions between synthetically generated and natural, environmental sounds while exemplifying Weiland's aesthetic interests cultivated when he worked at the Institute of Sonology in Utrecht beginning in the early 1960s.²¹ Also notable was composer Louis Giansante's contribution to the March 1985 World Ear Project broadcast with a soundscape piece entitled *The Ear of Dionysius* (1985). The short tape work consists entirely of a brief recording of Medieval plainchant-style singing within the titular Ear of Dionysius, a large limestone cave in Sicily. Relying only on the reverberations and echoes within the space itself, Giansante crafts an aphoristic and compelling study of musical performance within a specific locale with a distinct acoustical profile.

Broadcasting soundwalks of diverse locations was also a prominent feature of the World Ear Project.²² Most notably, local Oakland composers Michael and Melody Sumner contributed to the March 1985 broadcast with an array of recordings they had made during a recent trip to Tunisia. The striking soundscapes ran the gamut, from camel markets to the Islamic call to prayer made by a local muezzin in Douz, but most notable was their recording of an explicitly musical performance by a blind street performer. What made this recording unique was the nature of the instrument heard, which the street performer had built himself out of a plank of wood that had 13 wires wrapped from end to end between nails and screws, with rocks used as frets that he could adjust. There was a small two-inch bare speaker attached to one end of the board that would keep a constant feedback loop going, and he had another bare six-inch speaker perched between his knees and his chest. Michael Sumner, while describing the recording live in the KPFA studio during the World Ear Project broadcast, reported that this inventive street performer was hunched down next to a wall, with this electronic instrument lashed with some wire to an olive oil tin that would resonate.²³

Amirkhanian produced a special soundwalk of his own for live broadcast on the World Ear Project in June 1985 while on location with the German composer Stephan Micus in Mundrachang, a Bavarian town outside of Munich. The broadcast begins in a remarkable fashion, as the initial sounds of the idyllic landscape are abruptly shattered by the sound of a sonic boom from a passing fighter jet. What results from this coincidence is a conversation between Amirkhanian and Micus on the American military presence in West Germany, nuclear weapons, and how army maneuvers and materiel affect the local community, particularly in the small nearby town of Landsberg. At the same time, the two composers reflect on the beauty of the natural environment around them that provides a marked sonic contrast to the subjects they cover in their conversation, emphasizing the tension between humanity and the natural world and the growing awareness of a new geological epoch: the Anthropocene.²⁴ As this special soundwalk transmission also neatly illustrates, the second series of the World Ear Project in the mid-1980s came at a time during the Cold War when Ronald Reagan's initial reversal of 1970s détente policies had evolved into a close, cooperative relationship with Mikhail Gorbachev by 1985. Nevertheless, the massive increases in defense spending during the 1980s, and the political implications of these circumstances, were well covered by the World Ear Project and point to faintly political subtexts woven into the radio program.

THE COLD WAR AND THE WORLD EAR PROJECT

A more subtle dimension of the World Ear Project worth considering is its relationship to contemporaneous political issues and international affairs. Indeed, KPFA, the radio station from which the World Ear Project was broadcast, was physically adjoined by the headquarters of its parent organization, the Pacifica Foundation. A left-wing nonprofit, the Pacifica Foundation was fundamentally a progressive endeavor established in 1949 by Lewis Hill and E. John Lewis, both of whom were conscientious objectors during World War II and involved in radical pacifism and active nonviolent resistance to war and

injustices.²⁵ These perspectives deeply inflected the mission and overarching program of the Pacifica Foundation, which to this day emphasizes noncommercial radio broadcasting through listener support and a vision of the radio airwaves as a public meeting space crucial to the exercise of participatory democracy. KPFA was the first radio station to broadcast under the auspices of the Pacifica Foundation in 1949 and deliberately sought to contrast with tightly organized network scheduling standards by removing clocks from broadcasting booths and dispensing with conventional programming times to facilitate a more organic flow of presentation.²⁶

What is unique about the various and sundry recordings heard over the course of the World Ear Project are the striking number that relate to contemporary political situations. When considering that a primary initial focus for KPFA in the 1950s was Cold War politics and free speech for dissident views, such a circumstance is unsurprising.²⁷ In essence, the World Ear Project was yet another vehicle that continued the democratic, activist project that had been at the core of the radio station and the Pacifica Foundation since its founding. For example, among the recordings presented on the second transmission of the World Ear Project on September 13, 1970, was that of a street riot that occurred in Frankfurt on December 13, 1969, with the hosts highlighting the unique contrast between the sounds of the water cannons used by police and the chants shouted by the German Sozialistischer Deutscher Studentenbund. An especially substantial recording with explicitly political contours was broadcast on the World Ear Project that consisted of an unedited transmission from Radio Tirana that was broadcast two years earlier in late August 1968; it related the immediate aftermath of the Warsaw Pact invasion of Czechoslovakia on August 20–21 that stopped the Prague Spring reforms and liberalization campaign of Alexander Dubček.²⁸ The Radio Tirana host covers such topics as a 15-minute general strike on August 26; a large demonstration staged in Prague during the burial of a 14-year-old child killed on August 25 by Soviet forces in Wenceslas Square; and a hunger strike started by seven men in Kopřivnice that spread to other dissident cells in Bratislava. More than the content of the radio broadcast is the nature of the vocal delivery, a tightly staccato English with few expressive inflections. That lack of typical vocal gestures associated with the lilt and cadence of the English language lends the recording a fascinating dual nature as both a documentary piece of reportage and an elaborate piece of vocal theater in which the listener is drawn into the structural drama of the foreign voice articulating the news on a significant military operation and its worldwide geopolitical consequences.

Ongoing decolonization efforts factored prominently into KPFA broadcasting during the early 1970s, gaining particular emphasis through the *Real Dragon*, a news program that ran alongside the World Ear Project from 1971–73 and focused on liberation struggles, the Vietnam War, and international politics. The recordings submitted to the World Ear Project during this time suggest a similar awareness of Cold War inflection points. In early 1971, for example, Amirkhanian and Friedman presented an extensive collection of recordings of street conversations and sounds made in November 1970 that gave vivid insights into the bustle of city life in Moçâmedes, Angola. Broadcasting the sounds of this country to American audiences came at a time in the early 1970s that saw

the highpoint of the Portuguese Colonial War. Beginning in 1961 and lasting until the Carnation Revolution overthrew the Estado Novo regime in Portugal in April 1974, the Portuguese Colonial War was characterized primarily as a counterinsurgency campaign in three separate African theaters of conflict: Angola, Guinea-Bissau, and Mozambique.²⁹ As Portuguese armed forces fought against rival nationalist and separatist forces, the United States grew increasingly concerned that a Marxist government could ascend to power and

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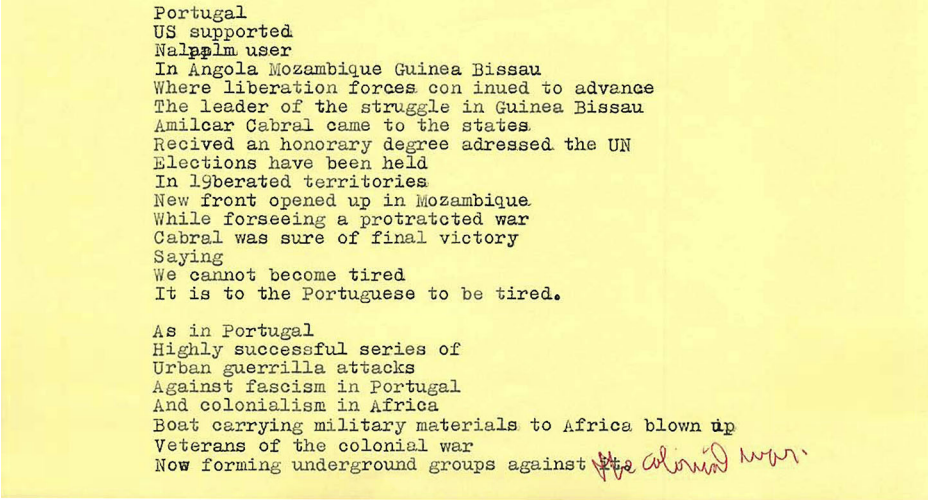
INTERNATIONAL SOLIDARITY
THE ASSASSINATION OF AMILCAR CABRAL
BURIED IN THE NEWSPAPERS THIS WEEK
BUT OF GREAT SIGNIFICANCE
AND A VERY GREAT LOSS
AMILCAR CABRAL
WAS ONE OF A SELECT GROUP OF AFRICANS
CHOSEN BY THE PORTUGUESE AFTER WORLD WAR 2
TO BE EDUCATED IN PORTUGAL
SOME OF THE PEOPLE CHOSEN
MET SECRETLY IN PORTUGAL AND AGREED
PORTUGAL HAD TO GO
FOR THEIR PEOPLES TO BE FREE
FROM 1952 TO 1954 AMILCAR CABRAL
NOW WITH AN ENGINEERING DEGREE
WENT BACK TO HIS HOMELAND GUINEA BISSAU
AND EMPLOYED BY THE GOVERNMENT
HE ORGANIZED AN AGRICULTURAL SURVEY
HIS CONTACT WITH THE PEOPLE OF THE COUNTRYSIDE
FORMED THE BASIS FOR HIS ANALYSIS
OF THE SITUATION IN HIS COUNTRY
AND OF THE STRATEGY FOR REVOLUTION
HE WROTE ARTICLES ABOUT HOW THE CULTURE AND TRADITIONS OF THE PEOPLE
COULD BE TRANSFORMED INTO
A BACKBONE OF REVOLUTIONARY STRENGTH

FIGURE 2. Real Dragon KPFA broadcast script (January 27, 1973). Courtesy of the Freedom Archives.

expand the communist sphere of influence. This anxiety led to American support to Angolan rebels of the National Liberation Front of Angola (FNLA) in the form of weapons and materiel, while the Soviet Union provided sporadic arms shipments to the Popular Movement for the Liberation of Angola (MPLA).³⁰

None of this geopolitical strife is explicitly communicated through the sounds captured in the recordings. Rather, the sonic environments presented on the World Ear Project in 1971 show a different side of Angola, providing listeners with an intimate look into the pedestrian, everyday existence of people simultaneously engaged in a lengthy and bloody process of decolonization. The Real Dragon, however, provided a striking counterpoise to its more reserved radio program sibling on KPFA. The Real Dragon script for the broadcast on January 27, 1973, for instance (Figure 2), devoted special attention to Amílcar Cabral, the founder of the MPLA in Angola and leader of the nationalist movements within Guinea-Bissau and Cape Verde who had been assassinated on January 20, 1973. Weeks earlier, on December 30, 1972, the Real Dragon broadcast noted Cabral's successes in the ongoing Portuguese Colonial War and his prominent status as an anticolonial leader (Figure 3).³¹

That emphasis in the original mission statement of the World Ear Project on both “better hearing” and “vision too” puts these recordings into sharper relief when understood within the broader progressive contours and context of KPFA and the Pacifica Foundation. That desire to “understand our neighbors” through hearing the soundscapes in which they lived was an invitation to empathy, made especially salient by the contemporary conflicts ongoing in the soundscapes heard over the course of the radio program. The World Ear Project was, consciously or not, contributing to McLuhan's conception of the global village, communicating sonic aspects of political and social life to listeners through the advent of postwar recording innovations.



Portugal
 US supported
 Nalpal user
 In Angola Mozambique Guinea Bissau
 Where liberation forces con inued to advance
 The leader of the struggle in Guinea Bissau
 Amilcar Cabral came to the states
 Recived an honorary degree adressed the UN
 Elections have been held
 In l9berated territories
 New front opened up in Mozambique
 While forseeing a protratcted war
 Cabral was sure of final victory
 Saying
 We cannot become tired
 It is to the Portuguese to be tired.

As in Portugal
 Highly successful series of
 Urban guerrilla attacks
 Against fascism in Portugal
 And colonialism in Africa
 Boat carrying military materials to Africa blown up
 Veterans of the colonial war
 Now forming underground groups against the colonial war.

FIGURE 3. Real Dragon KPFA broadcast script (December 30, 1972). Courtesy of the Freedom Archives.

J. G. Ballard's 1960 science fiction short story "The Sound-Sweep" presents a future in which the unrelenting ubiquity of urban noise pollution has seeped into the very surfaces of buildings and objects. As a result, a new profession has appeared: the titular "sound sweepers" who use a device called the "sonovac" that vacuums away the unwanted noises of the urban sprawl. Ballard's concern with and awareness of sound pollution is complemented by a fascination with recording technology, as the society he creates in "The Sound-Sweep" features "ultrasonic music." In Ballard's story, the music of the past has been reconstituted electronically to operate on a subliminal level beyond the normal human hearing range, creating an aesthetic experience of far greater intensity:

Ultrasonic music, employing a vastly greater range of octaves, chords and chromatic scales than are audible by the human ear, provided a direct neural link between the sound stream and the auditory lobes, generating an apparently sourceless sensation of harmony, rhythm, cadence and melody uncontaminated by the noise and vibration of audible music. The re-scoring of the classical repertoire allowed the ultrasonic audience the best of both worlds. The majestic rhythms of Beethoven, the popular melodies of Tchaikovsky, the complex fugal elaborations of Bach, the abstract images of Schoenberg—all these were raised in frequency above the threshold of conscious audibility. Not only did they become inaudible, but the original works were re-scored for the much wider range of the ultrasonic orchestra, became richer in texture, more profound in theme, more sensitive, tender or lyrical as the ultrasonic arranger chose.³²

Ballard further explores issues of recording technology in "The Sound-Sweep" by introducing technical innovations that have led to the advent of a short-playing record that can spin at 900 rpm:

... which condensed the forty-five minutes of a Beethoven symphony to twenty seconds of playing time, the three hours of a Wagner opera to little more than two minutes. [...] One thirty-second SP record delivered as much neurophonic pleasure as a natural length recording, but with deeper penetration, greater total impact.³³

Ballard embeds within "ultrasonic music" his anxieties about lazy consumption and listening practices, the desire for speedy aesthetic experiences with discrete, repeatable commodities, and the attendant concern that such features and listener desires might facilitate a fundamental loss of fidelity through the recording medium.³⁴ As Simon Sellars and others have observed, Ballard's meditations in "The Sound-Sweep" on listening, noise, sound consumption, built environments, and the consequences of recording technology prefigure R. Murray Schafer's motivations for developing the World Soundscape Project, which began with the practical goal of reducing industrial-age sound pollution in an effort to give space for natural, positive sounds.³⁵ Schafer takes a wryly iconoclastic tone nearly ten years after Ballard in his book *The New Soundscape* (1969) when explaining the dire present circumstances:

... the time has come in the development of music when we will have to be concerned as much with the prevention of sounds as with their production. Observing the world sonograph, the new music educator will encourage those sounds salubrious to human life and will rage against those inimical to it. It will be more important for him to know about pain thresholds than to be concerned whether the devil still inhabits the tritone. It will be more in his interest to take up membership in the International Society for Noise Abatement than in his local Registered Music Teachers Association.³⁶

Schafer succinctly staked his position in 1970 near the conclusion of *The Book of Noise*, his study and analysis of the negative effects of modern noise pollution: “The enemies of the human ear and voice are the heavyweight sounds of modern technology.”³⁷

The World Soundscape Project was the outgrowth of several years of nascent conceptual work by Schafer in the 1960s as he formulated the guiding principles surrounding soundscapes and acoustic ecology while working at Simon Fraser University, a new institution of higher education established in British Columbia in 1965. Schafer published, in 1967, his book *Ear Cleaning*, which was a volume of lecture notes related to his approaches to teaching first-year university music students. Even at this early stage, he was keen to indicate a sharp distinction between the “negative of musical sound,” which was “noise sound.”³⁸ *The New Soundscape* was similarly drawn from his teaching experiences, but centered principally on the negative status of noise, those unwanted sound signals he describes as part of the broader “sound sewage” produced by modern life.³⁹ Out of this research and writing, Schafer had developed basic underlying philosophical frameworks that would serve as the foundation for the conceptual beginning of the World Soundscape Project in 1969 before officially establishing itself at the Sonic Research Studio in the Department of Communications Studies of Simon Fraser University in 1971.⁴⁰

The World Ear Project that started broadcasting from Berkeley, California, in August 1970 adds further definition and clarity to the narrative of how acoustic ecology began. Most importantly, Amirkhanian and Friedman were quick to recognize that Schafer was exploring similar topics in an academic setting and had been developing a systematic approach to the study of soundscapes. In fact, Amirkhanian acknowledged the work of Schafer in the third transmission of the World Ear Project on October 26, 1970, reading almost the entire first chapter of Schafer’s *The New Soundscape* on air. Using Schafer as a justification and defense of their radio program says much about how closely linked the two projects were, despite the different ways they came about. What we find is an instance of “convergent evolution,” as it were, with the creators’ differing concentrations, interests, and professional circumstances reflecting how their respective projects developed and matured. The World Soundscape Project was a research-heavy, academic endeavor that focused on solving practical issues surrounding noise pollution and cataloging unique soundscapes and potentially endangered “soundmarks.” The World Ear Project emerged from Friedman and Amirkhanian’s composerly enthusiasm for Luc Ferrari’s work while also inflected by the countercultural sensibilities that permeated the San Francisco Bay Area at that time.⁴¹

Determining who “started” what first is less important than recognizing that both American and Canadian composers and artists in the mid-1960s and early ’70s were

developing simultaneous conceptions of acoustic ecology and soundscape composition.⁴² This do-it-yourself, vaguely countercultural ethos that influenced the American World Ear Project also gave it a perspective distinct from the philosophical and aesthetic issues surrounding the medium of sound recordings and “aural photographs” of locales and ambient sound environments that engendered anxiety for Schafer and his World Soundscapes Project in Canada. For Schafer, that mechanical separation of sound from its original source is “schizophonic” and has profound consequences:

Since the invention of electronic equipment for the transmission and storage of sound, any natural sound, no matter how tiny, can be blown up and shot around the world, or packaged on tape or record for the generations of the future. We have split the sound from the makers of sound. [. . .] and if I use a word close in sound to schizophrenia, it is because I want very much to suggest to you the same sense of aberration and drama that this word evokes.⁴³

Schafer’s concern with how recording technology damages the integrity of natural sounds, makes them more unnatural, and contributes to an overabundance of noisy excess is an outgrowth of what Mitchell Akiyama has explained as a fundamental tension and uncertainty about sound recording as a form of art or a science.⁴⁴

The World Ear Project held a fundamentally optimistic outlook regarding the use of recording technology for storing and disseminating sounds from around the world, including those sounds that arise from modern, industrial society (Schafer’s “sound sewage”). At several times over the course of the broadcasts, both Friedman and Amir-khanian described the ideal recordings to be submitted by listeners as akin to a sonic photograph in which the person doing the recording did not intrude onto the sound environment. Weiland too described his creative process for composing *Valencia CA and The Ocean* as akin to photography when providing the preface to its broadcast on the World Ear Project: “I made microphone recordings as a cameraman with his camera at his shoulder.”⁴⁵ Such schizophonic technological mediation was done in an effort to “bring our ears all a little closer” and foster an expansion of consciousness, even if the soundscapes provided by the contributors and heard over the airwaves were far from the locations in which they originated. For the creators of the World Ear Project, these soundscapes had the capacity to transport listeners outside the bounds of their present listening environment and into the place where the recording was made. The crystallized, infinitely repeatable soundscapes were objects of documentary and aesthetic reflection that permanently captured the discrete sounds and noises of a locale. Crucially, the ever-growing temporal distance from the original sounds renders the soundscapes into objects of continuing aesthetic contemplation, as new meanings and significations accrete over time for listeners who come to the World Ear Project broadcasts decades later.

The World Ear Project was an oddity, to be sure. It was a hip, do-it-yourself, countercultural sound curation endeavor, sometimes haphazard in its presentation during the early days. It was a sounding board for composers interested in exploring the expressive possibilities of working with ambient soundscapes in the avant-garde spirit of Luc Ferrari. It was also sometimes a subtly political program that used the airwaves to challenge Cold

War status quos, compelling listeners to explore soundscapes beyond their shores and foster a more global consciousness. In total, the World Ear Project was a distinctively progressive American experiment, favoring citizen engagement and direct listener involvement while exemplifying the diverse aesthetic, philosophical, and artistic perspectives on music, sound, and the natural world that circulated during the 1960s, '70s, and '80s. ■

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NOTES

1. For more information, see David Blades and Joseph Siracusa, *A History of U.S. Nuclear Testing and Its Influence on Nuclear Thought, 1945–1963* (Lanham, MD: Roman & Littlefield, 2014), 145–46.
2. An insightful contemporary account of the immediate impacts of the Santa Barbara oil spill can be found in Robert Easton, *Black Tide: The Santa Barbara Oil Spill and Its Consequences* (New York: Delacorte Press, 1972).
3. Richard Nixon, “Special Message to the Congress about Reorganization Plans to Establish the Environmental Protection Agency and the National Oceanic and Atmospheric Administration,” in *Public Papers of the Presidents of the United States: Richard Nixon, 1970* (Washington, DC: Government Printing Office, 1971), 578–86. For a contextualization of this legislation within the larger landscape of environmental action in the 1960s and '70s, see Kevin Hillstrom, *U.S. Environmental Policy and Politics: A Documentary History* (Washington, DC: CQ Press, 2010), 390–406.
4. For more information on the complicated interrelationships and tensions between Cage’s ecological turn, emphases on improvisation and chance, and continuing reliance on modernism, see Benjamin Piekut, “Chance and Certainty: John Cage’s Politics of Nature,” *Cultural Critique* 84 (Spring 2013): 134–63.
5. David Ingram, “‘The Clutter of the Unkempt Forest’: John Cage, Music and American Environmental Thought,” *American Studies* 51, no. 4 (2006): 570–71.
6. Lawrence English, “A Memory of Almost Nothing: Luc Ferrari’s Listening During *Presque Rien No. 1*,” *Leonardo Music Journal* 27 (2017): 17.
7. Eric Drott, “The Politics of *Presque rien*,” in *Sound Commitments: Avant-Garde Music and the Sixties*, ed. Robert Adlington (Oxford: Oxford University Press, 2009), 159.
8. Luc Ferrari interviewed by Charles Amirkhanian, *Ode to Gravity*, April 11, 1973.
9. Writing in the 1980s, Amirkhanian continued to maintain that Ferrari’s influence was crucial to his artistic development in the 1970s, citing *Presque rien* specifically. For more information, see Charles Amirkhanian, “Pâte de Pas de Voix,” *Perspectives of New Music* 26, no. 2 (Summer 1988): 40–41.
10. A concise overview of the increasing accessibility and quality of cassette tape recorders in the 1970s can be found in David Morton, *Sound Recording: The Life Story of a Technology* (Baltimore, MD: Johns Hopkins University Press, 2004), 163–65.
11. Charles Amirkhanian and Richard Friedman, “World Ear Project,” *KPFA Folio*, August 1970, 8.
12. Richard Friedman, World Ear Project: Transmission One, August 20, 1970.
13. Richard Friedman, World Ear Project: Transmission Two, September 13, 1970.
14. Amirkhanian and Friedman, *KPFA Folio*, October 1970, 13.

15. The August 1970 *KPFA Folio* indicates that on Saturday, August 29 at 10 p.m., a program entitled “Luc Ferrari’s World Ear” was scheduled that would feature his work and present to listeners a range of compositions that involved manipulations of natural recorded sounds, including *Heterozygote* (1967), *Music Promenade* (1967–70), *Und so weiter* (1966), and *J’ai été coupé* (1969).
16. During this first broadcast, both hosts noted problems they faced in recording, particularly with windy conditions. Friedman also explained to listeners interested in submitting recordings the potential issues presented by half- versus quarter-track recording, most notably the cutting that is done by the manufacturer, which creates imperfections in the oxide near the edges of tape that result in “drop out” or sudden flutters or changes in level. In these kinds of ambient sound recordings, many such imperfections could become especially obvious. In addition, Amirkhanian comically notes in the first transmission of the World Ear Project that a morning barn feeding soundscape he recorded in Vancouver for presentation was accidentally recorded over a previous KPFA broadcast. The soundscape was ultimately included on the program, but there is indeed a lingering audio artifact in which his distorted voice is noticeable. Transmission Seven, which occurred on March 15, 1971, is also humorous, as the program begins with a live recording of the hosts and radio volunteers, seemingly unaware they are broadcasting live from the studio while discussing what to put on the air that day and noting the general lack of submissions to present. After roughly seven minutes of milling about, Friedman introduces a recording he and his colleagues were able to round up while continuing background conversations almost entirely obscure his voice.
17. Pauline Oliveros, *Deep Listening: A Composer’s Sound Practice* (Lincoln, NE: iUniverse, Inc., 2005), xxiii.
18. Pauline Oliveros, *Sonic Meditations* (Sharon, VT: Smith Publications, 1971), 11.
19. Pauline Oliveros, “My ‘American Music’: Soundscape, Politics, Technology, Community,” *American Music* (Winter 2007): 391.
20. Oliveros, *Sonic Meditations*, 1–2.
21. A brief outline of the institute’s history is outlined in Kees Tazelaar, “Special Section Introduction: The Institute of Sonology,” *Leonardo Music Journal* 19 (2009): 69–70.
22. Stone, Friedman, and Amirkhanian interviewed Paul Matzner for a special October 1986 broadcast of the World Ear Project. The program focused on Matzner’s work as curator of the California Library of Natural Sounds at the Oakland Museum and involved discussions of the museum’s sound installations, especially the *Walk Across California* exhibit.
23. Sumner noted an especially satisfying aspect of the instrument was its tendency to develop new resonances, as people would often put coins onto the instrument and they would get mixed up with the strings. For the full discussion with Michael and Melody Sumner, see World Ear Project: Series 2, March 25, 1985.
24. An in-depth examination of the term *Anthropocene* as a concept can be found in Jan Zalasiewicz, Colin N. Waters, Mark Williams, and Colin P. Summerhayes, eds., *The Anthropocene as a Geological Time Unit: A Guide to the Scientific Evidence and Current Debate* (Cambridge: Cambridge University Press, 2019), 1–11. A more dated conceptual history can be found in Will Steffen, Jacques Grinevald, Paul Crutzen, and John McNeill, “The Anthropocene: Conceptual and Historical Perspectives,” *Philosophical Transactions of the Royal Society* 369, no. 1938 (2011): 842–67.
25. For an overview of the history and general zeitgeist that influenced the founding of Pacifica, see Jeff Land, *Active Radio: Pacifica’s Brash Experiment* (Minneapolis: University of Minnesota Press, 1999), 27–38. See also John Downing, *Radical Media: Rebellious Communication and Social Movements* (London: Sage Publications, 2001), 328–30.
26. Land, *Active Radio*, 48–51.
27. Land, *Active Radio*, 51–55.

28. Crucially, Albania, along with Romania and Yugoslavia, refused to participate in the invasion, which explains the Radio Tirana broadcaster explicitly referring to the invading coalition as “occupiers.” For an in-depth analysis of the Prague Spring and its geopolitical consequences, see Kieran Williams, *The Prague Spring and its Aftermath: Czechoslovak Politics, 1968–1970* (Cambridge: Cambridge University Press, 1997).
29. Support for Portuguese colonialism among European states in NATO was part of an advanced series of political policy calculations designed to maintain the integrity of the Atlantic Alliance while also allowing countries like France to protect their interests in Africa and defy the United States. For more information, see Ana Fonseca and Daniel Marcos, “Cold War Constraints: France, West Germany, and Portuguese Decolonization,” *Portuguese Studies* 29, no. 2 (2013): 209–26. For an overview of the conflict in Angola within the larger context of the Portuguese Colonial Wars of the 1960s and ’70s, see Al Venter, *Portugal’s Guerrilla Wars in Africa: Lisbon’s Three Wars in Angola, Mozambique, and Portuguese Guinea 1961–74* (Solihull, UK: Helion & Company, 2013).
30. The result of this international influence by the superpowers was a vast stockpile of weaponry that would fuel the civil war that consumed Angola in 1975 immediately following independence from Portugal. For more information, see Thomas Noer, “International Credibility and Political Survival: The Ford Administration’s Intervention in Angola,” *Presidential Studies Quarterly* 23, no. 4 (Fall 1993): 771–85.
31. For digital access to the Real Dragon scripts and programs, see <https://search.freedomarchives.org/>.
32. J. G. Ballard, “The Sound-Sweep,” in *The Complete Stories of J.G. Ballard* (New York: W. W. Norton & Company, 2009), 111.
33. Ballard, “The Sound-Sweep,” 112.
34. Guillaume Apollinaire foreshadowed the idea and effects of collecting and gathering sounds from around the world in his short story “Le Roi-Lune,” published in his 1916 collection *Le poète assassiné*. The story features a traveler hiking in the Tyrol who stumbles onto a fantastical, proto-surreal cavern ruled over by Ludwig II of Bavaria, who, it turns out, did not drown in Lake Starnberg. The traveler finds Ludwig II playing a keyboard that emits rich and varied sounds from environments and locations across the earth, allowing him to perform what he describes as a “symphony of the world.” See Guillaume Apollinaire, *The Poet Assassinated and Other Stories*, trans. Ron Padgett (San Francisco: North Point Press, 1984), 78–81.
35. There is a remarkably uniform consensus among scholars about the important, mutually reinforcing correspondences between Ballard’s “The Sound-Sweep” and the principles of sound ecology Schafer later formulated in the 1960s. See, for example, Simon Sellars, “Stereoscopic Urbanism: J. G. Ballard and the Built Environment,” *Architectural Design* 79, no. 5 (2009): 82–87; Michael Fowler, “On Listening in a Future City,” *Grey Room* 42 (Winter 2011): 22–45; Toby Heys, *Sound Pressure: How Speaker Systems Influence, Manipulate and Torture* (New York: Rowman & Littlefield, 2019), 70–71; Sylvia Mieszkowski, *Resonant Alterities: Sound, Desire, and Anxiety in Non-Realist Fiction* (Bielefeld, DEU: Transcript, 2014), 227–32.
36. R. Murray Schafer, *The New Soundscape: A Handbook for the Modern Music Teacher* (Toronto: Berandol Music Limited, 1969), 4.
37. R. Murray Schafer, *The Book of Noise* (Wellington, NZ: Price Milburn & Co., 1970), 28.
38. R. Murray Schafer, *Ear Cleaning: Notes for an Experimental Music Course* (Toronto: Clark & Cruickshank, 1967), 5.
39. Schafer, *The New Soundscape*, 13–23.
40. An exhaustive accounting of the early founding, development, and dating of the official “beginning” of the World Soundscape Project can be found in Keiko Torigoe, “A Study of the World Soundscape Project,” (master’s thesis, York University, 1982), 43–51.

41. Amirkhanian's *Walking Tune (A Room-Music for Percy Grainger)* is one of his best-known compositions and was made between 1986 and 1987, during the second series of the World Ear Project. New American Radio commissioned the 28-minute electronic piece, which serves as an homage to Grainger, who composed his own *Walking Tune* in 1905 based on an earlier trek he had made through the Scottish Highlands. Amirkhanian's *Walking Tune* uses conventional musical material—some of it sampled from commercial recordings—alongside a Synclavier digital synthesizer and recorded sounds from natural environments in the United States and Australia, featuring most notably ducks, hot springs, and a swarm of hummingbirds. At the Composer to Composer Festival in Telluride, Colorado, in August 1988, Amirkhanian played an excerpt of *Walking Tune* and fielded questions about his compositional process for the work. For more information, see Other Minds Audio Archive, "Composer to Composer Festival 1988: Day 3 Discussions," https://archive.org/details/CTC_1988_08_18 (accessed September 29, 2021). A discussion surveying Amirkhanian's work in sound poetry, tape music, and text-sound music can be found in Geoff Smith and Nicola Walker Smith, *New Voices: American Composers Talk about Their Music* (Portland, OR: Amadeus Press, 1995), 17–31.
42. In addition to Schafer's academic work in the field of acoustic ecology, he was also a prolific composer. *Music for Wilderness Lake* (1979) is probably his most well-known "environmental" composition for 12 trombones performing around the perimeter of a lake at dawn and dusk while natural ambient sounds accompany the musicians. *Miniwanka or the Moments of Water* (1971) takes up water as its central theme as well and is an onomatopoeic piece in which a choir sings different words for water in Indigenous languages. A description of how these compositions came about can be found in R. Murray Schafer, *My Life on Earth and Elsewhere* (Erin, ON: The Porcupine's Quill, 2014), 112–13, 151–52. Schafer's *Patria*, a large-scale, quasi-operatic cycle of theatrical pieces begun in 1966, has also experimented with performances in settings outside conventional concert halls or opera houses, including abandoned factories, mines, and outdoor locations. For more information, see Kate Galloway, "Pathways and Pilgrimages: The In-Between Spaces in the *Patria* Cycle," *Intersections* 28, no. 1 (2007): 139–50.
43. Schafer, *The New Soundscape*, 43.
44. For more information, see Mitchell Akiyama, "Transparent Listening: Soundscape Composition's Objects of Study," *RACAR: Revue d'art canadienne / Canadian Art Review* 35, no. 1 (2010): 57–58.
45. Frits Weiland, World Ear Project: Series 2, March 25, 1985.