"Take It to the Air: Radio as Public Art"

As early as the late 1920s, cultural critics and avant-garde types were fond of declaring radio if not dead then a wasteland of state and commercial interests, feeding listeners a round-the-clock diet of trivia, consumerism, propaganda, and bad art. Bertolt Brecht despaired over bourgeois control of the technology and questioned whether it could have revolutionary social or political significance. Yet the allure of a communications technology in every living room was too great to ignore. Brecht himself used radio in a handful of live performances culminating in the 1932 essay, "The Radio as a Communications Apparatus." Brecht called for the realization of radio's two-way communicative potential with the aim of transforming "the reports of those who govern into answers to the questions of those governed."[1] On the other side of the political spectrum, F.T. Marinetti and Pino Masnata called for radio to obliterate all 'reactionary' cinematic and theatrical tropes and embrace radical sound and language experimentation to capitalize on the temporal and spatial characteristics of the medium.[2] Until recently, however, the use of radio as a medium was pursued only episodically in music, theater, and conceptual art, and the radio spectrum remained an unrealized and undertheorized social and aesthetic space.

Today, many artists use traditional FM radio, newer technologies of wireless networking, and other parts of the electromagnetic spectrum to make work often described as sound, electronic, or new media art—much of it strikingly, hauntingly poetic. However, there is also an irreducibly public and political quality to "taking to the air." Much of this work is illegal due to tight regulation of the electromagnetic commons, and the act of making it anyway enacts a claim on a virtual but very real public space usually kept inaccessible in the name of the public itself. The straightforward gesture of placing one's own content on the airwaves—achievable with minimal technical know-how and at relatively modest cost—performs "the public" in a radically

participatory, often oppositional way. Artists working with radio in ways that intentionally mobilize its status as public space add further nuance and complexity to these redefinitions. Although public art criticism has broadened to encompass practices that constitute a public or leverage discourse to become public, the field has given little sustained attention to creative interventions in electromagnetic public space. Through a close reading of three projects, I examine how public art employing radio can contest the constitution of "the public," address the normative ordering of public space, and extend critical perspectives on public space to the realm of electronic communication. These critical ends are given heightened resonance through the radio's material and regulatory properties, which allow it to mediate between the imaginative, the physical and the legal domains that combine and conflict to produce all publics and all spaces.

Constructing and Contesting the Public

Over the 15 years, the field of public art has drawn on perspectives from cultural geography, political theory and urban studies to develop a more theoretically grounded body of criticism, in contrast to the advocacy literature that was so important in achieving funding, visibility, and (limited) curatorial and art historical interest in the genre. Tom Finkelpearl defined the common usage of the term 'public art' as what "is often sponsored by public agencies, usually exists outside of museums and galleries, and addresses audiences outside the confines of the art world."[3] Despite the obvious utility of this pragmatic definition—some of whose conceptual limitations Finkelpearl himself intimated—a growing body of literature has come to regard the idea of "publicness" less as a set of conditions of funding, display, and reception than as a discursive territory open to contestation. While this literature is much too large to review here, scholars like Rosalyn Deutsche, William Mitchell, and Miwon Kwon in art; Malcolm Miles

and Don Mitchell in geography; Nancy Fraser and Chantal Mouffe in political theory; and Michael Sorkin and Teddy Cruz in architecture, not to mention dozens of practicing artists, have pointed to the political dangers of assuming that state sponsorship or outdoor display implies anything like open access or proposing a stable, undifferentiated 'public' audience. Calling art—or anything—'public' is a discursive act that does ideological work. Normative or "common sense" definitions of 'public' frequently conceal whose interests, needs, and even existence are included or excluded.

In contrast to received or bureaucratic definitions, Rosalyn Deutsche proposes replacing the term "public art" with a more expansive vision of art that operates in what she terms "the public sphere." Drawing on the work of Jurgen Habermas as well as his critics, Deutsche uses the concept of the public sphere to make clear that "the public" is not coequal with "the state." The classic liberal or bourgeois public sphere arose in the 18th century as a deliberative space in which citizens could rationally discuss pressing social issues, reach a conclusion via argument, and influence political action. Following Habermas, Deutsche reframes public art practice from that which is state funded or sited on public land to that which "constitutes a public, by engaging people in political discussion or by entering a political struggle."[4] Attune to critiques that Habermas's idealized public sphere systematically "bracketed out," to use Nancy Fraser's phrase, the concerns, experiences, knowledge, and voices of women, people of color, the non-heterosexual, and the poor, Deutsche advocates paying close attention to the constitution of the public sphere and its inevitable exclusions.[5] "It [the democratic public sphere] is, from the start, a strategy of distinction, dependent on constitutive exclusions, the attempt to place something outside. Conflict, division and instability, then, do not ruin the democratic public sphere; they are the conditions of its existence. The threat arises with efforts to supersede conflict, for the public

sphere remains democratic only insofar as its exclusions are taken into account and open to contestation."[6]

Although artists using radio—the first *virtual* space of electronic communications—are rarely considered in light of other, more physical public art practices, the unique legal and regulatory status of the radio spectrum reveals the same tensions, exclusions, and appropriations that scholars have noted in other forms of public space. While regulations vary from country to country, the rough outline of how this officially public space became dominated either by state or corporate interests is remarkably consistent. Following an early period of intense, unregulated amateur broadcasting on an electromagnetic spectrum widely viewed as a commons, governments worldwide began granting licenses for the right to broadcast on the public airwaves or reserving such rights for themselves. Although designed to reduce the very real problem of interference, the new regulations immediately outlawed access to the radio spectrum for thousands of independent broadcasters. In the specific case of the United States, the Radio Act of 1927 established the Federal Radio Commission with the explicit mission of restricting access to the airwaves "as public convenience, interest, or necessity requires."[7] The Federal Communication Commission succeeded the FRC in 1934 and further codified corporate dominance of the airwaves and enforced 'decency standards' that meant that only the most mainstream entertainment and political commentary could be broadcast. Much like invocations of the normative 'public' critiqued by scholars of public space and public art, early radio regulations created political bodies that made political decisions in the name of a homogenous, generalized public, while keeping actual publics far from the transmitting towers.[8]

In this context, the choice to circumvent restrictions on radio broadcasts is an inherently political act. As media activist John Anderson has noted, it's difficult to imagine how someone

researching the equipment and technical skills necessary to produce her own broadcasts would fail to come across the information that what she is trying to do is probably illegal.[9] While some artists use legal, micropower consumer transmitters these devices are often used in ways that violate the spirit, if not the letter, of the law by exceeding the intended transmission range.[10] The decision to use a prohibited technology, or to modify a consumer one, is a political gesture at several levels. First, it represents a refusal of governmental authority to regulate public space and the ability of the market to stand in for the public interest. Second, it is a gesture that affirms of a model of anti-authoritarian radical democracy and emphasizes the ability of small groups of people to learn ordinarily mystified skills and produce cultural practices that are politically, economically, and sometimes aesthetically distinct from those of dominant institutions. Finally, when the content and form of the broadcast reflect on the constitution of public and private as social categories, explicitly challenge the exclusion of certain people and stories from the airwaves, and use the language and self-reflexive strategies of art practice, unlicensed broadcasts become what Rosalyn Deutsche hopes public art can be: "an instrument that either helps produce a public space or question a dominated space that has been officially ordained as public."[11]

Neighborhood Public Radio: Contesting the Public

From November 2006-April 2007, the radio arts group Neighborhood Public Radio, known by the familiar initials NPR, equipped fourteen homes in the San Francisco Bay area with the same micro power transmitters used by realtors to inform drive-by house shoppers of a property's particular charms. Rather than gushing about granite countertops and his-and-her sinks, however, the broadcasts recounted true stories of public sex, burning trash, and the violation of other social norms that might be described as *Bringing Down the Neighborhood*, as this particular iteration of the *Talking Homes* project, initiated by founding NPR member Jon

Brumit, was called. In early 2007, another version of the project, *Pioneers* was commissioned for the Shrinking Cities exhibition in Detroit and had a radically different orientation.[12] The twelve broadcast loops documented the efforts of people who remained committed to living in and improving their neighborhoods despite mass population outflows, environmental degradation, and systemic economic collapse. Both broadcasts relied on people to tell their own stories and sited the transmitters in the vacant lots, decaying buildings, and defiantly open storefronts where the stories unfold. Maps were provided for the audience to navigate from one transmitter to another and listen to the project on car radios.

Taken together, these two iterations of NPR's *Talking Homes* project quickly transcend the clever novelty of repurposing a realtor's tool and suggest a public of a vastly different scale and nature than that supposed by classic public sphere theory. The project reversed the public/private divide upon which the classic public sphere was founded by placing personal stories outside a living space and quite literally on public property. In *Bringing Down the Neighborhood*, the assumed appropriate topics for public discussion that undergird the classic public sphere are exploded as people recount stories that reveal—and revel in—the wealth of non-normative behavior lurking just below the surface of a city. The audience is positioned as a voyeur or, more precisely, an eavesdropper, but the localization of the broadcasts and the first-person narration produce a sense of guilty identification more reminiscent of intimate neighborhood gossip than the scornful toilet humor of drive-time radio shock jocks. By making the work of a diverse group of people—a woman drummer, an urban farmer, a muralist, an auto upholsterer, an open space activist—public, *Pioneers* reframes them from being atomized, private or individual efforts toward being part of a common struggle toward neighborhood sustainability in the most varied and meaningful sense of the term. The particularities of these

people's lives—how they ply their trades, their individual hopes and dreams—cannot be bracketed out of the arena of "common concern"—not by the city of Detroit and not by highly mobile and privileged audience visiting the city for the exhibition.

"Talking Homes" is consistent with Neighborhood Public Radio's ethos of smallness, site-specificity, and fostering participation on the part of its listeners. Its name and logo spoof the ubiquitous American public broadcaster National Public Radio and point directly toward where its goals and those of conventional broadcasting differ. Since its founding in 1970, National Public Radio ("Big NPR" for short) has sought to be the gold standard of American radio journalism and on-the-air talk. A nationwide network of subscriber public radio stations broadcast news programming originating from production studios (Washington and Los Angeles), adjusted to fit regional needs and interests. In contrast to the international coverage promised by Big NPR, Neighborhood Public Radio, or "Little NPR" is dedicated to the scale of the urban neighborhood, or the territory that can be readily apprehended in the daily pattern of lives and the movement of bodies through space. Japanese radio artist Tetsuo Kogawa championed the social and aesthetic possibilities for working at this scale as qualitatively distinct from the goals of traditional broadcasting. Reflecting on his own experiences working with micro power transmitters in Tokyo in the 1980s, Kogawa writes,

> "Radio could serve as a communication vehicle not for broadcast but for the individuals involved. Even if they have few listeners, these stations do work as catalysts to reorganize groups involved in mini-FM. Those who were familiar with conventional radio laughed at mini-FM because it had only a few listeners, listeners within walking distance of the station, and no consistent style… [But] we tried to think about radio in a different way, as a means to link people together."[13]

In other words, by limiting the scale of radio broadcasts from the national to the neighborhood, the technology takes on an entirely different social life.

While Little NPR's scale implies a more intimate relationship with its audience, the sound of the broadcasts and the way they are made embody a very different vision of "public radio." Big NPR emphasizes quality, professionalism, consistency, and unbiased journalism. By contrast, Little NPR's motto is, "if it's in the neighborhood and it makes noise…we hope to put it on the air." While providing enough training to members and collaborators to produce professional-sounding broadcasts if they wish, Neighborhood Public Radio's programs adhere to no standard format, length, or protocol and are broadcast episodically and for special events. Live programs in particular sometimes include unscripted laughter, unbleeped expletives, microphone handling noise, uninteresting commentary, awkward silences, voices that are anything but golden, and just plain weird sounds. Big NPR is "public" in the sense of being established by an act of the state and operating as a not-for-profit corporation—procedural criteria that echo the pragmatic definition of "public art" proposed by Tom Finkelpearl. Little NPR, on the other hand, is public in an entirely different sense. It provides avenues for listeners to become producers and embraces an amateurish and inclusive approach that questions received, often exclusionary notions of "quality." The chaotic—what Kogawa would call "polymorphous"—quality of Neighborhood Public Radio broadcasts echo the diversity, discomfort and instability that are hallmarks of a public sphere that openly embraces the conflicts and contradictions that created it.

Ligna: Public Space is Communication Space

On September 2, 2006, dozens of people entered Leidestraat, Amsterdam's pedestrian shopping street, carrying small, portable radios. Listening to instructions broadcast on the city's last 24/7 pirate radio station, the people began to perform strange gestures in unison—avoiding the cracks between pavers, jumping up and down, walking backwards, or simply standing still

with their eyes closed. These gestures choreographed a new version of *Radio Ballet*, subtitled *I Am[not]sterdam*, by the art collective Ligna, which has staged a number of similar group performances starting with one at the Hamburg train station in 2002. The soundtracks of the broadcasts typically include music, instructions for physically engaging the environment, and commentary on the urban commercial space and the intervention being performed in it.[14]

There are several audiences for *Radio Ballet*: the observer, the participant-performer, and the viewer of the documentation. The observer witnesses the participant-performers acting in unison over a dispersed space. The group performs actions that stand in marked contrast with conventional public behavior but aren't precisely objectionable; they manage to violate social norms in inventive ways that elude specific rules governing what can and can't be done in public. The *collective* performance of conspicuously "out of place" behavior makes the violation of norms a notable event, rather than a mere curiosity of aberrant individual behavior. The apparent 'normalcy' of the performers in appearance further distinguishes them from the figure of the homeless person, whose threat to behavioral norms is neutralized by stigmatizing the individual and her actions. That all the performers are listening to portable radios or wearing headphones raises the disquieting specter of mind control, and the absurd, smiling group walking backwards in unison becomes something of a benign invasion intent on interrupting the smooth flow of urban space, but not precisely disrupting it, either.

The full dimension of *Radio Ballet's* social critique, however, is not legible to the observer without access to the radio broadcast the participant-performers hear in their headphones. Over a bed of hypnotic electronic music, a male and a female voice alternate between instructions for new ways of occupying and exploring the environment and commentary on urban space and the functions of public behavior. Both instructions and commentary are

delivered in tones that are politely playful, occasionally chiding, usually aloof, but never cold. A characteristic instruction directs,

> "Please stand still for a moment. Close your eyes. What does the environment around you look like? Recount every feature: the streetlights, the design of the trees. And how does the pavement look under your feet. Answer this question for yourself. Don't cheat—keep your eyes closed! Maybe you can feel the shape with your feet. Try to follow the cracks gently with one foot, but keep your eyes closed. Are the paving stone big, or all they small?

Such directions for paying close attention to the texture of the city, engaging sensually and imaginatively with the environment, and bringing associations and memories to consciousness are broken up with commentary delivered in approachable, non-academic language. Commentaries prompt the participant-performer to reflect explicitly on the codes and norms of public behavior that govern urban commercial space. For example, one interlude directs the listener to notice, "People with goals in their head are hurrying past. Others are hanging around, maybe waiting for somebody. But everybody here seems to have a purpose, and that makes him or her accountable. People doing things that don't seem to have a purpose are suspicious. Are people watching what you are doing?" The broadcast fosters engagement with the city that is simultaneously embodied and intellectual, sensual and critical while revealing established norms to be dully arbitrary at best or, at worse, supportive of a monotonous, functionalist, and consumerist spatial code.

If Neighborhood Public Radio's critique of public space is implicit in its aesthetic, content and choice of scale, Ligna's critique is quite explicit, even didactic. Yet Ligna's use of radio—and specifically their collaboration with pirate and "free" radio stations—extends their critique of physical public space to a subtler exploration of the status of electromagnetic public space. The decision to use radio as the distribution technology for instructions and commentary is more than merely expedient. Prior to initiating the *Radio Ballet* series in 2002, Ligna had been

broadcasting on Hamburg's independent radio station, Freies Sender Kombinat (FSK), for many years, and group members self-identify as media theorists as well as radio artists. The collective intentionally broadcasts its public projects over existing independent non-profit or pirate radio stations, bypassing state and corporate outlets and strengthening the connection of these outlets to experimental cultural form. Yet Ligna's controlled delivery of the radio commentary is almost ostentatiously authoritarian; the voices instructing the participant-performers on what to do and what to think replicates the one-way directionality so deplored by radical forebears like Brecht. Far from contradicting the critical content, however, the authoritarian tone draws a connection between the normative ordering of *physical* public space and the codes of broadcasting and listenership that conventionally structure *electromagnetic* public spaces of communication and prevent them from being the polyvocal, participatory forums that artists like Neighborhood Public Radio try to foster.

Public Broadcast Cart: Communication Space as Public Space

A woman pushes a shopping cart though a public park. Far from muttering to herself, as stereotypes of shopping cart pushers might suggest, she speaks clearly and purposefully into a microphone, her amplified voice audible through the six speakers that bloom like flowers from the basket of *The Public Broadcast Cart*, a 2003 project by artist Ricardo Miranda Zúñiga. A laptop computer with a wireless card and homemade radio transmitter broadcast her words to the Internet and to the park's electromagnetic space, while an accompanying website explains the project's technologies so that others can build similar carts.

Extending *Radio Ballet's* invocation of the space of electromagnetic communication, Zúñiga's project explicitly occupies it. He takes the classic figure of the soapbox public speaker and extends her voice into communication space—not only radio but also the Internet. In urban

spaces almost entirely given over to consumption and surveillance, electronic media can be prosthetics that extend rather than threaten the political possibilities of physical public space, expanding the power and range of an individual voice and broadening the speaker's potential audience. In an era when the lone speaker on a square or handing out leaflets is as likely to drive away his neighbors as attract a crowd, the unusual-looking cart makes public speech an intriguing visual spectacle that is not merely politically edifying but also fun to watch.

Radio's ability to mediate between physical and non-physical public space is still more legible in *The Public Broadcast Cart* than in Ligna's *Radio Ballet*. Although not perceptible, radio waves exist in space and are subject to physical conditions—broadcasts have a certain geographic range, transmissions are subject to interference by buildings, trees, sunlight, and other forms of radiation. The speaker uses *The Public Broadcast Cart's* transmitters to speak to the surroundings just beyond the range of her amplified voice but still within a short walk, or the area knowable by the body. The Internet, a de-spatialized technology in the sense that any other point on the network is theoretically available to any other, extends the project beyond the local scale favored by Neighborhood Public Radio without devaluing the particularity and relationality to be found in the city block. The project's website, by providing instructions and links for creating the broadcast cart, also contributes in turn to the de-spatialized network of free radio tinkerers and broadcasters from which the technologies powering the project sprung.

While the content of Zúñiga's broadcasts varies according to who pushes and speaks into the cart, the project mounts a constant challenge to the normative ordering of physical and communication public spaces. This challenge is both representational—in the sense that the person pushing the cart self-represents as a public speaker—and a form of direct action, an occupation of electromagnetic public space that is irreducibly political no matter the content of

the broadcasts. In contrast to Ligna's distanced, critical voice of authority and instruction, Zúñiga directly invites his audience to challenge not only norms for occupying physical public space but also the regime of regulation that keeps them far from their own public airwaves. In the context of the United States, where mass assemblies have been met with increasing violence and attendant public reluctance at the same time that safeguards for media access and diversity have been weakened, the ability of the *Public Broadcast Cart* to mediate between these different registers of public space is especially timely.

Conclusion: Embody the Airwaves

With the increasingly popularity and listenership of network technologies for distributing audio content, such as satellite radio, web streaming, and podcasting, many people have questioned the continued cultural relevance of broadcast radio. These questions are usually framed ahistorically and in a technologically determinist way: radio is an old, mass medium technology succeeded by new, better, 'personal' media technologies. Occasionally, critics acknowledge the role of major broadcasters in ensuring radio's demise as a form of community media through monopoly ownership and standardizing programming, but it is usually seen as a fait accompli, not a terrain of ongoing struggle. Community media activists counter that it is only in the most developed countries that radio appears to be on the decline and argue that this simple technology, for which no literacy is required, transmitters can run on batteries, and listeners can assemble around wind-up receivers, is actually the most democratic yet developed. Artists interesting in using radio hold that the decreasing commercial relevance of the technology has actually liberated it for creative reinterpretation, the discovery of new audiences, and renewed social function.

The arguments about radio's cultural relevance very rarely consider its unique material

properties, the ones I propose are most valuable as a medium for public art. As a form of radiation that is temporally bounded, geographically specific, and subject to mechanical and electromagnetic interference, radio transmissions are subject to similar physical properties that delimit the lives of all physical beings.[15] Yet radio is nonetheless imperceptible to the human body without technological assistance, allowing it to mediate between the realms of the lived and the imagined, the physical and the energetic, the felt and the known.[16] Furthermore, because radio is an acknowledged "commons" yet subject to regulations that leave it essentially off limits, anyone who uses it must confront and challenge rules governing access to and use of this electromagnetic public space.

It is no coincidence, therefore, that the radio works I have discussed in this paper all take place in space and directly engage the bodies of their audiences. Neighborhood Public Radio's *Talking Homes* project requires listeners to travel to distinct sites to hear the stories of those places; Ligna's *Radio Ballet* asks participants to translate instructions carried by the airwaves into actions on the streets; Ricardo Miranda Zúñiga's *Public Broadcast Cart* allows a speaker to create floating radio transmission around her while simultaneously extending her speech to the vast world of the web. In these projects, radio is a prosthetic technology that transmits the physical world into the space of electronic communications and materializes the vast space of electromagnetic resources into something material and physically apprehensible. In so doing, it forces a confrontation with and contestation of the rules that govern and control the use of both spaces, positioning it for creative interventions in manifold public spaces—not only those we inhabit with our bodies, as much of the best public art does, but also those we inhabit with our passions, our energies, and our speech.

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[1] Bertolt Brecht, "The Radio as a Communications Apparatus" (1932) in *Brecht on Film and Radio*, ed. Marc Silberman (London: Methuen, 2000), 43.

[2] F.T. Marinetti and Pino Masnata, "La Radia" (1933). Available online at http://www.kunstradio.at/THEORIE/theorymain.html. Accessed November 17, 2008.

[3] Tom Finkelpearl, *Dialogues in Public Art*. (Cambridge, MA: The MIT Press, 2000), x.

[4] Rosalyn Deutsche, *Evictions: Art and Spatial Politics*. (Cambridge, MA: The MIT Press, 1996), 288.

[5] See Selya Benhabib, "Models of Public Space: Hannah Arendt, the Liberal Tradition, and Jurgen Habermas" in *Feminism: The Public and the Private*, ed. Joan B. Landes, (Oxford and New York, Oxford University Press, 1998), 65-99; Nancy Fraser, "Rethinking the Public Sphere: A Contribution to the Critique of Actually Existing Democracy" in *Habermas and the Public Sphere,* ed. Craig Calhoun (Cambridge, MA: MIT Press, 1992), 109-142; Iris Marion Young, "The Ideal of Community and the Politics of Difference," *Feminism/Postmoderism*, ed. Linda Nicholson (New York, Routledge, Chapman and Hall, 1990), 300-326. For a discussion about how publics self-organize through discourse and time, see Michael Warner, *Publics and Counterpublics* (New York: Zone Books, 2002).

[6] Ibid, 289.

[7] Public Law No. 632, February 23, 1927, 69th Congress. "An Act for the regulation of radio communications, and for other purposes," section 4.

[8] For a discussion of the politics of early radio regulation in the United States, see Robert McChesney, *Telecommunications, Mass Media, and Democracy: The Battle for the Control of US Broadcasting*, 1928-1934 (Oxford: Oxford University Press, 1993) and *Rich Media, Poor Democracy: Communications Politics in Dubious Times* (New York: The New Press, 1999)

[9] John Anderson, presentation at Southern Illinois University, February 25, 2008.

[10] In the United States, the Federal Communication Commission permits what have been called "Part 15" transmitters, named after the section of the regulatory code that covers them. This exception covers devices like baby monitors, cordless phones, and in-house transmitters. Part 15 transmitters are defined by signal strength, measured in milliwatts, at 3 meters from the antenna. However, it is relatively easy to modify these units to increase their output power and to boost the range of the broadcast by attaching a longer antenna. See Title 47 Code of Federal Regulations §15.

[11] Deutsche, 288.

[12] Shrinking Cities was a multi-year project mounted by Germany's Federal Cultural Foundation that explored the phenomenon of urban population loss in the cities of Detroit (USA), Manchester/Liverpool (Britain), Ivanovo (Russia), and Halle/Leipzig (Germany). The project involved artists, architects, urban planners, geographers, and anthropologists and culminated in a series of exhibitions and books. More information online at http://www.shrinkingcities.com.

[13] Tetsuo Kogawa, "Toward Polymorphous Radio," *Radio Rethink: Art, Sound and Transmission,* ed. Daina Augaitis and Dan Lander (Banff: The Banff Centre for the Arts, 1993), 287-299.

[14] Documentation of *Radio Ballet: I Am[not]sterdam* is available on the website of Debalie, a center for art and politics in Amsterdam. Online http://www.debalie.nl/artikel.jsp?podiumid=politiek&articleid=62935. Last accessed December 19, 2008.

[15] See Allen S. Weiss, *Phantasmic Radio* (Durham: Duke University Press, 1995).

[16] For a discussion of radio's conceptual linkages with the ethereal and supernatural, see Joe Milutis, *Ether: The Nothing that Connects Everything* (University of Minnesota Press, 2006).