

Internet radio and electronic literature: locating the text in the act of listening

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Abstract

This essay suggests sound(s), especially when designed/utilized to provide immersive contexts, can provide a valid literary experience and may be considered, like reading and writing, a central element in the digital narratives of electronic literature. Specifically, 1) Sound (vocal and other) provides the basis for narrative, the heart of every literary experience; 2) Rather than sound(s) **in** electronic literature, sound(s) might be heard **as** electronic literature; sound(s) might form the basis for new works of electronic literature; 3) Evolving considerations of Internet radio, especially with regard to mobile, interactive, social audio networks, with content drawn from radio drama and radio art, may provide models for these new forms of electronic literature that are deep, rich, engaging, and immersive literary experiences that locate the text not (solely?) in the acts of reading and writing, but also in the act of listening.

Keywords

sound
aural narrative
Internet radio
electronic literature

Introduction

The Electronic Literature Organization's (ELO) website defines electronic literature as "works with important literary aspects that take advantage of the capabilities and contexts provided by the stand-alone or networked computer." Such works might be "born digital" (created explicitly for and only able to be experienced in a computer-mediated context) or remediated from print to pixel. This "confrontation with technology," and the process-intensive aspects of the artifacts, is what distinguishes electronic literature from the migration of print to various digitized versions by authors seeking to "go digital."

Surprising in this definition is its restricted application. One may assume electronic literature broadly augmented by the multimedia "capabilities and contexts provided by the stand-alone or networked computer." With regard to graphics (still, video, and animation) this might be true. With regard to audio, however, as Dene Grigar notes, the majority of sound(s) included in works of electronic literature provide only background, context, or affirmation of interaction with the text (Grigar 2006).

A search of the ELO website seems to bear out Grigar's findings. Seven pages of results were returned in response to my query for "sound," including, from the first two pages alone, "sound bites," "phonetic sound," "animation/film/Flash/image(s)/poetic fragments/prose narrative and sound," "layers of sound," "alphabetic letter sounds," "continual sound," "response sound(s)," "graphic narrative along with sound," "background sound," "sound effects," and "voice and sound."

This results seem to continue a complex interplay between sound and visuals in 20th century screen art so as to maintain the illusion / reality of a three-dimensional visual space where the spectators' gaze might be focused on interacting (reading the visual signs) with

text (the use of visual signs to represent complex or abstract ideas). This approach, with regard to the current corpus of electronic literature, may be said to be intentional. Again from the ELO website, "electronic literature often intersects with conceptual and sound arts, but reading and writing remain central to the literary arts. These activities, unbound from pages and the printed book, now move freely" through a number of different venues. As a result, "electronic literature does not reside in any single medium or institution." Nor does it, in my belief, support aural aspects of the literary arts. Instead, sounds are marginalized in favor of a process of creating (writing) and consuming (reading) literary works by and with stand-alone / networked computers. In short, the ELO seems to argue text is located in the acts of reading and writing. Sound merely augments these literary acts.

Why is this the case? Charles Bernstein proposes the term "frame lock" (based on Erving Goffman's "frame analysis") to denote that focus on one particular aspect within any frame of reference diverts attention from others. Bernstein calls these overlooked features the "disattend track" and notes, "within text-bound literary studies, the disattend track may include such features as the visual representation of the language as well as its acoustic structure." Sound.

Kenneth Sherwood, in a presentation delivered at the 2008 Electronic Literature Organization conference in Vancouver, Washington, entitled "From Audio Black to Artful Noises: Looking at Sound in Electronic Literature," suggests several disattend tracks within the various forms of electronic literature then archived by the ELO: "the meditation on listening and indeterminacy of Stuart Moulthrop's *Radio Salience* and [Reiner] Strasser and [Alan] Sondheim's 'Dawn'; the foregrounding of sound-track in Young-Hae Chang's pseudo-filmic flash poems, the adoption of 'edit to the beat' techniques of MTV and television commercials in [Giselle] Beiguelman's *Code Movie 1*; the privileging of audio in the remix rhythms in Babel [Chris Joseph] and Esha's *Urbanalities*; the witty, instrumental score for the kinetic word ballet of [Robert] Kendall's *Faith*; the user-driven audio collages of [Maria] Mencia's *Birds Singing Other Birds' Songs* and [Jim] Andrew's *Nio*; the triggered, synthetic sound of [Damien Everett and Melinda] Rackham's *carrier (becoming symborg)*; and the ambient drone and crackle accompanying Geniwate's [and Brian Kim Stefan's] *Generative Poetry*" (Sherwood).

So, to be fair, there may be examples of electronic literature where we can point to the use of sound(s) as a central narrative element. But, generally, while multimedia technologies associated with stand-alone and networked computers have increased forms and opportunities for digital storytelling (electronic literature), sound has frequently been overlooked. This essay suggests sound(s), especially when designed/utilized to provide an immersive context (like the acoustic space discussed below), can provide a valid literary experience and might be considered, like reading and writing, central elements in the digital narratives of electronic literature.

Specifically, I propose the following: 1) Sound, vocal and other, provides the basis for narrative, the heart of every literary experience; 2) Rather than sound(s) **in** electronic literature, sound(s) might be heard **as** electronic literature; sound(s) might form the basis for new works of electronic literature; 3) Evolving considerations of Internet radio, especially with regard to mobile, interactive, social audio networks, with content drawn from radio drama and radio art, may provide models for deep, rich, engaging, and immersive literary experiences that locate the text not (solely?) in the acts of reading and writing, but also in the act of listening.

In discussing these points, I will proceed as follows. First, I suggest sound as the basis of literary experience, with speech being the oldest of mediums (following McLuhan) and subsumed as the content of later writing and (through printing) reading. So, although the

ELO definition of electronic literature seems to predispose reading and writing, we are, though these literary activities, channeling sound(s) (human voice and others) that provide narrative frameworks. Next I turn to Internet radio as a form of new, digital media especially well-suited for promoting new forms of electronic literature. For example, social, audio networks, facilitated by Internet radio where "interactors" (a term proposed by Carmen Peñafiel Saiz, see below) can collaboratively create and consume literary content that has sound as its basis. Radio drama and radio art seem well suited, as genres of Internet radio content and literature, to explore this opportunity, and I provide examples of how they might work to provide new models for interactive electronic literature based on sound(s). The desired end result will be to promote Internet radio as a site for the collaborative creation and consumption of new forms of electronic literature with an increased emphasis on sound and listening.

Sound as the basis of literary experience

Beginning with publication of *The Mechanical Bride* in 1951 and continuing to his death in 1984, Canadian communications theorist Marshall McLuhan developed an intricate taxonomy of media and their effects, always calling attention to the fact that the medium matters to our experience of the message. For example, McLuhan described two spaces, acoustic and visual, in which humankind has contextualized itself with different results. "Acoustic space . . . is spherical, discontinuous, non-homogeneous, resonant, and dynamic. Visual space is structured as static, abstract figure minus a ground; acoustic space is a flux in which figure and ground rub against and transform each other" (*Laws of Media* 33).

By figure, McLuhan means any object rising from or receding into ground. Ground is surface, configurational and comprised of all available figures (*Laws of Media* 5). Ground is subliminal, always beyond perception except through analysis of emerging and receding figures (McFarland 62). McLuhan's acoustic space is thus ground, the surface from which emerge figures (sounds) and into which they recede. Acoustic space is a world awash in sounds. Pre-literate humankind, the only ever to live in this space, relied on sound as their predominant sensory input, the basis for their explanations of and interactions with the surrounding physical world. With aural information emerging from all directions, and with no opportunity to shut off or organize the constant stream of sound, pre-literate humankind, according to McLuhan, perceived its world as both surrounding and inclusive, a permeable extension of itself, and they of it (Levinson 1999 5-6).

To summarize, ground is spatial, universal, a surround, corresponding to the environment in which sound(s) exist (MacFarlane 62, 103). If ground is acoustic space, figures are sounds heard in that space, the understanding of which helps to conceptualize the space. Acoustic space, filled with environmental sounds, may have been a fearful wilderness where pre-literate peoples had only their abstract thoughts to explain their situation and agency. The emergence of speech technology and orality allowed the communication of abstract thought, thus taming the acoustic wilderness. Storytellers produced explanations for the sounds in acoustic space and wove them into larger narratives that helped explain the presence and purpose of humankind. Orality provided a means to preserve and share cultural histories and memories.

McLuhan argued that alphabets and writing preserved and extended the aural nature of speech. With writing, speech became visible, replacing the speaker's voice with the visual as the primary sensory input. With printing and distribution of texts, humankind was encouraged to see and read (literally and figuratively) the world as a series of discrete pieces, strung like beads on a linear continuum running from the past, through the present, toward the future.

McLuhan hoped that evolving forms of electric media (primarily television as computer technologies were then nascent) would reverse the ascendancy of the visual and retransition humankind into acoustic space. He saw possibilities for far-flung citizens, through electronic interdependence, to live once again, as in earlier oral contexts, under the conditions of a global village (*The Gutenberg Galaxy* 31). Here, they would share information simultaneously "a brand-new world of allatonce[ness] [all-at-once-ness; everything happens at the same time] . . . a global village . . . a simultaneous happening. We have begun again to structure the primordial feeling, the tribal emotions from which a few centuries of literacy divorced us" (*The Medium Is the Massage* 63). Instead, television and movies further reinforced vision as the primary sensory input—"seeing is believing"—and sound was relegated to augmentation, filling gaps, and providing sound effects for what was seen on screens.***2

Following McLuhan's death in 1984, alphabetic-visual culture migrated to the World Wide Web via the Internet, underscoring his view of media as extensions of human sensory capabilities across time and space (*Understanding Media* 1964). The Internet, with its content digitized and, thus, amenable to manipulation becomes "the medium of media" (Levinson 1999 42). For McLuhan, the nature of the content (visual, textual, aural) did not matter as the "content" of any medium was always another, older medium. For example, the content of speech is "the actual process of thought, which itself is nonverbal" (*Understanding Media* 23-24). Thus, speech is the oldest medium and the most prevalent form of human communication with its origins in abstract thought and presentation and claims a presence in most all media that follow (Levinson 1981). As James O'Donnell notes, "the manuscript was first conceived to be no more than a prompt-script for the spoken word, a place to look to find out what to say. . . . to produce the audible word" (54).

Current opportunities afforded by digital media for combining, remixing, and remediating all forms of content, including sound, may predict a return to an acoustic space (ground) characterized by what Edmund Carpenter calls the verbal, musical, and poetic traces and fragments (figures) of oral culture. As part of the Internet, this acoustic space becomes cyber/digital space, and provides both a model and a context for electronic literature.

Unfortunately, this does not seem the case. The first generation of electronic literature, texts by George Landow, Jay David Bolter, Michael Joyce, and others, focused primarily on the hyperlinks between chunks/screens/lexia of text. According to N. Katherine Hayles, these early applications of hypertext theory and the Storyspace interface, despite providing multiple reading paths, preserved a basic print-centric conception by locating the text (with its subsumed voice(s)) in a series of screen views (27). Second generation electronic literature, with a rich diversity of interfaces and programming languages, experimented with linking narrative with concepts like perspective, access, determinability, transience, dynamics, and user functions (28). Overlooked was sound.***3

If we accept McLuhan's notion of the primacy of sound to human speech, which in turn forms the basis for narrative, then might we situate the basis for literature in speaking and listening? Storytellers, bards, and poets, for centuries before the invention of any form of writing, print or electronic, held audience attention with the sound of their skillfully employed voices. Additionally, music, for centuries, has provided narrative satisfaction without benefit of any visualization, at least on a wide scale, until the appearance of Music Television (MTV) in August 1981. Understanding the primacy of sound in human narrative, may we not reconsider sound as a basis for engagement with emerging forms of electronic literature? Rather than augmenting the visual text, cannot sound be the text? And in addition to the human voice or music, or even in lieu of, cannot the aural narrative of a work of electronic literature be comprised completely of environmental and/or mechanical sounds,

or even what otherwise might be thought of as noise, all figures from the ground of acoustic space?

Internet radio

Characteristics and affordances

When Lev Manovich described a "new media revolution" (19) wherein many aspects of culture were shifting to computer-mediated forms of production, distribution, and communication, he identified ten media objects as artifacts of this revolution: websites, virtual worlds, virtual reality, multimedia, computer games, interactive installations, computer animation, digital video, digital cinema, and human-computer interface.^{***4} Since then, digital media theorists and practitioners have included three more: digital photography, digital music/sound, and Internet radio.

Internet radio is characterized as transmission of digital audio content via the Internet (or cable or satellite). As a digital medium, Internet radio may be distributed to multiple mobile, wireless devices, notably telephones and tablets and can be heard anywhere in the world with access to the Internet, or the ability to download content from the Internet for later playback. As a result, anyone with a computer, audio software, and a connection to the Internet can stream and/or receive Internet radio content no matter their location. In short, Internet radio is aural, and mobile.

As a digital media object, Internet radio (also called web radio, net radio, e-radio broadcasting, or streaming radio), while still evolving, is said to be full of potential and promise. Future scenarios may be triangulated from various sources. For example, three decades following the introduction of terrestrial radio at the birth of the 20th century, Bertolt Brecht argued for it to be a two-way apparatus of communication. "Radio is one-sided when it should be two," he wrote. "It is purely an apparatus for distribution, for mere sharing out. So here is a positive suggestion: change this apparatus over from distribution to communication. The radio would be the finest possible communication apparatus in public life, a vast network of pipes. That is to say, it would be if it knew how to receive as well as to transmit, how to let listeners speak as well as hear, how to bring them into a relationship instead of isolating them. On this principle the radio should step out of the supply business and organize its listeners as suppliers. Any attempt by the radio to give a truly public character to public occasions is a step in the right direction" (51).

How may two-way communication be realized? George Gilder, predicting future television, says technological advances will allow individuals using inexpensive and prolific equipment to produce and broadcast their own diversity of programming via their own channels. The audience becomes actively engaged in both the creation and consumption of content that is rich and engaging (40-41). Think Ustream (www.ustream.tv), a live video streaming platform with a network of produced and user-generated content as a model. On the other hand, Peter Lewis and Jerry Booth suggest that where television (both traditional and future) is meant to be seen, traditional radio has long been distinguished by its invisibility. Radio's disembodied sound sources (voices, words, and music) are rich with representation, meant to be heard rather than seen other than through the deep resources of the listener's imagination.

What does all this mean? Substituting "Internet radio" into the arguments by Brecht, Gilder, and Lewis and Booth above, we can suggest many-to-many broadcasts of rich and diverse digital aural content between participants in social audio networks.

Social audio networks

Social network / media technologies may increase the opportunity for sharing and discussing such user-generated content. Generally defined, a social network is a structured

relationship, comprised of individuals tied by one or more types of interdependency: friendship, common interest, sexual relationships, beliefs, and knowledge, communities of like-minded peoples able to communicate with each other in real time. Examples come easily to mind: Facebook, Twitter, and LinkedIn. A tremendous amount of user-generated content is produced as a result of communications between members of such online social network communities. Internet radio, as noted above, is well situated to encourage a collaborative communication context akin to social networks. Members will, according to Jesse Walker, "withdraw from the thick smoke of mediation and interact more directly, more convivially, with others" (11).

Interactivity

Another popular attribute of the Internet is interactivity, the ability for computer software to accept and respond to input (data or commands) from humans. In order to promote interaction, there must be first the desire to interact, to connect socially and to communicate. Next, there must be something with which to interact (content) and a way to promote interaction (interface). Given these criteria, according to Carmen Peñafiel Saiz, users become interactors, "protagonists of information."***6

There are examples from terrestrial radio we may consider as antecedents for interactivity and participation***7. For example, from 30 October 1969-7 June 1973, KPFA radio's (Berkeley, California) Music Department provided artists from various disciplines air time to create situations that physically involved the listening audience, making them active participants rather than passive listeners. On 20 November 1969, dance choreographer and intermedia artist Anna Halprin led the audience in a participatory event (Radio Event No. 3: Furniture, 50:59) where they were to rearrange their home furniture in time with musical selections played during the radio program and then visualize a fantasy that occurred to them during the process. Listeners / participants were encouraged to call the station and share their fantasies, which were included in the program's conclusion. Musical selections included excerpts from "Goin' Out of My Head," "Live for Life," "Don't Fence Me In," and Renaissance vocal from "Mozart Symphony No. 35." ***8

From Halprin's broadcast, imagine a radio program that has interactors (née listeners) up and out of their flats, seeking treasure, solving puzzles, or participating in quests. Perhaps they are collecting materials/clues from the surrounding landscape / soundscape (sonic contextual geography), or from people met along the way. Perhaps they create and share content with these same, or other peoples. Perhaps they enact a literary event: a book chapter, a scene from a play, the context of a poem. Along the way, they can communicate with others whenever they like, from wherever their current location. Perhaps they, and others in this social network, can create and share content as desired, thus influencing the timeline and artifact of the literary event. Strange perhaps, but there are antecedents in games, locative media, and electronic literature created for use on mobile telephones. ***9

All this and more may be facilitated by Internet radio with its wireless distribution to multiple mobile, wireless devices, and its ability to create and connect interactors in social networks. In such scenarios, Internet radio may become non-linear, social, collaborative, an audio network providing global reach even while its focus remains local. Interactors may pull content from any number of creators / providers around the world to address their particular needs or wants at that moment. Conversely, interactors may contribute their own content in the form of audio files, podcasts, remixes of content provided by others, online audio conversations and/or conferences. As a result, interactors participate as parallel broadcasters, with the opportunity to contribute as much or more to the Internet radio programming spectrum as the host station (Saiz 67). Internet radio is thus differentiated from terrestrial radio as it absorbs the contributions and affordances of its content, context, and audience.***10

As Internet radio becomes increasingly collaborative, interactors become both creators and consumers, able to interrupt/influence/customize the program stream, all while conversing with each other (Burnett and Marshall). This collapse of distinction suggests a more decentralized model of media production, one less hierarchical and more akin to a network where the audience enjoys increased ability to “answer back” by producing their own media (Poster 33). As a result, Internet radio becomes a many-to-many, non-linear experience.

So far we have considered sound as the heart of literary experience; Internet radio as a legitimate digital medium; social networks and interactivity as potential components of Internet radio; and the ability of interactors to share personalized aural narrative experiences. Such use of digital technology provides unprecedented participation in the process of creating and consuming content (Turkle). For some, this ability may be frightening, as Janet Murray notes: “Giving the audience access to the raw materials of creation runs the risk of undermining the narrative experience. . . . Nevertheless, calling attention to the process of creation in this way can also enhance the narrative involvement by inviting readers/viewers [interactors?] to imagine themselves in the place of the creator” (40). Murray goes on to say this kind of narrative experience “involves the sustained collaborative writing of stories that are mixtures of the narrated and the dramatized and that are not meant to be [*passively?*] watched or listened to but shared by the players as an alternate reality they all live in together” (44; emphasis added). Again, does this sound like a literary experience?

To summarize, the evolving social nature of the Internet, the wireless reach of Internet radio, and the oral tradition of narrative produce interactive, social networks facilitated by Internet radio (McLuhan’s ground), opportunities, in this context, to create and consume narrative content (McLuhan’s figures; sound), and collaboratively created and consumed works where sound(s), more than central narrative elements, like reading and writing, might be considered as the basis for new works of electronic literature, if not **as** electronic literature.

Radio drama

As we can see, Internet radio may provide diverse genres of programming: music, talk, sports, news, events, and more. Two genres that seem especially interesting as potential sources for electronic literature are radio drama and radio art. Why radio drama and radio art? Generally, both effectively link to the considerations of acoustic space, ground, and figure discussed previously. As described by McLuhan, acoustic space (ground) is spatial, universal, a surround, in which sounds (figures) emerge and recede and are heard. Understanding these sounds (or investing them with meaning(s)) helps to conceptualize the ground-figure relationship. This practice points to the fundamental nature of sound to narrative, itself the basis of literature.

As noted previously, speech technology and orality allowed the communication of abstract thought, thus taming the acoustic wilderness. Storytellers produced explanations for the sounds in acoustic space, and wove them into larger narratives that helped explain the presence and purpose of humankind, and to preserve and share its cultural histories and memories.

Many of these narratives evolved into what today we call literature, and which we experience through literary activities such as reading and writing. But, at their basis, these narratives are both sound and drama, signifying (departing from Shakespeare) something significant. Joseph Campbell noted the reenactment of myths in the form of ritualistic participatory drama, often involving narrative, music, and/or other sound sources. Connecting to this notion of drama as an essential endeavor of humanity, playwright David

Mamet argues "it is our nature to dramatize" (3). Drama is the nature of human perception, he says, and it is a human need to construct, or have constructed for us, narratives, three-act dramas [thesis, antithesis, and synthesis 66] about our lives that "order the universe into a comprehensible form" (8). Our sense of survival, says Mamet, orders the world toward a cause-and-effect conclusion. We construct such dramas to validate "our prized adaptive mechanism" (31), in order to understand ourselves (40), so that we can exercise our own will to create our own character (43).***11

Radio drama incorporates and continues the ability of speech to create and share immersive aural narrative spaces and experiences that convey the power of myth and ritual, central components of literature. During the so-called Golden Age of Radio, from the early 1920s to the early 1950s, until radio was replaced by television as the primary home entertainment medium, common ground through a broad spectrum of radio listeners was love for a good story. Broadway, the lead character of *The Damon Runyon Theater*, was always willing to drop everything for an engaging narrative. Each episode was adapted from the work of storyteller Alfred Damon Runyon (1880-1946), each featuring a humorous or sentimental tale about the colorful characters of New York during the years of Prohibition.***12

For the other radio dramas of the time, and since, it was also speech that provided the basis for audience engagement and sense of immersion, following the long, long tradition of the sound of the storyteller's voice to inform, educate, persuade, and entertain. Internet radio could add "collaborative" to this list of attributes, and promote radio drama as an engaging, immersive, and participatory electronic literary experience. For example, imagine a drama written by different local writers, or writing groups. Perhaps each scene has a different author, and is meant to be enacted at a different, specific, community location. Perhaps the voice actors will be drawn from the on-site audience. The performance of each scene is streamed live via Internet radio. The result: Internet radio moves beyond the rigidity of corporate broadcasting and re-validates interaction with everyday residents of neighborhoods and communities (Papadomanolaki 73).***13

On the other hand, what about radio drama that uses sound(s) other than human voice as its narrative basis? For example: an alarm clock rings, cloth rustles, a squeaky faucet turns and water runs into a basin, a microwave oven dings, a spoon clinks on the inside of a cup, a newspaper rustles, an automobile engine starts, music plays from the radio as street noises pan forward and back, another ding, this time an elevator, and a mechanical voice announces, "Welcome to another day at work!" Such an opening scene supplies Bernstein's previously noted "disattend track," an acoustic structure for what otherwise would be a text-based literary experience. What follows this opening scene depends on the aural imagination and creativity of interactors. Do they continue a linear narrative, portraying the work day activities in sound clips, or do they take the narrative in another, different direction? Either is possible, each is equally inviting, and each positions sound at the heart of the literary experience.

Internet radio drama, with its ability to promote engagement, immersion, and interactivity, may be cited as demonstration of the power of sound to provide the basis for new works of electronic literature. For example, instead of using audio to repeat dialogue displayed on screen, audio might be an integral part of the plot line for a sophisticated drama, for example, a phone tapped conversation, a political negotiation, a phone message that carries additional clues and/or information (Murray 68). Specifically, rather than sound(s) **in** electronic literature: sound(s) might be heard **as** electronic literature.

Radio art

As one of the most significant (perhaps *the* most significant) technologies of the 20th century, radio, since its inception, has been considered either an art form in its own right, or a medium with which one can use sound to make art.***14

Radio art has as a focus the use of radio technologies (transmission, airwaves, reception) and their abilities to create immersive contexts rich with aural and acousmatic narrative opportunities. Radio art presupposes close, attentive listening, or as sound artist Francisco López suggests, "profound listening," to denote listening without constraints in order to explore and affirm all the information inside any sound (82-83). Radio art is a collision/collusion between the ancient traditions of orality and the instant information access of mass communication systems where sounds from various sources and cultures can create and sustain new narrative strategies and subvert historical media conventions to provide a bridge between art and popular culture. In this context, radio art may include, but is not limited to, documentary, drama, electroacoustic music, experimental narrative, found sound, field recordings, noise, phonography, sound art, sound poetry, soundscapes (sonic geographies), and spoken word—all composed for the unique medium of radio and uniquely suited for both its content and form of transmission. Given these broad outlines, radio art considers sound, listening, and hearing as real and concrete participatory practices that may engage sampling, remix, appropriation, and purposefully created sounds to promote aural experiences across a wide range of contemporary theory and practice.***15 Three examples should suffice to show the scope and span of radio art: "Symphony of Sirens" (1922), "The city wears a slouch hat" (1942), and "Cityphony" (1985).

"Symphony of Sirens" was conceived by Arseny Avraamov, pseudonym for Arseny Mikhaylovich Krasnokutsky, a Russian composer and music theorist who encouraged the creation of proletarian art and literature following the Russian revolution of 1917 which overthrew the Tsar (Emperor) and eventually led to the formation of the Union of Soviet Socialist Republics in 1922. To celebrate the anniversary of the revolution, Avraamov conceived an annual musical composition using the sounds of factories, machines, whistles, and sirens of all kinds. This "Symphony of Sirens" was to be performed in a different Soviet city on each anniversary of the revolution. The largest and most ambitious concert was held on 7 November 1922 in the harbor of Baku, in Azerbaijan. Avraamov included two artillery batteries in this performance, along with twenty-five steam locomotives, several full infantry regiments, a worker's choir with thousands of singers, and every fog horn, steam whistle, and factory siren in the city. He directed the symphony from a tower using signal flags. Spectators were not encouraged. Instead, everyone was to participate in the singing, marching, or noise making. Explicit instructions were published in three newspapers the day before the performance. The original performance was not recorded, nor broadcast on radio, but was later recreated from Avraamov's notes and instructions.

"The city wears a slouch hat" is music for five percussionists and live and recorded sound effects by composer John Cage. This work was commissioned by CBS radio's "Columbia Workshop" to accompany a radio drama by poet/writer Kenneth Patchen. Every scene and character speaking part in Patchen's drama was matched by Cage with aural imagery, permeating every aspect of the imaginary city with some form of sound manipulation. Told his 250-page score was impossible to produce, Cage scaled back his vision to percussion instruments, sound effects, and miscellaneous amplified sounds. The resulting 28:51 piece is quite unique and well worth a listen.

"Cityphony" is a 1985 soundscape by Barrett Golding. Like a storyteller, Golding's voiceover provides introductions to various sounds one might hear in a large city. An early 8-bit videogame-like soundtrack ties the several sound samples together and seems to imply progression through the aurally imagined aspects of the city.

These examples demonstrate that musical, noise, mechanical, environmental, and other sounds can portray immersive contexts rich with aural and acousmatic narrative opportunities. Such sounds also provide a place where embodied social and cultural traces can be carried, often without the awareness of their bearers. Therefore, it is good to choose to actively and deeply listen to the sounds of the world in which we live. By moving "into sound" we open new ways of thinking about and appreciating the social experience, memory, time, and place—the auditory culture—of sound (Bull and Beck 16).

Conclusion

In this essay, I have tried to demonstrate, theoretically and practically, that sound(s), especially when designed/utilized to provide an immersive context, can provide a valid literary experience and might be considered, like reading and writing, a central element in the digital narratives of electronic literature. Moving outward from McLuhan's ground and figure, I considered sound as the basis of literary experience and promoted Internet radio as a context where sound can play a more predominant role in new works of electronic literature. I promoted social audio networks as a new form of Internet radio where mobile interactors actively and collaboratively create, share, and consume narrative content through many-to-many broadcasts where sound(s) are integral and central to new forms of electronic literature. Two genres seem especially well suited for the form of Internet radio / social audio network / electronic literature imagined here: radio drama and radio art. Both effectively link to the considerations of acoustic space, ground, and figure discussed previously.

Radio drama incorporates and continues the ability of speech to create and share immersive narrative spaces and experiences that convey the power of myth and ritual, central components of literature. Brief examples explored how one might create, share, and remix Internet radio drama leveraging the shift of listeners to interactors.

Radio art has as a focus the use of radio technologies (transmission, airwaves, reception, etc.) and their abilities to create immersive contexts rich with aural and acousmatic narrative opportunities. Brief examples explored how radio art might provide great opportunities for new forms of electronic literature with regard to both creation and consumption.

As a result, the opportunities afforded by digital media for combining, remixing, and remediating sound may predict a return to an acoustic space (ground) characterized by what Edmund Carpenter calls the verbal, musical, and poetic traces and fragments (figures) of oral culture. I contend this acoustic space, this cyber/digital space, as part of the Internet, provides a model, a context, and a location for electronic literature.

The upshot: Evolving considerations of Internet radio, especially with regard to mobile, interactive, social audio networks, with content drawn from radio drama and radio art, may provide models for new forms of electronic literature that are deep, rich, engaging, and immersive literary experiences that locate the text not (solely?) in the acts of reading and writing, but rather (also?) in the act of listening.

Notes

1. See also Edward S. Casey, "How to Get from Space to Place in a Very Short Stretch of Time," *Senses of Place*, Steven Feld and Keith Basso, eds. Santa Fe: School of American Research Press, 1996. 13-52.
2. Leigh Eric Schimdt argues that "a hierarchy of the senses, with sight vastly ennobled and hearing sharply diminished" (48) is "deeply ingrained in Western religious and

philosophical traditions" (43). This results in "a marked dichotomy between eye and ear cultures that has commonly drawn on radicalized constructions of Western rationality and ecstatic primitivism" (48)—most notably the work of Walter Ong and Marshall McLuhan.

3. Hayles goes on to say neither literature, or the text(s) in which it is embodied, have been linked to notions of materiality by literary theory, criticism, or practice.
4. Manovich goes on to say, "This new revolution is arguably more profound than the previous ones, and we are just beginning to register its initial effects" (19).
5. An Internet radio station is, generally, said to be "streaming" its content, rather than broadcasting, the term applied to legacy radio. Streaming is different from downloading the complete audio file from a server before it can be played and heard. Streaming allows one to listen while the stream is being downloaded. Additionally, the stream can be paused or stopped. Podcasting generally is a radio audio episode, self-contained, sometimes augmented by text or visuals, that can be either streamed or downloaded.
6. "Interactive radio" is often used to denote teaching and learning (distance learning) contexts promoted by radio, a definition and direction different from my use of the term in this essay. For further information about the former, see the following: "Six Interactive Radio Stations reviewed" (<http://evolver.fm/2011/05/13/you-have-options-6-interactive-radio-services-reviewed/>), "Interactive radio system—the revolution of the radio" (<http://www.interactive-radio-system.com/en/home.htm>), and "Interactive radio instruction (a variant of distance learning): 1 teacher, many students who respond via radio" (http://idd.edc.org/our_work/technology/interactive-radio-instruction-iri).
7. See *The Great Radio Audience Participation Shows: Seventeen Programs from the 1940s and 1950s* (Jim Cox. McFarland & Company, 2001).
8. See the "Inter-Media & Visual Arts" pages at the radiom.org website (<http://radiom.org/archives.php?et=intermedia&pageID=1>) for information and listening opportunities for episodes 1-5, 7-9, 13, 14, 18, 19, 20, and 23 of Radio Event.
9. Nokia Visual Radio is technology developed by Nokia to facilitate audience interaction with radio programs. Not radio streaming . . . audio is received via FM analog in phone. Graphics and text synchronized to audio streamed to phone. This interactive visual channel is produced by the radio station. Interactivity options include quizzes, messaging, content download, commerce, etc. Platform consists of three parts: 1). a visual radio tool (app?) that can be integrated with the station's broadcast system so the visual content can be synchronized with the audio broadcast programming, 2). A visual radio server that handles two-way traffic between producer and audience, and 3). A visual radio client application on the mobile phone that displays the interactive content and provides a portal/channel for the interaction. See also Appendix A for a list and brief discussion of significant examples.
10. Click Radio, Last.FM, Pandora, Radio Mongo, Rdio, Rhapsody, SonicNet, Spotify, iHeartRadio, TuneIn and other so called "interactive radio stations" provide, despite the listener's ability to influence the genre or artist played, only a passive radio experience, a one-to-many broadcast, much the same as expected from legacy radio.
11. Mamet continues, as an "ur-dramatist" (4), we are often compelled to promote "arts" which "inform us that everything—understanding, world domination, happiness—is within us, and within our grasp" (48). Believing in our own superiority even while

convinced of our own worthlessness, we seek to repress perceived external villains. This compulsion to repress is, according to Mamet, reenacted but unsatisfied in romance films, action painting, performance art, and electronic media, all of which he classifies as "pseudoart" versus "true drama" (48), feeding on "information," and putting us all in "a new dark age" (59).

12. In addition to *The Damon Runyon Theater*, *The Mercury Theatre on the Air* and *The Campbell Playhouse* are often cited as the finest examples of drama during the Golden Age of Radio.
13. Rosemary Day ("New Technologies and the Facilitation of Participation in Community Radio Stations." *Radio Content in the Digital Age: The Evolution of a Sound Medium*. Eds. Angeliki Gazi, Guy Starkey, and Stanislaw Jedrzejewski. Briston, UK: Intellect, 2011. 193-205) provides an interesting and informative account of how Irish community radio stations incorporated new social technologies to facilitate participation by members at all levels of their communities.
14. In this regard, radio art falls under the larger umbrella of transmission arts, which encompasses performance, video art, theater, sound art, radio art, media installation, networked art, and acoustic ecology in a multiplicity of practices that engage aural and video broadcast media in an intermedia framework where the relationship(s) between artist and audience, transmitter and receiver, can be redefined, along with the telecommunications airwaves as the site for this practice (Joseph-Hunter, et. al.)
15. Jon Leidecker (aka Wobbly) created an engaging and insightful seven-part history of appropriative collage in music, that is, compositions made using recordings of older ones. This history begins in 1908 and continues to the 1990s. Each part, or "variation" is one hour in length. A common theme throughout is communal influence musicians and composers have on each other. Background information, playlists, transcripts, and listening files are available here: <http://www.ubu.com/sound/leidecker.html>.

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