



# The Acoustic City

MATTHEW GANDY, BJ NILSEN [EDS.]

jovis

# PREFACE

Matthew Gandy  
BJ Nilsen

This essay collection and its accompanying CD have emerged from a sense that the field of sound, and our understanding of it, are undergoing a set of changes. The starting point for the idea arose from a Leverhulme Artist-in-Residence Fellowship held by BJ Nilsen in the UCL Urban Laboratory during 2012. Other points of connection include the regular Stadtklang events organized by the Urban Laboratory, and emerging intersections at UCL between architecture, acoustic ecology, and the study of urban soundscapes.

Our critical engagement with sound has been facilitated through the development of interdisciplinary fields such as “acoustic ecology” and “sound studies,” yet the topic is nonetheless extremely difficult to accommodate within existing approaches to the organization of knowledge. The study of sound is marked by a series of intersecting domains derived from history, physics, law, musicology, and many other areas—each bringing its own set of intellectual concerns and institutional entanglements.

*The Acoustic City* comprises five thematic sections: *urban soundscapes* with an emphasis on the distinctiveness of the urban acoustic realm; *acoustic flânerie* and the recording of sonic environments; *sound cultures* arising from specific associations between music, place, and sound; *acoustic ecologies* including relationships between architecture, sound, and urban design; and *the politics of noise* extending to different instances of anxiety or conflict over sound. In putting together this collection, we have also sought to de-centre some of the implicit assumptions underlying earlier approaches to the study of sound by including feminist insights, post-colonial threads, and other approaches that necessitate a more nuanced reflection on the sensory realms of modernity.

Financial support for the production of this book was provided by the Leverhulme Trust, the UCL Urban Laboratory, and the UCL Grand Challenges programme. At UCL, we would like to thank Ben Campkin, Andrew Harris, Kate E. Jones, Louis Moreno, James Paskins, and Ian Scott. Thanks also to Stephen Barber, Yasminah Beebeejaun, and Michael Flitner for their thoughtful comments and advice at different stages of the project. We are grateful to Inez Templeton for her careful copy-editing of the text and to Knut Enderlein and René Lehmann at Loki-Found for assistance with the production of the CD. We owe special thanks to Sandra Jasper who provided extensive editorial support for the project, including original research for many of the images used in the collection. We would also like to thank Philipp Sperrle, Susanne Rösler, Franziska Fritzsche, and Jutta Bornholdt-Cassetti at Jovis for their superb input to the project at every stage.

# ACOUSTIC TERRAINS: AN INTRODUCTION

Matthew Gandy

The lower level of the Spichernstrasse U-Bahn station, located in the former West Berlin, has an unusual feature. Set in the wall of the southbound platform is an illuminated case containing details of an installation completed by the sound artist Gabriele Stirl as part of the refurbishment of the station in 1987.<sup>1</sup> The pattern of coloured tiles chosen by Stirl for the tunnel walls corresponds to a musical score comprising twelve colour-sound (*Farbklang*) instruments. Her synesthetic response to the redesign of a utilitarian space connects with wider interest in the aesthetic complexity of urban soundscapes, encompassing fields such as acoustics, musicology, and multiple cultural discourses surrounding the meaning, significance, and perception of different sources of sound.

Urban soundscapes are marked by a dense layering of sound that ranges from the humming spaces of the domestic interior to vast infrastructures of noise extending across the city. The acoustic city has a porous and disruptive spatiality through which we may encounter “the Other” or simply others. In one of Siegfried Kracauer’s vignettes from Weimar-era Berlin, he describes being startled by sudden screams or shouts in the night as if the streets themselves could no longer bear the emotional burden of their human inhabitants.<sup>2</sup> Similarly, Jonathan Raban’s encounter with early 1970s London in *Soft City* is suffused by a series of dense soundscapes that mirror the social heterogeneity of the inner urban neighbourhoods at the time.<sup>3</sup> Sound is a concrete phenomenon that is spatially distributed: it can be experienced across great distances; it exhibits immense variability through its diverse material and environmen-

tal interactions; and it may also impact vast areas if the source itself is mobile. Yet sound is not only a measurable focus of regulatory control or scientific research but also a highly subjective realm of perception encompassing different degrees of sensitivity to acoustic stimuli. There is a spatial intricacy to sound so that different sources of potential disruption may mask each other to produce different fields of sonic anxiety. As sound enters the cultural and political domain, we find that it increasingly eludes the grasp of techno-scientific understanding.<sup>4</sup>

The incessant and sometimes dramatic incursions of sound into domestic environments betoken a fragility in the socio-spatial order of modernity. The multilayered phenomenon of “background noise” is constituted through a mix of corporeal, imaginary, and material sources that can be punctuated by moments of what the musicologist and philosopher Jean-François Augoyard refers to as “agonizing silence,” when mechanical systems such as air-conditioning units, refrigeration appliances, and other elements of techno-modernity temporarily cease operation.<sup>5</sup> The auditory realm of modernity is marked by a contrast between spaces of intense collective listening, exemplified by the purpose-built concert hall, and micro-spheres of individualized indifference that transform the sensory realm into a meaningful or endurable form.

For the literary critic Steven Connor, sound has the “capacity to disintegrate and reconfigure space.” Connor’s rendition of the “auditory self” dispels bounded conceptions of the human subject and challenges “the flat rationality of Cartesian cartography.”<sup>6</sup> The changing cultural significance of sound can be placed in the context of an implicit yet unstable “hierarchy of the senses”—in some historical periods, vision was placed below hearing or touch in order of significance—so that the acoustic realm has effectively been rediscovered as part of a recurring critique of ocularcentrism in modern thought. Yet, it would be misleading to draw too schematic a distinction between the role of the senses before and after the Enlightenment, since a distrust in vision alone forms a recurring element in aesthetic discourse from at least the late eighteenth century onwards and emerging interest in darkness, the sublime, and different forms of heightened sensory awareness under European romanticism.<sup>7</sup> In parallel with the cartographic impulse of urban modernity, and its new technological instruments of control and representation, an emerging counter discourse can be discerned, elaborated especially through phenomenological concerns with the capacity of vision to adequately capture the experience of time or the full richness of human sensory perception.<sup>8</sup>

The intersections between sound and vision are perhaps most strikingly represented through the concept of the “soundscape,” which plays on the established notion of an optical field of sensory perception. Yet, the Canadian composer R. Murray Schafer’s influential use of the term soundscape, which he elaborated from the late 1960s onwards, belies a tension between the idea of the soundscape as a form of direct sensory experience and a proliferation of artificial, modified, or pre-recorded soundscapes.<sup>9</sup> More nuanced approaches to the categorization of acoustic spaces have emerged since the 1970s, rang-

ing from site-specific dimensions to auditory experience to more complex conceptions of sound dynamics and their effective reproduction.<sup>10</sup> Yet even here, in the burgeoning fields of “acoustic ecology” and “sound studies,” we find tensions between an emphasis on the spatio-temporal complexities of sound as an acoustic phenomenon and the wider social or historical context within which sound is experienced.<sup>11</sup> We are perhaps better served by the historian Alain Corbin’s conception of the “auditory landscape” as a sensory realm that forms part of a geographically defined historical process rather than an inchoate amalgam of sonic traces.<sup>12</sup>

The shift in emphasis from the visual experience of landscape towards other modes of sensory perception does not necessarily involve a critical reworking of the concept of landscape itself, since many of the implicit assumptions concerning the bounded human subject and the “naturalization” of space and time persist. In this respect, Schafer’s approach to the understanding of auditory culture holds parallels with the architect Kevin Lynch’s concerns with spatial legibility and earlier topographic explorations of the sensory realm that form part of the cartographic impulse of modernity.<sup>13</sup> The idea of the “natural” soundscape is in any case a cultural construction that downplays the human presence in nature and the extent to which any soundscape is refracted through specific forms of human experience, aesthetic longing, or even technological means of mobility to reach ostensibly purer sonic realms.

Under conditions of sensory deprivation the experience of hearing becomes radically modified. Studies of the effects of blindness, for example, reveal very different experiences of the acoustic environment: we find that a seemingly innocuous space such as a university building can be perceived as a disorientating labyrinth of strange echoes.<sup>14</sup> In a similar vein, radically different sonic environments such as underwater spaces reveal the enhanced significance of reverberations and the limited ability of the human ear to accurately perceive the directionality of sound. The anthropologist Stefan Helmreich’s study of the “deep-sea soundscape” reveals an array of sound sources that can be technologically transduced into a perceptible form. His study of the use of a submersible to explore deep-sea environments emphasizes a cyborgian dimension to the acoustic realm whereby ostensibly silent worlds can be brought within the scope of human hearing.<sup>15</sup> The cyborgian acoustic realm can be extended to include the use of specific devices such as ultrasound recorders to render the inaudible accessible. Beyond the limitations of human hearing, there are a myriad of acoustic worlds ranging from the echolocation calls of bats to the unheard micro-cosmos in soil, water, and other ecological niches.<sup>16</sup> At any one time, we are only tuned into a small fraction of the acoustic realm, even if we can feel the physiological effects of indiscernible frequencies or notice the material traces left by the “acoustic emissions” of weathering processes on the exposed surfaces of the city.

The attempt to reveal hidden or neglected sonic worlds can also be extended to the historical imagination and the use of available sources to reconstruct what the cultural geographer

David Lowenthal refers to as “the audible past.”<sup>17</sup> Early modern European soundscapes were very different to those of the industrial metropolis—dominated by sounds such as blacksmiths, bells, windmills, and human voices. Much of this sound would have been concentrated in higher frequency ranges than contemporary soundscapes, it would have been affected to a greater extent by seasonal rhythms, and it would show strong diurnal variations with a much more restricted acoustic realm during hours of darkness.<sup>18</sup> By the eighteenth century, however, noise was increasingly regarded as a problem, especially in larger towns and cities. In William Hogarth’s engraving entitled *The Enraged Musician* (1741), we see the agony of a violinist trying to practise by an open window, forced to listen to the maddening tumult of the crowded London street below.

With the spread of industrialization, the impact of noise further intensified. The theatre critic Mel Gordon describes how the working-class districts of industrializing towns and cities in Europe during the 1840s and 1850s were characterized by “a constant din of construction and pounding, of the shrieking of metal sheets being cut and the endless thump of press machinery, of ear-splitting blasts from huge steam whistles, sirens, and electric bells that beckoned and dismissed shifts of first-generation urbanized laborers from their unending and repetitive days.”<sup>19</sup> This acoustically defined disciplinary landscape reinforced both class distinctions and emerging geographies of excessive noise. The surge of sonic disturbance experienced in the expanding nineteenth-century city forms part of the emerging rationale for “zoning” and the rationalization of urban space; a process that gathered further momentum in the twentieth century with the development of technological means to measure noise and impose new forms of standardization.<sup>20</sup>

During the twentieth century, we find growing ambivalence towards urban noise, which is variously characterized as a symbol of progress and prosperity, a disorientating and potentially health threatening source of social disorder, or a fascinating realm of cultural experimentation.<sup>21</sup> Writing in 1946, for example, Aldous Huxley named the twentieth century as “the Age of Noise.” Huxley’s concern with the “pre-fabricated din” enabled by radios, mass advertising, and “a babel of distractions” connects with Theodor Adorno’s criticism of “emotional listening” and the use of music for social control.<sup>22</sup> Changing sensitivities to noise also reflect wider anxieties over the “effects of modernity,” especially in the early decades of the twentieth century with emerging psychoanalytic interest in forms of sensory “over stimulation” as a source of nervous shock.<sup>23</sup>

The fraying of distinctions between music and sound during the twentieth century forms part of a wider pattern of acoustic experimentation that would extend to architecture, synesthetic dimensions to the visual arts, and new technological advances in the recording, manipulation, and broadcast of the auditory realm.<sup>24</sup> The auditory dimensions to space, and the struggle to interpret or represent these worlds, became part of a wider set of contentions and developments within the phenomenology of the modern sensory realm.<sup>25</sup> A flurry of technological innovations for the recording of sound during the 1930s displaced

the rudimentary magnetic wire recorders of the past. These new advances in acoustic mimicry, including the introduction of stereo recording and the rise of magnetic audio tape, provided new possibilities for editing and mixing. The commercial availability of tape recorders from the early 1940s onwards also allowed music to be created more easily without conventional notation systems. John Cage, for example, describes how the tape recorder gave composers access to “the entire field of sound,” so that the distinction between musical and non-musical sound became increasingly irrelevant.<sup>26</sup> The introduction of non-pitched sounds into music by Edgard Varèse and Cage, for example, or the direct use of mechanical noise such as airplane propellers in George Antheil’s *Ballet Mécanique* (1926), illustrate how the redefinition of music formed part of a wider field of modernist sound experimentation.<sup>27</sup> The spatial aspects of musical experimentation from the 1960s onwards, and the intensified challenge to regularized post-Renaissance musical forms, also institute a new kind of sonic geography. Works such as György Ligeti’s *Atmosphères* (1961), used to dramatic effect in Stanley Kubrick’s *2001: A Space Odyssey* (1968), indicate a new fluidity between experimental sound textures and popular culture.

Sound itself can form part of the political dynamics of urban space: in nineteenth-century Brazil, for example, the violent suppression of slave festivities such as *capoeira* explicitly linked sonic disruption with the fear of crowds and political insurrection.<sup>28</sup> More recently, the *cacerolazos* phenomenon of public protests through the banging of metal pots in Latin American cities illustrates how fleeting control over sonic space can serve as a symbolic challenge to state authority. The *cacerolazos* is a spreading phenomenon; a clattering that surges forth, like a strange tide, to produce an acoustic ripple across the surface of the city.<sup>29</sup> Various types of “acoustic torment” have been used as a form of cultural redress. In the case of Kolkata (Calcutta), for example, the political scientist Sudipta Kaviraj describes how the poor make use of possibilities offered by religious festivals to produce “blaring music throughout the night directed precisely at the middle-class houses.” Noise in this context constitutes a type of “currency for repayment” in the face of pervasive poverty and powerlessness. These types of sonic disruption also expose the limits to a particular kind of European understanding of modernity and the socio-spatial constitution of the public sphere.<sup>30</sup> Noise can be used as a weapon, or as a means to assert control over space. Social conflict over noise appears to be growing, in part driven by the “acoustic gentrification” underway in many inner urban areas and the increasing density of bars and nightclubs.<sup>31</sup> A further facet of this acoustic gentrification, ironically revolving around cultures of sonic authenticity, involves various forms of “acoustic boosterism” through the design of prestige concert halls, international music festivals, and other types of cultural events. The experience of sound, and music in particular, is being shaped by new configurations in public culture.

A further critique of contemporary soundscapes concerns the ubiquity of MP3-dominated acoustic environments. The development of an increasingly sophisticated acoustic carapace for individual urbanites, observable since the early development of the Walkman in the

1980s, marks part of a choreography of socio-spatial disengagement.<sup>32</sup> The “auditory self” is now immersed in new forms of digital governmentality that extend to other aspects of the sensory environment. The contemporary city increasingly resonates to a strange chorus of disembodied digital voices that seek to direct human behaviour.<sup>33</sup> The generalized low-grade digital reproduction of music generates distinctive kinds of cultural relationships to sound that are further removed from the “acoustic authenticity” of original sources. The pervasive use of music for the marketing of commodities and the ubiquitous crafting of “lifestyle soundtracks” marks just one element in this unfolding dynamic between the acoustic realm and late capital.

In parallel with the growing political salience of noise, there has been an increasing emphasis on the social and cultural significance of silence. In 1969, for example, the International Music Council of UNESCO passed a motion calling for “the right of everyone to silence.” This officially sanctioned emphasis on silence marks a somewhat ironic regulatory echo to the minimalist acoustic experimentation of Cage and other avant-garde artists. In fact, the experience of anything approaching silence is rather rare: following the Icelandic volcanic ash cloud of 2010, for example, the temporary absence of aircraft produced an eerie stillness across the skies of north-west Europe, as the subsonic aerial soundscapes of the early twenty-first century temporarily receded.

Cultural and political concerns with noise, and especially the synthetic acoustic realm, have frequently been aligned with a broader critique of modernity. On Earth Day 2005, for instance, an area within the temperate rain forest of the Olympic National Park in Washington State called “One Square Inch of Silence” was created in order to “protect and preserve the natural soundscape.” Considered to be “the quietest place in the United States,” the logic behind this project is that by defending one inch of the park from noise, a vast zone of tranquillity can be realized.<sup>34</sup> In this instance, the right to silence and the protection of a “natural soundscape” connects with an ecological critique of modernity and the attempt to create an imaginary acoustic landscape. The rejection of noise also resonates with long-standing anti-urban sentiments and a distrust in technologically mediated environments.

The cultural politics of sound has tended to downplay the historical specificities of acoustic authenticity and the “embodied universalism” that pervades phenomenological studies of sound. Anxieties or desires in relation to the sonic realm are ineffably entangled with the co-evolutionary dynamics of the body, space, and technology; there is an oscillatory dynamic between the material and measurable, the symbolic and phantasmatic. Whereas visual culture rests on a degree of distancing between the observer and the direct object of the gaze, auditory experience is marked by a greater degree of spatial intimacy and material permeability. Yet the separation of the listener from the original sound source can engender its own forms of acoustic alienation. Recent writing on sound has sought to delineate a more nuanced auditory realm. The acoustic city transcends the limitations of the human ear; its full resonance eludes even the most ardent of listeners.

## Endnotes

- The full title of Gabriele Stirl's installation is *Visualisierung einer seriel-len Klangpartitur für 12 Instrumente*.
- Siegfried Kracauer, “Schreie auf der Straße,” in *Straßen in Berlin und anderswo* (Berlin: Arsenal, 1987 [1964]) pp. 26–28.
- Jonathan Raban, *Soft City* (London: Hamish Hamilton, 1974).
- See Michael Flitner, *Lärm an der Grenze. Fluglärm und Umweltgerechtigkeit am Beispiel des binationalen Flughafen Basel-Mulhouse* (Stuttgart: Franz Steiner, 2007).
- Jean-François Augoyard, *Step by Step: Everyday Walks in a French Urban Housing Project*, trans. David Ames Curtis (Minneapolis: University of Minnesota Press, 2007) p. 148.
- Steven Connor, “The modern auditory I,” in *Rewriting the Self: Histories of the Renaissance to the Present*, ed. Roy Porter (London: Routledge, 1997) pp. 206, 221, and “Rustications: Animals in the Urban Mix” in this volume.
- See Martin Jay, *Downcast Eyes: The Denigration of Vision in Twentieth-century French Thought* (Berkeley: University of California Press, 1993).
- Ibid. See in particular chapter 3, “The crisis of the ancien scopic regime: from the impressionists to Bergson” pp. 149–209.
- See R. Murray Schafer, *The Soundscape: Listening to the Twentieth Century* (New York: Alfred Knopf, 1977).
- See, for example, Jean-François Augoyard and Henry Torgue, ed., *Sonic Experience: A Guide to Everyday Sounds*, trans. Andrea McCartney and David Paquette (Montréal: McGill-Queen's University Press, 2005); Michel Chion, *Audio-vision: Sound on Screen*, trans. Claudia Gorbman (New York: Columbia University Press, 1994 [1990]); Don Ihde, *Listening and Voice: A Phenomenology of Sound* (Athens: OH: University of Ohio Press, 1976); Brandon LaBelle, *Background Noise: Perspectives on Sound Art* (New York: Continuum, 2006); George Revill, “*El tren fantasma*: Arcs of Sound and the Acoustic Spaces of Landscape,” *Transactions of the Institute of British Geographers* (in press); Trevor Wishart, “Sound Symbols and Landscape,” in Simon Emmerson, ed., *The Language of Electroacoustic Music* (London: Macmillan, 1986) pp. 41–60.
- See Georgina Born, “Introduction,” to *Music, Sound and Space: Transformations of Public and Private Experience*, ed. Georgina Born (Cambridge: Cambridge University Press, 2013) pp. 1–69.
- Alain Corbin, *Village Bells: Sound and Meaning in the Nineteenth-century French Countryside*, trans. Martin Thom (New York: Columbia University Press, 1998 [1994]).
- See Kevin Lynch, *The Image of the City* (Cambridge, MA: The MIT Press, 1960).
- See Ann Heylighen and Jasmien Herssens, “Designerly Ways of Not Knowing. What Designers Can Learn about Space from People Who Are Blind,” *Journal of Urban Design* (in press).
- Stefan Helmreich, “An Anthropologist Underwater: Immersive Soundscapes, Submarine Cyborgs, and Transductive Ethnography,” *American Ethnologist* 34 (4) (2007): 621–641.
- Listen, for example, to Lee Patterson's recordings of micro-spaces of urban life on the CD that accompanies this volume.
- See David Lowenthal, “The Audible Past,” in International Music Council, *The Canada Music Book 11/12* (Montréal: Canada Music Council, 1975–76) pp. 209–217.
- See, for example, Schafer, *The Soundscape*.
- Mel Gordon, “Songs from the Museum of the Future: Russian Sound Creation (1910–1930),” in *Wireless Imagination: Sound, Radio, and the Avant-garde*, ed. Douglas Kahn and Gregory Whitehead (Cambridge, MA: The MIT Press, 1992) p. 197.
- See, for example, Karin Bijsterveld, “The City of Din”: Decibels, Noise, and Neighbors in the Netherlands, 1910–1980,” *Osiris* 18 (2003): 173–193; Karin Bijsterveld, “Listening to Machines: Industrial Noise, Hearing Loss, and the Cultural Meaning of Sound,” *Interdisciplinary Science Reviews* 31 (4) (2006): 323–337; Emily Thompson, *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America, 1900–1933* (Cambridge, MA: The MIT Press, 2002).
- See, for example, Douglas Kahn, *Noise, Water, Meat: A History of Sound in the Arts* (Cambridge, MA: The MIT Press, 1999); Andrey Smirnov and Liubov Pchelkina, “Generation Z: Renoise—Experiments in Sound and Electronic Music in Early Twentieth-century Russia,” in *Dis Continuity. Select Trajectories in Experimental and Electronic Music* (Berlin: CTM—Festival for Adventurous Music and Art, Berlin, 2014) pp. 4–9.
- See Aldous Huxley, “Silence, Liberty, and Peace—A Thoughtful Analysis of the Individual Today and his Future in the World,” in *The Perennial Philosophy* (New York: Harper & Brothers Publishers, 1946) pp. 218–219 and Theodor Adorno, *Quasi una fantasia*, trans. Rodney Livingstone (London: Verso: 1992 [1963]). On the ideological dimensions to music, listening, and modern soundscapes, see also Jacques Attali, *Noise: The Political Economy of Music*, trans. Brian Massumi (Minneapolis: University of Minnesota Press, 1985 [1977]); Carolyn Birdsall, *Nazi Soundscapes: Sound, Technology and Urban Space in Germany, 1933–1945* (Amsterdam: University of Amsterdam Press, 2012); George Revill, “Music and the Politics of Sound: Nationalism, Citizenship, and the Auditory Space,” *Environment and Planning D: Society and Space* 18 (2000): 597–613; Susan J. Smith, “Soundscape,” *Area* 26 (3) (1994): 232–240.
- See, for example, Andreas Killen, *Berlin Electropolis: Shock, Nerves, and German Modernity* (Berkeley: University of California Press, 2006) and Anthony Vidler, *Warped Space: Art, Architecture, and Anxiety in Modern Culture* (Cambridge, MA: The MIT Press, 2000).
- See Born, “Introduction.”
- Ibid. See also Merijn Royaards “The Space Between: A Cartographic Experiment” in this volume.
- John Cage cited in Christoph Cox and Daniel Warner, ed., *Audio Culture: Readings in Modern Music* (London: Continuum, 2009) p. 5. See also Dieter Daniels and Inke Arns, ed., *Sounds Like Silence* (Leipzig: Spector Books, 2012).
- See Alex Ross, *The Rest is Noise* (New York: Farrar, Straus and Giroux, 2007).
- See, for example, Simone Pondé Vassalo, “Capoeiras e intelectuais: a construção coletiva de capoeira ‘autêntica,’” *Estudos Históricos* 32 (2003): 106–124.
- See Leandro Minuchin, “Noise, Language, and Public Protest: The *Cacerolazos* in Buenos Aires” in this volume.
- Sudipta Kaviraj, “Filth and the Public Sphere: Concepts and Practices about Waste in Calcutta,” *Public Culture* 10 (1) (1997): 111–112.
- See Joanna Kusiak, “Acoustic Warfare: The Silence of Warsaw's Acoustic Gentrification” in this volume.
- See Michael Bull, *Sounding out the City: Personal Stereos and the Management of Everyday Life* (Oxford: Berg, 2000), Jonathan Sterne, *MP3: The Meaning of a Format* (Durham, NC: Duke University Press, 2012), and Heike Weber, “Stereo City: Mobile Listening in the 1980s” in this volume.
- See Nina Power, “Soft Coercion, the City, and the Recorded Female Voice” in this volume.
- <http://onesquareinch.org/> (accessed 23 January 2014).