ROUTLEDGE

THE
SOUND
STUDIES
READER

EDITED BY
JONATHAN STERNE

The Sound Studies Reader

The Sound Studies Reader is a groundbreaking anthology blending recent work that self-consciously describes itself as "sound studies" with earlier and lesser-known scholarship on sound.

The collection begins with an introduction to welcome novice readers to the field and acquaint them with key themes and concepts in sound studies. Individual section introductions to give readers further background on the essays and an extensive up-to-date bibliography for further reading in "sound studies" make this an original and accessible guide to the field.

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Contents

Acknowledgements

2.   Ihde, Don. 1974. The Auditory Dimension. In *Listening and Voice: A Phenomenology of Sound*. Athens: Ohio University Press. Pp. 49–55

3.   Attali, Jacques. 1985. Listening. In *Noise: The Political Economy of Music*. Translated by B. Massumi. Minneapolis: University of Minnesota Press. Pp. 3–12 & 18–20

4.   Berland, Jody. 1993. Contradicting Media: Toward a Political Phenomenology of Listening. In *Radiotext(e)*, edited by N. Strauss. New York: Semiotext(e). Pp. 209–17

5.   Chion, Michel. 1994. The Three Listening Modes. In *Audio-Vision*. Translated by C. Gorbman. New York: Columbia University Press. Pp. 25–34

6.   Hirschkind, Charles. 2006. Introduction In *The Ethical Soundscape: Cassette Sermons and Islamic Counterpublics*. New York: Columbia University Press. Pp. 1–9 & 18–25

7.   Goodman, Steve. 2010. The Ontology of Vibrational Force. In *Sonic Warfare: Sound, Affect and the Ecology of Fear*. Cambridge: MIT Press. Pp. 81–84

8.   Mills, Mara. 2011. Hearing Aids and the History of Electronics Miniaturization. *IEEE Journal of the History of Computing*. Pp. 24–27

9.   Crawford, Kate. 2009. Following You: Disciplines of Listening in Social Media. *Continuum: Journal of Media and Cultural Studies* 23 (4): 525–35

10. Schafer, R. Murray. 1994. The Soundscape. In *The Soundscape: Our Sonic Environment and the Tuning of the World*. Rochester, Vermont: Destiny Books. Pp. 3–12

11. Hosokawa, Shuhei. 1984. The Walkman Effect. *Popular Music* 4: 165–80

12. Thompson, Emily. 2002. Sound, Modernity and History. In *The Soundscape of Modernity: Architectural Acoustics and the Culture of Listening in America 1900–1930*. Cambridge: MIT Press. Pp. 1–12

13. Rath, Richard Cullen. 2003. No Corner for the Devil to Hide. In *How Early America Sounded*. Ithaca: Cornell University Press. Pp. 97–107 & 113–19

14. Picker, John. 2003. The Soundproof Study. In *Victorian Soundscapes*. New York: Oxford University Press. Pp. 41–52

15. Bijsterveld, Karin. 2006. Listening to Machines: Industrial Noise, Hearing Loss and the Cultural Meaning of Sound. *Interdisciplinary Science Reviews* 31 (4): 323–37

16. Helmreich, Stefan. 2007. An Anthropologist Underwater: Immersive Soundscapes, Submarine Cyborgs and Transductive Ethnography. *American Ethnologist* 34 (4): 621–27

17. Blesser, Barry, and Linda-Ruth Salter. 2007. Auditory Awareness as an Extension of Religion. In *Spaces Speak, Are You Listening? Experiencing Aural Architecture*. Cambridge: MIT Press. Pp. 82–93

18. Bull, Michael. 2008. The Audio-Visual iPod. In *Sound Moves: iPod Culture and Urban Experience*. New York: Routledge. Pp. 38–49

19. Mowitt, John. 1987. The Sound of Music in the Era of Its Electronic Reproducibility. In *Music and Society: The Politics of Composition, Performance and Reception*, edited by R. Leppert and S. McClary. New York: Cambridge University Press. Pp. 184–97

20. Altman, Rick. 1992. Four and a Half Film Fallacies. In *Sound Theory/Sound Practice*, edited by R. Altman. New York: Routledge. Pp. 35–45

21. Kittler, Friedrich. 1999. Gramophone. In *Gramophone-Film-Typewriter*. Translated by G. Winthrop-Young and M. Wutz. Stanford: Stanford University Press. Pp. 21–37

22. Lastra, James. 2000. Sound Theory. "Fidelity Versus Intelligibility". In *Sound Technology and American Cinema: Perception, Representation, Modernity*. New York: Columbia University Press. Pp. 138–43

Jonathan Sterne

SONIC IMAGINATIONS[1]

ACCORDING TO JACQUES ATTALI, the power to reproduce sound used to belong to the gods.[2] With over 5.3 billion mobile phones now in use, that power now belongs to most of humanity. We live in a world whose sonic texture is constantly transforming, and has been for centuries. New, never-before-heard sounds like ringtones enter and leave everyday life in the course of a few years. New processes for manipulating, transforming and working with sound come and go in the space of decades. But this is not just a condition of late modernity.[3] Plato purged flautists and flute-makers from his ideal state; 17th-century Londoners complained of the new noises filling their city—"he that loves noise must buy a pig"—and people in positions of power all over 19th-century Europe were so worked up about the different standards for orchestral tuning that many countries passed laws to resolve the problem.[4] Like those auditors, we might imagine that our changing state of affairs disrupts some prior, more organic and dependable sonic world. But it may be more accurate to say that in most times and places, sonic culture is characterized by the tensions held within its configuration of difference and sameness. If you can, take a good long listen around you—for a few days. Whether or not you can listen yourself, consider what others are hearing. How many of the sounds in everyday life existed ten years ago? Twenty? Thirty? Fifty? That's just the sounds—but what of the contexts in which they happen, the ways of hearing or not-hearing attached to them, the practices, people and institutions associated with them? Now think of what the previous generation of sounds must have replaced, and what those sounds and their worlds replaced in turn. In this small exercise, you will join generations of intellectuals, who have lifted their ears toward the sonic airspace around them, taken stock of it, and reacted to the changes they heard.

As sonic worlds have changed, so too have the conceptual infrastructures writers have built to behold them. Today, there is a boom in writings on sound by authors in the humanities and social sciences, whose work is distinguished by self-consciousness of its place in a larger interdisciplinary discussion of sound. Dozens of monographs on one or another aspect of sonic culture have appeared since the early 1990s,

alongside countless journal articles, book chapters, and a growing list of anthologies (one need only look over the dates in many of the authors' bibliographies to see this). Major interdisciplinary journals and leading journals in older disciplines have devoted special issues to sound.[5] Professional associations in almost every field of the human sciences have devoted panels to sound in one form or another and some now have sound-related divisions or interest groups. New thematic conferences on sound pop up each year.[6]

Sound studies is a name for the interdisciplinary ferment in the human sciences that takes sound as its analytical point of departure or arrival. By analyzing both sonic practices and the discourses and institutions that describe them, it redescribes what sound does in the human world, and what humans do in the sonic world. (I say it *redescribes* rather than *describes* because good scholarship always goes beyond the common-sense categories used in everyday descriptive language—it tells us what we don't already know). It reaches across registers, moments and spaces, and it thinks across disciplines and traditions, some that have long considered sound, and some that have not done so until more recently. Sound studies is academic, but it can also move beyond the university. It can begin from obviously sonic phenomena like speech, hearing, sound technologies, architecture, art, or music. But it does not have to. It may *think sonically* as it moves underwater, through the laboratory or into the halls of government; considers religion or nationalisms old and new; explores cities; tarries with the history of philosophy, literature or ideas; or critiques relations of power, property or intersubjectivity. It is a global phenomenon as well. Work that self-consciously defines itself as sound studies has now appeared in English, German, Dutch, French, Italian, Portuguese, Japanese, Korean, Hebrew and Spanish, among other languages.

It is tempting to call sound studies a response to our changing sonic world—and it is that. But so have been many other important intellectual movements around sound in the 20th century: when W.E.B. Du Bois wanted to rethink the role of race in American life, he turned to sound as a key modality for thinking through African American culture:

> Before each thought that I have written in this book I have set a phrase, a haunting echo of these weird old songs in which the soul of the black slave spoke to men [. . .] the rhythmic cry of the slave—stands to-day not simply as the sole American music, but as the most beautiful expression of human experience born this side of the seas. It has been neglected, it has been, and is, half despised, and above all it has been persistently mistaken and misunderstood; but not withstanding, it still remains the singular spiritual heritage of the nation and the greatest gift of the Negro people.[7]

Other canonical writers were quick to highlight new sound media as calling into question the very basis of experience and existence. For Martin Heidegger in 1927, radio effected a "de-distancing" for its listeners, "by way of expanding and destroying the everyday surrounding world." For Sigmund Freud in 1929, sound recording allowed for the retention of "fleeting" auditory memories.[8]

Avant-garde musicians, artists and writers have throughout the century turned to changes in sonic culture as the basis for broad philosophical reflections. In the 1950s, 1960s and 1970s, writers turning to sound in philosophy, aesthetics and design similarly pointed to historical change as the basis for their sonic interests. Writers during the 1980s and 1990s rethinking what it meant to study music turned to sound and technology as a way of making sense of massive changes that had happened to culture over the previous decades.[9] To think sonically is to think conjuncturally about sound and culture: each of the writers I have quoted above used sound to ask big questions about their cultural moments and the crises and problems of their time. Sound studies' challenge is to think across sounds, to consider sonic phenomena in relationship to one another—*as types of sonic phenomena rather than as things-in-themselves*—whether they be music, voices, listening, media, buildings, performances, or another other path into sonic life.

As a body of thought, sound studies today is certainly an intellectual reaction to changes in culture and technology, just as earlier modalities of sonic thought were. But it is also a product of changes in thought and the organization of the disciplines. Just as work on visual culture and material culture took off when writers in fields like art history, literature, cultural studies, history, anthropology, and many other fields realized that they were all working on related problems and would benefit from talking with another, so too has sound studies arisen from the same felt need—that no *one* field's approach to or take on sound is enough. This ambiguity extends on down to the name for the field. Is it sound studies or the study of sound culture, sonic culture, auditory culture or aural culture?[10] As Michele Hilmes puts it, the study of sound, "hailed as an 'emerging field' for the last hundred years, exhibits a strong tendency to remain that way, always emerging, never emerged."[11] Sound studies does, however, have a rich and growing scholarly literature, a large number of professors and graduate students working in the area, a growing presence in the curricula of many fields, all of which increasingly influence writers whose work may touch on sonic issues (or even use sonic figures) even though their primary concern is not sound. This reader is offered in the hope that it will make a useful contribution to all those populations.

We need a name for people who do sound studies; I propose *sound students*. Since the field as it is known today has its roots after 1945, sound students are not strictly speaking -osophers, -ologists or -ographers. In his 1997 attack on cultural studies, Todd Gitlin used the phrase "cultural students" to describe practitioners of the field. Although the coinage was probably not intended generously, calling practitioners of "studies" fields "students" is a lovely and inspiring turn of phrase, and so I adapt it here. Student has meant "a person who is engaged in or addicted to study"; students undergo courses of study, they are associated with educational institutions, they have teachers and they always have more to learn.[12] Most sound students are also something else: historians, philosophers, musicologists, anthropologists, literary critics, art historians, geographers, or residents of one of the many other postwar "studies" fields—media studies, disability studies, cinema studies, cultural studies, gender studies, science and technology studies, postcolonial studies, communication studies, queer studies, American studies and on and on.

Sound students produce and transform knowledge about sound and in the process reflexively attend to the (cultural, political, environmental, aesthetic. . .) stakes of

that knowledge production. By reflexivity, I refer to arguments developed by Pierre Bourdieu and Donna Haraway. Both argued that knowers must place themselves in relation to what it is they want to know: they must account for their own positions and prejudices, lest scholars misattribute them as qualities of the object of study. This means that if we use concepts drawn from the study of human auditory perception, we must account for the historicity of that knowledge (rather than simply saying "this is how your ear works" as if the ear is the same in all times and places). But it also means we must eschew what a colleague of mine once called "the uncritical use of the critical," where the imperative to critique overtakes the critical faculty itself. Haraway famously used vision metaphors to describe perspective as a constitutive feature of epistemology, but one could use audition just as easily. Depending on the positioning of hearers, a space may sound totally different. If you hear the same sound in two different spaces, you may not even recognize it as the same sound. Hearing requires positionality.

A broad transdisciplinary curiosity and an awareness of partiality—even when it is paired with great speculative ambition—are the most important defining characteristic differences between people who think of themselves as sound students, and people who think of themselves as sound scientists, sound artists, sound engineers, sound anthropologists, sound critics, sound historians or for that matter psychoacousticians, acousticians and linguists. The list could go on, though of course there can be traffic among all these categories and it would be impossible to draw definitive lines between them. But the difference between sound studies and these other fields is that they don't *require* engagement with alternative epistemologies, methods or approaches.

However wonderfully audacious sound students can make our work, it must also be grounded in a sense of its own partiality, its authors' and readers' knowledge that all the key terms we might use to describe and analyze sound belong to multiple traditions, and are under debate. Sound students problematize sound and the phenomena around it, including their own intellectual traditions. Sound studies is an intellectual exercise, one that for the moment is most grounded in academia, though certainly non-academics produce fascinating work about sound all the time, and sound students can and should move beyond the academy to try and effect change in the world. Sound studies work is written and spoken. Although it can also be imaged and sounded, it is fundamentally a verbal practice because it is *about* sound (though emerging practices of digital publication offer scholars opportunities to find new ways to juxtapose words and sound, the analysis and the objects of analysis). Collectively we think about sound through reading about it, listening to it, contemplating it, writing and talking about it, and working with it. Of course, some of the selections in this reader contradict what's in these aspirational paragraphs, but that is the point. Sound studies names a set of shared intellectual aspirations; not a discrete set of objects, methods or the space between them. We might condense my description of sound studies like this:[13]

- Sound studies is an academic field in the humanities and social sciences defined by combination of object and approach. Not all scholarship about or with sound is "sound studies," just as not all scholarship about society is Sociology, not all

scholarship with a concept of culture is cultural studies or Anthropology, not all scholarship that works with concepts of language is Linguistics. The inside/outside description is useful for characterization, but is not useful in the first instance for the judgment of relevance or quality.

- Sound students recognize sound as a problem that cuts across academic disciplines, methods and objects, though the field's institutional existence will vary as it moves across different national university cultures (and all disciplines begin as interdisciplines).[14]
- Sound studies work reflexively attends to its core concepts and objects.
- Sound studies work is conscious of its own historicity. Sound students are aware that they are part of an ongoing conversation about sound that spans eras, traditions, places, and disciplines; they are also aware of the specific histories of inquiring about and writing about sound in their home disciplines.
- Sound studies has an essential "critical" element, in the broadest sense of critique. It may also take on characteristics of a producer, policy, technical, political, artistic or training discourse. But without critique, it is art, technical discourse, science, cultural production or training practices "about sound," and not sound studies (though such work will often be of great interest to sound students).

Today, many people have become sound students to cultivate and facilitate their *sonic imaginations*, as well as those of people in other fields as sound becomes important to their work. *Sonic imagination* is a deliberately synaesthetic neologism—it is about sound but occupies an ambiguous position between sound culture and a space of contemplation outside it. Sonic imaginations are necessarily plural, recursive, reflexive, driven to represent, refigure and redescribe.[15] They are fascinated by sound but driven to fashion some new intellectual facility to make sense of some part of the sonic world. The concept is meant to reference an intellectual history of thinking about our own creative and critical capacities: it reaches back into aesthetic propositions such as T.S. Eliot's figure of the "auditory imagination" and cultural-theoretical constructs such as C. Wright Mills's "sociological imagination" and Anne Balsamo's "technological imagination." Like its tributaries—themselves rivers of thought to which it aspires to contribute—sonic imagination places sound as a fundamentally human problem. Sound is certainly more than a human problem—we can talk of animals' hearing, of underwater sound, or sound on other planets—but for the next few pages, let us consider sound as a category defined in relation to ideas of the human before we explode that formulation.

T.S. Eliot writes: "'The auditory imagination' is the feeling for syllable and rhythm, penetrating far below the conscious levels of thought and feeling, invigorating every word; sinking to the most primitive and forgotten, returning to the origin and bringing something back, seeking the beginning and the end. It works through meanings, certainly, or not without meanings in the ordinary sense, and fuses the old and obliterated and the trite, the current, and the new and surprising, the most ancient and the most civilized mentality."[16] Eliot's notion of auditory imagination arises when he discusses the criticism of poetry, but it is possible to imagine the definition much more broadly for thinking with all manners of sounding things. We need only substitute the general "sound" for the specific "syllable" in his first sentence to achieve this

broader meaning. It is an openness to sound as part of culture, a feel for it. For Eliot, the movement across registers is also a crucial quality of imagination. This resonates with C. Wright Mills's notion of sociological imagination: a "quality of mind that enables its possessor to understand the larger historical scene in terms of its meaning for the inner life and external career of a variety of individuals." The sociological imagination is based in "the capacity to shift from one perspective to another. [. . .] It is the capacity to range from the most impersonal and remote transformations to the most intimate features of the human self—and to see the relations between the two."[17] Sonic imaginations bring us to particular conjunctures[18] and problems, but they also redescribe them from unexpected standpoints. Don Ihde writes that valid description of sonic experience requires the phenomenologist's gesture of epoché, "which means 'to suspend' or 'to put out of play.' [. . .] It is a suspension of 'presuppositions.'"[19] In another register, Pierre Bourdieu and his collaborators write of the "epistemological rupture" through which scholars leave behind the force of the various prenotions that operate in the field they study, to confront their objects of study with fresh perspectives, and to construct them anew. As Paul Fauconnet and Marcel Mauss wrote over a century ago, "serious research leads one to unite what is ordinarily separated or to distinguish what is ordinarily confused."[20]

   Imagination is also a creative force: Anne Balsamo conceives the technological imagination as "the wellspring of technological innovation." It is a mindset that "enables people to think with technology, to transform what is known into what is possible." To once again indulge in substituting sound for others' keywords, sonic imaginations rework culture through the development of new narratives, new histories, new technologies, and new alternatives. Sonic imaginations "reproduce cultural understandings at every turn"—there is no knowledge of sound that comes from outside culture, only knowledge that works from particular limits. These limits in turn work like affordances—baseline assumptions and massive traditions to build from, as well as conventions worth playing with or struggling against. "This imagination is performative: it improvises within constraints to produce something new."[21] As a creative capacity, a robust sonic imagination is not that different from good musicianship: both aim to satisfy and frustrate expectations in order to produce something meaningful and engaging (for themselves and for their communities and audiences). Douglas Kahn explains it best:

> "sound," rather than being a destination, has been a potent and necessary means for accessing and understanding the world; in effect, it leads away from itself. A very nebulous notion of methodology, but also something that kicks in before methodology.[22]

This is an important first principle: there is no a priori privileged group of methodologies for sound studies. Instead, sonic imaginations are guided by an orienting curiosity, a figural practice that reaches into fields of sonic knowledge and practice, and blends them with other questions, problems, fields, spaces and histories. Method matters, but it should arise from the questions asked and the knowledge fields engaged, not the other way around. We could go further to argue that sound studies should borrow a page from cultural studies and operate by way of engaging its

objects or problems of study contextually, as sites rather than as totalities that can be grasped through a single method or combination of methods, or whose political or cultural significance is guaranteed ahead of time by what we think we "know" about sound, politics or culture.[23]

These abstract questions bear down on even the most basic attempts to define one of the field's central concepts, "sound," and to decide how one comes to imagine or know it. Does sound refer to a phenomenon out in the world which ears then pick up? Does it refer to a human phenomenon that only exists in relation to the physical world? Or is it something else? The answer to the question has tremendous implications for both the objects and methods of sound studies. Can we study sounds "in themselves" or as part of a field of vibration that exists in and for itself? Must we always start the cultural study of sound from the position of people? Can sound be described separately from the position of the person who describes it? In the past, my own position on this question has been somewhat human-centered:

> the boundary between vibration that is sound and vibration that is not-sound is not derived from any quality of the vibration in itself or the air that conveys the vibrations. Rather, the boundary between sound and not-sound is based on the understood possibilities of the faculty of hearing—whether we are talking about a person or a squirrel. Therefore, as people and squirrels change, so too will sound—by definition. Species have histories.[24]

But that raises more questions than it answers. If we are really talking about the stratifying power of the cultured ear, perhaps we should follow Michael Bull and Les Back in calling the field "auditory culture" to reflect the degree to which sound is a sensory problem, a sensibility echoed more recently by Trevor Pinch and Karin Bijsterveld when they situate sound studies as partly emanating from something they call "sensory studies."[25] This approach has a special appeal insofar as sound scholars aim to disrupt narratives of the so-called hegemony of the visual and the privileging of the eye. It also has the advantage of a certain terminological parallelism with "visual culture." Bull and Back call for a "democracy of the senses," and as is clear in their volume as well as this one, many classic studies of sound begin by contrasting the auditory and visual registers. When they make this move, authors more often talk about ears and eyes than sounds and light.

But this is not the only critical path into sound studies. Another path in more or less assumes the physicality of sound and then considers its cultural valence. Francis Dyson argues for an irreducible positivity to sounds as having their own "ontological" existence.[26] In this volume, Steve Goodman argues for the privileging of vibration as a primary category of analysis, taking sound as a point of orientation, but not further substantializing it. Similarly Michele Friedner and Stefan Helmreich have argued that vibration is a crucial plane on which sound studies can intersect with deaf studies, and that sound is best taken as "a vibration of a certain frequency in a material medium, rather than centering vibrations in a hearing ear." Their approach suggests that vibration, as the register of reality from which sound is carved out, "is itself in need of cultural and historical situating."[27] Yet another approach is Veit Erlmann's use of the

term *aurality*, which considers both "the materiality of perception" and the "conditions that must be given for something to become recognized, labeled and valorized as audible in the first place."[28] No sound student can write anything of substance without at least implicitly taking a position in these debates, and the choice has direct consequences for what gets studied in terms of what counts as the fundamental phenomenon under investigation and the very definition of context. And in most cases, defining the object of sound studies (or whatever you call it) is inextricably bound up in negotiating fields of knowledge that pertain to sound.

Knowledge is a problem in sound studies in at least three ways. Knowledge is a problem of epistemology and method—how do sound students acquire, shape, build and disseminate knowledge about sound in their own practice? Knowledge is also a problem for the field in the sense that there are many competing knowledges of sound in the world, they have their own politics, historicity and cultural domains, and exert their effects on everything we study. Knowledge is also a problem because it is situated among vectors of power and difference. Tara Rodgers's point about histories of electronic music could be extended to all areas of sonic history: readily-circulated "origin stories tend to normalize hegemonic cultural practices that follow."[29]

Many of the most cited figures of knowing in sound studies try to deal with all these problems of knowledge at once. Composer Pauline Oliveros coined the term "deep listening" to describe a total, mindful, reflexive sonic awareness that moves between trying to hear everything at once and deep attentive focus on a single sound or set of sounds. Her listening practices were meant both as a way of assessing the sonic world and cultivating attitudes for changing it, and her career as a composer and theorist has also been bound up with the critique of a still strongly patriarchal culture in many fields of avant-garde music.[30] Steven Feld uses the term "acoustemology" to describe "one's sonic way of knowing and being in the world."[31] Feld's own work might be described as developing anthropological methods to adequately make sense of and deal with the acoustemologies of the cultures he studies, but "acoustemology" has also sometimes been used to describe academics' own sonic epistemologies. Both Feld, in his work on Kaluli sound culture, and later writers like Stefan Helmreich, in his work on underwater sound, have problematized anthropological conceptions of "immersion" that are so central to standard accounts of ethnographic method.[32]

Particular ways of knowing sound have been integral to the development of key modern sonic practices. Psychoacoustics—the quantitative study of auditory perception—has been integral to the development of almost every major sound technology in the 20th century. If another field of knowledge replaced psychoacoustics in communication engineering, everything from telephones to tape recorders to MP3s would sound, work and mean differently than they do today.[33] The same can be said for information theory and the design of digital media, physical acoustics and architecture, sound cognition and hearing aids and cochlear implants (and for that matter speech education and speech therapy), noise and vibration studies and urban zoning. As Mara Mills has demonstrated, this same arc of research has done much to define the boundaries between normal and abnormal hearing, and while many sound scholars still imagine listening subjects as possessing a certain kind of whole, undamaged hearing, the Deaf and hard-of-hearing were central both to the development of contemporary sound technologies *and* our most basic ideas of audition.[34] It is not just

fields that claim the mantle of science: there are intimate connections between religious thought and devotional song and listening; rhetoric and oratory; tropics and literature; lexicons of conventionalized sound aesthetics and sound design for everything from movies to cars and games.[35] Every field of sonic practice is partially shaped by a set of knowledges of sound that it motivates, utilizes and operationalizes.

Sound studies is also bound by this condition. We have the methods and intellectual traditions we inherit from our own fields, as well as those practical or formal knowledges we encounter in the objects we study. Throughout our projects, we must therefore place these ways of knowing in tension. We must do the hard work of making a "break" with pregiven or common-sense notions, regardless of where they come from. We must not automatically take any discourse about sound in its own terms, but rather interrogate the terms upon which it is built. We must attend to the formations of power and subjectivity with which various knowledges transact.

Sonic imaginations denote a quality of mind, but not a totality of mind. In addition to carving out their own intellectual spaces within other fields, sound students facilitate the sonic imaginations of scholars who might deal with sound in their work even though it is not their primary concern. Just as concepts of the gaze and images bounce back and forth between studies of visual culture and much broader fields of social and cultural thought, so too do concepts with a sonic dimension like hearing, listening, voice, space and transduction (to name just a few)—and sound itself. Figurations of these terms already populate whole fields whether they are consciously attended to or not. Voice has long been conflated with ideas of agency in political theory and some strands of feminist- and Marxist-influenced writing. Consider the latest iteration of this tendency: as Kate Crawford points out, "not only has the metaphor of voice become the sine qua non of 'being' online, but it has been charged with all the political currents of democratic practice."[36] Despite the realities being somewhat different, seeing and hearing are still often associated with a set of presumed and somewhat clichéd attributes, a configuration I call *the audiovisual litany*:

- hearing is spherical, vision is directional;
- hearing immerses its subject, vision offers a perspective;
- sounds come to us, but vision travels to its object;
- hearing is concerned with interiors, vision is concerned with surfaces;
- hearing involves physical contact with the outside world, vision requires distance from it;
- hearing places you inside an event, seeing gives you a perspective on the event;
- hearing tends toward subjectivity, vision tends toward objectivity;
- hearing brings us into the living world, sight moves us toward atrophy and death;
- hearing is about affect, vision is about intellect;
- hearing is a primarily temporal sense, vision is a primarily spatial sense;
- hearing is a sense that immerses us in the world, while vision removes us from it.[37]

The problem with the litany is that it elevates a set of cultural prenotions about the senses (prejudices, really) to the level of theory. To figure sound in these terms is to misattribute causes and effects. As Leigh Eric Schmidt writes, "the identification of

visuality as supremely modern and Western has also been sustained (most noticeably in the work of Marshall McLuhan) through the othering of the auditory as 'primitive' or even 'African.' The equation of modernity with its gaze has often upheld some of the most basic cultural oppositions of us and them."[38] Similarly, some writers have long associated hearing with intersubjectivity and deafness with its refusal in philosophical writing, thereby elevating a stigma that the hearing attach to Deaf people as a kind of philosophical principle.[39] We could find related stories for the careers of other sonic phenomena, from music to rhythm to echoes. By this measure, sound studies as a self-conscious field is late to the scene. But it can be a productive site for thinking through these keywords that populate theory and description in so many areas of study, challenging unthought prenotions and lending conceptual vigor to sonic description in many other fields. Sound studies should be a central meeting place where sonic imaginations go to be challenged, nurtured, refreshed and transformed.

One of my hopes for this reader is that it will be useful to people whose primary academic calling is not at first blush sonic. As with the best work in any field, the best sound studies echo beyond their local conversations, problems, questions, preoccupations and objects. As a field, sound studies should not close in upon itself to protect sound as an object from the encroachment of other fields or to claim it as privileged disciplinary property. Instead, it should seek out points of connection and reflection; it should be the name for a group of people who reflexively *mind sound*. Other writers have argued implicitly or explicitly for different centers to sound study and another one will no doubt emerge from the essays assembled in this collection. In a way, we have no choice: the academic study of sound needs to begin somewhere and it belongs in many homes in many disciplines, so long as it also reaches across them. But the point is not that there should be schools of sound studies that must be defended or advanced in the pages of journals and at contentious panels at conferences, but rather that novice and advanced researchers alike need to position their own thought in relation to different traditions of minding sound depending on the particular problems they confront and their own combination of biography and history, to use C. Wright Mills's terms.

Not all the selections in this collection would meet a test for sound studies by the definition I have provided. Some of the authors in the collection and cited in this introduction wouldn't describe their work as "sound studies" (and we should grant them that leeway—I included them because I believe that scholars interested in sound studies should read their work, however it is categorized). We shouldn't be too literalistic in staking out boundaries—defining a field is tricky and too often gets overtaken by contests for academic authority. It would be both wrong and insulting to say that the current generation of scholars has invented the academic study of sound. It would be even more ridiculous for a single scholar to claim to have invented or defined the field. Figuring out a point of prior origin or a proper center is equally difficult. The field can claim antecedents in philosophy, acoustic ecology, radio studies, cinema studies, science and technology studies, media theory, art history and art practice, music, ethnomusicology and popular music studies, history and literature, anthropology, and many other fields.

Even as it owes a huge debt to its intellectual antecedents, the current generation of sound studies work is defined by its conjuncture. More work on sound is being

published in more fields than ever before, and many of these authors are self-consciously aware of being part of a group of scholars interested in sonic problems. Sociologist Robert Merton pointed out long ago that the normal process of science is simultaneous discovery. As people confront similar problems and conditions, they work out similar or related solutions.[40] The same is true even for fields that are not nearly as coherent as sciences. I am part of a generation of scholars who first published on or came to the topic in or around the 1990s, and in casual conversation, many of us tell similar stories about turning to sound as an academic subject in an effort to reconcile some element of practical knowledge of sound we brought with us to into university with academic discourses that seemed to have difficulty dealing with sonic problems and was unfriendly to sonic projects. The range of work since then has been characterized by much greater freedom and abundance, as there are new histories of almost every imaginable sound medium, a pile of new periodizations of electronic music and sound art, several excellent reconsiderations of hearing and deafness, and yet another pile of books that turn to sound to understand particular problems in new ways. This collection offers its readers a path into this growing and exciting field of thought.

The Sound Studies Reader is arranged around a set of problematics that I have found useful for organizing my teaching, thinking and research. Each of the section introductions will offer a brief reading of the ideas and debates covered by the authors (and those covered by authors I could not include). Those issues orient the section introductions and my selections in each section. I emphasize the problems that my students and I most often wrestle with. Each section is organized chronologically, and while there are many ways to read across sections—which is to say that many pieces belong in more than one section—there is some conceptual development from one part to the next. *Hearing, Listening, Deafness* focuses on the conditions of possibility and impossibility for audition. *Space, Sites, Scapes* explores the environments in which sound culture happens, ranging from physical space and the built environment to much larger spaces of sonic circulation. *Transduce and Record* and *Collectivities and Couplings* turn to the fundamental questions of media theory, asking after the technological and cultural conditions that shape and are shaped by the possibility of reproducing sound over time, across distances and for new publics and exclusions. The writers featured in *The Sonic Arts* consider sound as an aesthetic problem, or they consider the conditions under which aesthetic discussions happen. I have placed the section on *Voices* last for strategic reasons—as the essays in this section debate this most basic of human faculties, they also argue over what it means to be human, a question I believe is best addressed only after we think through culture, space, technology and aesthetics, and not before. Rather than giving a unified intellectual history of the field as a whole—a difficult enterprise best left to more deliberate intellectual histories—I have used the section introductions to allude to a few possible histories of the field (out of many more), which change depending on the problems and questions at hand.

Readers like this one are full of compromises, a fact that requires a few closing caveats. Apart from the extent that I have taken helpful advice from others, the essays and subjects in this reader are shaped by my own habits as a scholar. There are now a growing number of collections that can lay a legitimate claim to sound studies as a

mantle, and each conceives of the field quite differently from the next. Some emphasize the work of sound artists and sound art (over and against music), some emphasize a musical or technological bent, and still others are grouped by method or topic of interest. A person interested in gaining a foothold in the field ought to be acquainted with many of them.[41]

This reader is heavy on theory, history, culture and technology because those are the areas in which its editor is most engaged. The reader also has a heavy North American bias (or perhaps a "Western" bias with its inclusion of European and Australian texts) in its subject matter which results both from gaps in my knowledge, gaps in the kinds of literature suitable to include in a book like this, the ready availability of English translations of work in other languages, and also from some tendencies in scholarly publishing (not the least being the politics and mechanics of permissions and the cost of space—I began with over 100 essays and excerpts that I wanted to include and I find new ones every week). Many of the readings are excerpted in the service of brevity and diversity, as I felt it important to offer newcomers many flavors of thought as prelude to digesting larger works in the field. In cases where the edits substantially change the orientation of the piece, I have titled the selection to give a sense of the excerpt. Nevertheless, *The Sound Studies Reader* aims at a kind of situated transcendence. It is impossible to assemble a truly encyclopedic reader, but like all readers it is defined by the doomed effort. My hope is that you will find the book expansive, engaging and occasionally inspiring, but also unsatisfying enough that it will push you back into the unedited primary sources, classic and forgotten work in the field in its original milieus, and into other areas of scholarship that the authors featured in these pages haven't yet imagined.

Notes

1   For comments on ideas in this intro, many thanks to Mara Mills, Dylan Mulvin, Emily Raine, Carrie Rentschler, the members of my fall 2011 sound studies seminar in AHCS, and the participants in the Sound in Media Culture workshop at Humboldt University, Berlin, 29 October 2011. Too many other people to list have contributed ideas that shaped this reader and my sense of the field, so they must accept my thanks in the abstract and my apology in the concrete.

2   Attali, *Noise: The Political Economy of Music*, 87.

3   Gopinath, "Ringtones, or the Auditory Logic of Globalization"; Théberge, *Any Sound You Can Imagine: Making Music/Consuming Technology*.

4   The quote is from Cockayne, *Hubbub: Filth, Noise and Stench in England, 1600–1770*, 107; Plato, "Republic"; Jackson, *Harmonious Triads: Physicists, Musicians and Instrument-Makers in Nineteenth-Century Germany*.

5   See, for instance, Chow and Steintrager, "In Pursuit of the Object of Sound: An Introduction"; Pinch and Bijsterveld, "Sound Studies: New Technologies and Music"; Stadler, "Introduction"; Kara Keeling and Josh Kun, "Introduction"; Schedel and Uroskie, "Writing about Audio-visual Culture." See also the special section "In Focus: Sound Studies" in *Cinema Journal* 48: 1 (Fall 2008).

6   As I complete this introduction, two new interdisciplinary, international, open access sound studies journals have just launched (*The Journal of Sonic Studies* based in the Netherlands and *Sound Effects,* based in Denmark), and there is talk in Europe of forming a new professional association.

7   Du Bois, Gates, and Oliver, *The Souls of Black Folk: Authoritative Text, Contexts, Criticism*, 177–78.

8   Heidegger, *Being and Time*, 98; Freud and Gay, *Civilization and Its Discontents*, 43.

9   In addition to the many works cited elsewhere in this volume, see, e.g., Carpenter and McLuhan, *Explorations in Communication: An Anthology*; Ong, *The Presence of the Word: Some Prolegomena for Cultural and Religious History*; Truax, *Acoustic Communication*; Silverman, *The Acoustic Mirror: The Female Voice in Psychoanalysis and Cinema*; Kahn and Whitehead, *Wireless Imaginations: Sound, Radio and the Avant-Garde*; Berland, "Cultural Technologies and the 'Evolution' of Technological Cultures"; Théberge, *Any Sound You Can Imagine: Making Music / Consuming Technology*; Kahn, *Noise, Water, Meat: A History of Sound in the Arts*.

10 Despite calling this book "The Sound Studies Reader" and having used the term in research and teaching over a decade, I only privilege it because it rolls off the tongue easily (I love the term "aural" but spoken with most Anglophone accents it is easily confused with "oral," which has a more vexed history), has nice alliteration, and pretty well describes the range of work it covers. It also puts one of its central terms up for debate immediately.

11 Hilmes, "Is There a Field Called Sound Culture Studies? And Does It Matter?," 249.

12 *Oxford English Dictionary*, sv "student." See Gitlin, "The Anti-political Populism of Cultural Studies"; and for a critique of Gitlin's position, see Rodman, "Subject to Debate."

13 Like any definition of an academic field, this is a working definition, imperfect and incomplete(able). But it is useful insofar as it helps us carve out a space between "all work by all writers on sound" and something more specific, situated and intellectually forceful.

14 The institutional conditions of sound studies remain for now an open question, and will vary across nations. Given today's transnational financial crises and changing conditions for people in higher education—from skyrocketing tuition to changing funding schemes to the casualization of the professoriate—the question of a field's institutional existence is not simply a matter of styles of inquiry and theoretical commitments. In many cases, institutional decisions are tied to much more practical matters like ensuring we and our students have space, freedom and resources to do the work, fair working conditions to do it in, and the academic freedom to do it well.

15 There can never be a single sonic imagination: "We can and must presuppose a multiplicity of planes, since no one plane could encompass all of chaos without collapsing back into it; and each retains only movements which can be folded together." Deleuze and Guattari, *What is Philosophy?*, 50.

16 Eliot, *The Use of Poetry and the Use of Criticism*, 11.

17 Mills, *The Sociological Imagination*, 5, 7.

18 I use "conjuncture" to describe a unit of context that is made up of different kinds of relations of force, which themselves may derive from any number of factors. Writers in the cultural studies tradition generally use it to invoke ideas descending from Antonio Gramsci, Michel Foucault, and others who argued that we cannot know ahead of time what is given in a particular context, which factors determine others and which factors are determined by others. For instance, Gramsci wrote "A common error in historico-political analysis consists in an inability to find the correct relation between what is organic and what is conjunctural. This leads to presenting causes as immediately operative which in fact only operate indirectly, or to asserting that the immediate causes are the only effective ones." Gramsci, *Selections from the Prison Notebooks*, 178. See also, Foucault, "Questions of Method"; Grossberg, *Cultural Studies in the Future Tense*.

19 Ihde, *Listening and Voice: A Phenomenology of Sound*, 28. Later in the book Ihde uses a much more restricted notion of "auditory imagination" than what I propose here, to describe imagining heard sounds.

20 Paul Fauconnet and Marcel Mauss, "Sociology: Object and Method" (1901): "Une recherche sérieuse conduit à réunir ce que le vulgaire sépare, ou à distinguer ce que le vulgaire confound," Bourdieu, Chamboredon, and Passeron, *The Craft of Sociology: Epistemological Preliminaries*, 15; Ihde, *Listening and Voice: A Phenomenology of Sound*, 29.

21 Balsamo, *Designing Culture: The Technological Imagination at Work*, 6–7.

22 Kahn to author, 18 September, 2011.

23   Hall, Morley, and Chen, *Stuart Hall*; Frow and Morris, *Australian Cultural Studies: A Reader*, xviii.

24   Sterne, *The Audible Past: Cultural Origins of Sound Reproduction*, 12.

25   Pinch and Bijsterveld, "New Keys to the World of Sound," 10 (ms); Bull and Back, "Introduction: Into Sound," 1–4.

26   Dyson, *Sounding New Media: Immersion and Embodiment in the Arts and Culture*, e.g., 27, 77, 114.

27   Friedner and Helmreich, "When Deaf Studies meets Sound Studies," 7 (ms).

28   Erlmann, *Reason and Resonance: A History of Modern Aurality*, 17–18.

29   Rodgers, *Pink Noises: Women on Electronic Music and Sound*, 6; see also McCartney, "Gender, Genre and Electroacoustic Soundmaking Practices."

30   Oliveros, *Deep Listening*.

31   Feld and Brenneis, "Doing Anthropology in Sound," 482.

32   Feld, "Aesthetics as Iconicity of Style (uptown title) or (downtown title) 'Lift-Up-Over-Sounding': Getting into the Kaluli Groove"; Helmreich, "An Anthropologist Underwater: Immersive Soundscapes, Submarine Cyborgs and Transductive Ethnography."

33   Sterne, *MP3: The Meaning of a Format*.

34   Mills, "Deaf Jam: From Inscription to Reproduction to Information."

35   Wurtzler, *Electric Sounds: Technological Change and the Rise of Corporate Mass Media*; Gouk, *Music, Science, and Natural Magic in Seventeenth-Century England*; Schmidt, *Hearing Things: Religion, Illusion and the American Enlightenment*; Collins, *Game Sound: An Introduction to the History, Theory and Practice of Video Game Music and Sound Design*; Bijsterveld, "Acoustic Cocooning: How the Car became a Place to Unwind."

36   Crawford, "Following You," 526–27.

37   Sterne, *The Audible Past: Cultural Origins of Sound Reproduction*, 15.

38   Schmidt, *Hearing Things: Religion, Illusion and the American Enlightenment*, 7.

39   Friedner and Helmreich, "When Deaf Studies meets Sound Studies."

40   Merton, *The Sociology of Science: Theoretical and Empirical Investigations*, 371.

41   This is only a partial list but it gives a sense of the range of work already out there: Abel and Altman, *The Sounds of Early Cinema*; Altman, *Sound Theory / Sound Practice*; Augaitis and Lander, *Radio Rethink: Art, Sound and Transmission*; Ayers, *Cybersounds: Essays on Virtual Music Cultures*; Braun, *Music and Technology in the Twentieth Century*; Bull and Back, *The Auditory Culture Reader*; Cox and Warner, *Audio Culture: Readings in Modern Music*; Drobnick, *Aural Cultures*; Erlmann, *Hearing Cultures: Essays on Sound, Listening and Modernity*; Gopinath and Stanyek, *The Oxford Handbook of Mobile Music*; Greene and Porcello, *Wired for Sound: Engineering and Technologies in Sonic Cultures*; Hilmes and Loviglio, *The Radio Reader: Essays in the Cultural History of Radio*; Kahn and Whitehead, *Wireless Imaginations: Sound, Radio and the Avant-Garde*; Kelly, *Sound*; LaBelle and Roden, *Site of Sound: Of Architecture and the Ear*; Morris, *Sound States: Innovative Poetics and Acoustic Technologies*; Pereira de Sá, *Rumos da Cultura da Música: Negócios, Estéticas, Linguagens e Audibilidades*; Pinch and Bijsterveld, *The Oxford Handbook of Sound Studies*; Rodgers, *Pink Noises: Women on Electronic Music and Sound*; Smith, *Hearing History: A Reader*; Squier, *Communities of the Air: Radio Century, Radio Culture*; Strauss, *Radiotext(e)*.

References

Abel, Richard, and Rick Altman, eds. *The Sounds of Early Cinema*. Bloomington: Indiana University Press, 2001.

Altman, Rick. *Sound Theory/Sound Practice*. New York: Routledge, 1992.

Attali, Jacques. *Noise: The Political Economy of Music*. Minneapolis: University of Minnesota Press, 1985.

Augaitis, Daina, and Dan Lander. *Radio Rethink: Art, Sound and Transmission*. Banff: The Walter Philips Gallery, 1994.

Ayers, Mike. *Cybersounds: Essays on Virtual Music Cultures*. New York: Peter Lang, 2006.

Balsamo, Anne. *Designing Culture: The Technological Imagination at Work*. Durham [N.C.]: Duke University Press, 2011.

Berland, Jody. "Cultural Technologies and the 'Evolution' of Technological Cultures." In *The World Wide Web and Contemporary Cultural Theory*, 235–58. New York: Routledge, 2000.

Bijsterveld, Karin. "Acoustic Cocooning: How the Car became a Place to Unwind." *The Senses and Society* 5, no. 2 (2010): 189–211.

Du Bois, W. E. B., Henry Louis Gates, and Terri Hume Oliver. *The Souls of Black Folk: Authoritative Text, Contexts, Criticism*. New York: W. W. Norton, 1999.

Bourdieu, Pierre, Jean-Claude Chamboredon, and Jean-Claude Passeron. *The Craft of Sociology: Epistemological Preliminaries*. New York: Walter de Gruyter, 1991.

Braun, Hans-Joachim. *Music and Technology in the Twentieth Century*. Baltimore: The Johns Hopkins University Press, 2000.

Bull, Michael, and Les Back. "Introduction: Into Sound." In *The Auditory Culture Reader*, 1–18. New York: Berg, 2003.

——. *The Auditory Culture Reader*. New York: Berg, 2003.

Carpenter, Edmund, and Marshall McLuhan. *Explorations in Communication: An Anthology*. Boston: Beacon Press, 1960.

Chow, Rey, and James Steintrager. "In Pursuit of the Object of Sound: An Introduction." *Differences* 22, no. 2–3 (2011).

Cockayne, Emily. *Hubbub: Filth, Noise and Stench in England, 1600–1770*. New Haven: Yale University Press, 2007.

Collins, Karen. *Game Sound: An Introduction to the History, Theory and Practice of Video Game Music and Sound Design*. Cambridge: MIT Press, 2008.

Cox, Christoph, and Daniel Warner. *Audio Culture: Readings in Modern Music*. New York: Continuum, 2004.

Crawford, Kate. "Following You: Disciplines of Listening in Social Media." *Continuum* 23 (August 2009): 525–35.

Deleuze, Gilles, and Felix Guattari. *What is Philosophy?* New York: Columbia University Press, 1994.

Drobnick, Jim. *Aural Cultures*. Toronto: YYZ Books, 2004.

Dyson, Frances. *Sounding New Media: Immersion and Embodiment in the Arts and Culture*. Berkeley: University of California Press, 2009.

Eliot, Thomas Stearns. *The Use of Poetry and the Use of Criticism: Studies in the Relation of Criticism to Poetry in England*. Cambridge: Harvard University Press, 1986.

Erlmann, Veit. *Hearing Cultures: Essays on Sound, Listening and Modernity*. New York: Berg, 2004.

——. *Reason and Resonance: A History of Modern Aurality*. Cambridge: Zone Books, 2010.

Feld, Steven. "Aesthetics as Iconicity of Style (uptown title) or (downtown title) 'Lift-Up-Over-Sounding': Getting into the Kaluli Groove." In *Music Grooves*. Chicago: University of Chicago Press, 1996.

Feld, Steven, and Donald Brenneis. "Doing Anthropology in Sound." *American Ethnologist* 31, no. 4 (November 1, 2004): 461–74.

Foucault, Michel. "Questions of Method." In *The Foucault Effect: Studies in Governmentality*, 73–86. Chicago: University of Chicago Press, 1991.

Freud, Sigmund, and Peter Gay. *Civilization and Its Discontents*. The Standard Edition. W. W. Norton & Company, 1989.

Friedner, Michele, and Stefan Helmreich. "When Deaf Studies meets Sound Studies." *Senses and Society* 7, no. 1 (forthcoming 2012).

Frow, John, and Meaghan Morris. *Australian Cultural Studies: A Reader*. Urbana: University of Illinois Press, 1993.

Gitlin, Todd. "The Anti-political Populism of Cultural Studies." *Dissent* 44, no. 1 (Spring 1997): 77–82.

Gopinath, Sumanth. "Ringtones, or the Auditory Logic of Globalization." *First Monday* 10, no. 12 (2005). http://firstmonday.org/htbin/cgiwrap/bin/ojs/index.php/fm/article/view/1295/1215.

Gopinath, Sumanth, and Jason Stanyek, eds. *The Oxford Handbook of Mobile Music*. New York: Oxford University Press, Forthcoming.

Gouk, Penelope. *Music, Science, and Natural Magic in Seventeenth-Century England*. New Haven: Yale University Press, 1999.

Gramsci, Antonio. *Selections from the Prison Notebooks*. Translated by Quentin Hoare, and Geoffrey Nowell Smith. London: Lawrence and Wishart, 1971.

Greene, Paul D., and Thomas Porcello. *Wired for Sound: Engineering and Technologies in Sonic Cultures*. Middletown: Wesleyan University Press, 2005.

Grossberg, Lawrence. *Cultural Studies in the Future Tense*. Durham: Duke University Press, 2010.

Hall, Stuart, David Morley, and Kuan-Hsing Chen. *Stuart Hall: Critical Dialogues in Cultural Studies*. Routledge, 1996.

Heidegger, Martin. *Being and Time: A Translation of Sein and Zeit*. New York: State University of New York Press, 1996.

Helmreich, Stefan. "An Anthropologist Underwater: Immersive Soundscapes, Submarine Cyborgs and Transductive Ethnography." *American Ethnologist* 34, no. 4 (2007): 621–41.

Hilmes, Michelle. "Is There a Field Called Sound Culture Studies? And Does It Matter?" *American Quarterly* 57, no. 1 (2005): 249–59.

Hilmes, Michelle, and Jason Loviglio. *The Radio Reader: Essays in the Cultural History of Radio*. New York: Routledge, 2001.

Ihde, Don. *Listening and Voice: A Phenomenology of Sound*. Athens: Ohio University Press, 1974.

Jackson, Myles. *Harmonious Triads: Physicists, Musicians and Instrument-Makers in Nineteenth-Century Germany*. Cambridge: MIT Press, 2006.

Kahn, Douglas. *Noise, Water, Meat: A History of Sound in the Arts*. Cambridge: MIT Press, 1999.

Kahn, Douglas, and Gregory Whitehead. *Wireless Imaginations: Sound, Radio and the Avant-Garde*. Cambridge: MIT Press, 1992.

Kara Keeling, and Josh Kun. "Introduction: Listening to American Studies." *American Quarterly* 63, no. 3 (2011): 445–59.

Kelly, Caleb. *Sound*. 1st ed. Cambridge: MIT Press, 2011.

LaBelle, Brandon, and Steve Roden. *Site of Sound: Of Architecture and the Ear*. Los Angeles: Errant Bodies, 2000.

McCartney, Andra. "Gender, Genre and Electroacoustic Soundmaking Practices." *Intersections: Canadian Journal of Music* 26, no. 2 (2006): 20–48, 130.

Merton, Robert K. *The Sociology of Science: Theoretical and Empirical Investigations*. Chicago: University of Chicago Press, 1973.

Mills, C. Wright. *The Sociological Imagination*. New York: Oxford University Press, 1959.

Mills, Mara. "Deaf Jam: From Inscription to Reproduction to Information." *Social Text* 28, no. 1 (2010): 35–58.

Morris, Adalaide. *Sound States: Innovative Poetics and Acoustic Technologies*. Chapel Hill: University of North Carolina Press, 1997.

Oliveros, Pauline. *Deep Listening: A Composer's Sound Practice*. iUniverse, 2005.

Ong, Walter J. *The Presence of the Word: Some Prolegomena for Cultural and Religious History*. New Haven: Yale University Press, 1967.

Pereira de Sá, Simone. *Rumos da Cultura da Música: Negócios, Estéticas, Linguagens e Audibilidades*. Porto Allegre: Editoria Meridional Ltda., 2010.

Pinch, Trevor, and Karin Bijsterveld. "New Keys to the World of Sound." In *The Oxford Handbook of Sound Studies*. New York: Oxford University Press, 2011.

—. "Sound Studies: New Technologies and Music." *Social Studies of Science* 34, no. 5 (2004): 635–48.

—. eds. *The Oxford Handbook of Sound Studies*. New York: Oxford University Press, 2011.

Plato. "Republic." In *The Collected Dialogues of Plato*, 575–844. Princeton: Princeton University Press, 1961.

Rodgers, Tara. *Pink Noises: Women on Electronic Music and Sound*. Durham: Duke University Press, 2010.

Rodman, Gilbert B. "Subject to Debate: (Mis)Reading Cultural Studies." *Journal of Communication Inquiry* 21, no. 2 (October 1, 1997): 56–69.

Schedel, Margaret, and Andrew V. Uroskie. "Writing about Audiovisual Culture." *Journal of Visual Culture* 10, no. 2 (2011): 137–44.

Schmidt, Leigh Eric. *Hearing Things: Religion, Illusion and the American Enlightenment*. Cambridge: Harvard University Press, 2000.

Silverman, Kaja. *The Acoustic Mirror: The Female Voice in Psychoanalysis and Cinema*. Bloomington: Indiana University Press, 1988.

Smith, Mark M. *Hearing History: A Reader*. Athens: University of Georgia Press, 2004.

Squier, Susan Merrill. *Communities of the Air: Radio Century, Radio Culture*. Durham: Duke University Press, 2003.

Stadler, Gustavus. "Introduction: Breaking Sound Barriers." *Social Text*, no. 102 (Spring 2010). http://www.socialtextjournal.org/journal/issue102/introduction-breaking-sound-barriers.php.

Sterne, Jonathan. *MP3: The Meaning of a Format*. Durham: Duke University Press, 2012.

—. *The Audible Past: Cultural Origins of Sound Reproduction*. Durham: Duke University Press, 2003.

Strauss, Neil. *Radiotext(e)*. New York: Semiotext(e), 1993.

Théberge, Paul. *Any Sound You Can Imagine: Making Music/Consuming Technology*. Hanover: Wesleyan University Press, 1997.

Truax, Barry. *Acoustic Communication*. Norwood: Ablex, 1984.

Wurtzler, Steve J. *Electric Sounds: Technological Change and the Rise of Corporate Mass Media*. New York: Columbia University Press, 2007.

PART I

Hearing, Listening, Deafness

Hearing and listening surface as problems in almost every discipline, and they are where we begin our reader, for any discussion of sound implies both audition and its limits. Writers in this section address issues of audition from diverse perspectives ranging from philosophy to cultural studies, aesthetics, anthropology, science and technology studies, and media studies.

While "the gaze," as an act of seeing, is a central trope in studies of visual culture, there is no central auditory trope equivalent to "the listen." In its place, there are dozens of figures and figurations of audition, even though all structures of listening, whether interpersonal, institutional or mediatized are also configurations of power. As Jean-Luc Nancy writes, "to be listening will always, then, be to be straining toward or in an approach to the self." But what does that mean for those who do not or cannot listen, or whose listening is shaped by forces beyond themselves? While Michel Foucault's most famous diagram of power was the panopticon, a vision of the prison as a seeing machine, in *The History of Sexuality, Volume 1,* he cites the confessional as an auditory technology of power through which the West produced sexuality. In the confessional, "the agency of domination does not reside in the one who speaks (for it is he who is constrained), but in the one who listens and says nothing; not in the one who knows and answers, but in the one who questions and is not supposed to know." Jacques Attali's essay in this section offers perhaps the most expanded conceptualization of listening, suggesting that it is the ear, not the eye, that offers a path into relations of power. More recent work like that of Mark Smith offers finely-grained analysis of power relations as they are heard, documenting how 19th-century U.S. elites heard themselves, each other, and their others, whether industrial workers or slaves.[1] Listening can be an act, a field of action, or a metaphor through which we can better understand social activity. Kate Crawford's essay in this section explores listening as a metaphor for social media practice, which helps her better characterize its nature as both ambiance and surveillance.

The line between hearing/hard-of-hearing/Deaf is perhaps the limit case of a sonic culture registering power relations on the bodies of its members. Neither celebration of nor critique of hearing must become too absolute. For either position risks fetishizing Deafness, or using it as what David Mitchell and Sharon Snyder call a "narrative prosthesis," where the stigmatized, pathologized figure of a person with a disability is used to advance a narrative, usually as a metaphor for something else. Too often we find that tendency in sound theory. In *The Third Ear*, Joachim-Ernst Berendt approvingly cites Aristotle's claim that "the blind are more understanding than the deaf because hearing exerts a direct influence on the formation of moral character, which is not immediately true of what is seen. The human soul can also become diffused by way of the eye whereas what is heard results in focus and concentration." He does this not in an effort to understand the social stigmas applied to the Deaf and hard-of-hearing, but rather to use those stigmas to advance his own argument about the importance of hearing. This kind of audism, the chauvinism of the hearing, would not be taken seriously today in scholarship if authors used people of a particular gender, race, sexuality or age in that fashion.[2]

In fact, the Deaf and hard-of-hearing are everywhere in sound history, both as objects and subjects. Alexander Graham Bell's model of the telephone was built on top of a machine he designed to hear for the Deaf. His lab wound up building a machine that heard for the hearing instead. As Peter Szendy reminds us, Wagner fetishized Beethoven's deafness as having the capacity of total focus to which hearing listeners could only aspire.[3] And as Mara Mills's contribution to this section shows, the Deaf and hard-of-hearing were never very far from research into sound technologies in the 20th century. Steve Goodman's essay, meanwhile, suggests that it is not just a question of the limits of hearing for those who are Deaf or hard-of-hearing, but rather that sonic thought needs to move toward the edges of sound itself—and beyond—to consider sound as a particular moment in a broader ontological and political field of vibration.

To understand the faculty of audition is, then, simultaneously to understand its possibilities and its limits, its status as embedded in real social relations and its power as a figurative and imaginative metaphor for other registers of human action. Each of the readings in this section help move us through different aspects of that ambitious project. Don Ihde's classic phenomenology of sound offers a philosophically informed account of what it means to hear and how auditory experience might have a certain specificity. Jody Berland's essay adds the crucial dimension of positionality to our understandings of what it means to hear, considering both the social position of the listener, and her place in a sonic and mediatic culture. Michel Chion further stratifies listening by thinking through it in terms of modes—not all listening is the same, and any aesthetic theory of listening will have to account for the plurality of the process (indeed, Chion represents in this collection a long line of thinkers who have developed typologies of listening).[4] Charles Hirschkind expands this modal approach to listening by thinking in terms of Islamic cultures, rather than the West, and in so doing offers a powerful alternative description of what it means to listen in modernity.

Notes

1   Nancy, *Listening*, 9; Foucault, *The History of Sexuality, Volume 1: An Introduction*, 62; Smith, *Listening to Nineteenth-Century America*; see also Levin, *The Listening Self: Personal Growth, Social Change and the Closure of Metaphysics*; Schwartz, *Listening Subjects: Music, Psychoanalysis, Culture*; Corbett, *Extended Play: Sounding Off from John Cage to Dr. Funkenstein*.
2   Mitchell and Snyder, *Narrative Prosthesis*; Berendt, *The Third Ear*, 12.
3   Szendy, *Listen: A History of Our Ears*, 120.
4   See, e.g., Adorno, *Introduction to the Sociology of Music*; Stockfelt, "Adequate Modes of Listening."

References

Adorno, Theodor W. *Introduction to the Sociology of Music*. New York: Continuum, 1988.

Berendt, Joachim-Ernst. *The Third Ear: On Listening to the World*. New York: H. Holt, 1992.

Corbett, John. *Extended Play: Sounding Off from John Cage to Dr. Funkenstein*. Durham: Duke University Press, 1994.

Foucault, Michel. *The History of Sexuality, Volume 1: An Introduction*. New York: Vintage Books, 1978.

Levin, David Michael. *The Listening Self: Personal Growth, Social Change and the Closure of Metaphysics*. New York: Routledge, 1989.

Mitchell, David T., and Sharon L. Snyder. *Narrative Prosthesis: Disability and the Dependencies of Discourse*. Minneapolis: University of Michigan Press, 2000.

Nancy, Jean-Luc. *Listening*. New York: Fordham University Press, 2007.

Schwartz, David. *Listening Subjects: Music, Psychoanalysis, Culture*. Durham: Duke University Press, 1997.

Smith, Mark M. *Listening to Nineteenth-Century America*. Chapel Hill: University of North Carolina Press, 2001.

Stockfelt, Ola. "Adequate Modes of Listening." In *Keeping Score: Music, Disciplinarity, Culture*, 129–46. Charlottesville: University of Virginia Press, 1997.

Szendy, Peter. *Listen: A History of Our Ears*. New York: Fordham University Press, 2008.

Don Ihde

THE AUDITORY DIMENSION

WHAT IS IT TO LISTEN *phenomenologically*? It is more than an intense and concentrated attention to sound and listening, it is also to be aware in the process of the pervasiveness of certain "beliefs" which intrude into my attempt to listen "to the things themselves." Thus the first listenings inevitably are not yet fully existentialized but occur in the midst of preliminary approximations.

Listening begins with the ordinary, by proximately working its way into what is as yet unheard. In the process the gradual deconstruction of those beliefs which must be surpassed occurs. We suppose that there are significant contrasts between sight and sound; thus in the very midst of the implicit sensory atomism held in common belief we approximate abstractly what the differences might be between the dimensions of sight and of sound.[1] We "pair" these two dimensions comparatively. First we engage in a hypothetical and abstract mapping which could occur for ordinary experience with its inherent beliefs.

Supposing now two "distinct" dimensions within experience which are to be "paired," I attend to what is seen and heard to learn in what way these dimensions differ and compare, in what ways they diverge in their respective "shapes," and in what ways they "overlap."

I turn back, this time imaginatively, to my visual and auditory experience and practice a kind of free association upon approximate visual and auditory possibilities, possibilities not yet intensely examined, which float in a kind of playful revery.

Before me lies a box of paper clips. I fix them in the center of my vision. Their shape, shininess, and immobility are clear and distinct. But as soon as I pair their appearance with the question of an auditory aspect I note that they are also *mute*. I speculatively reflect upon the history of philosophy with recollections of pages and pages devoted to the discussion of "material objects" with their various qualities and upon the "world" of tables, desks, and chairs which inhabit so many philosophers' attentions: *the realm of mute objects*. Are these then the implicit standard of a visualist metaphysics? For in relation to stable, mute objects present to the center of clear and

distinct vision, the role of *predication* seems easy and most evident. The qualities adhere easily to these material objects.

A fly suddenly lands upon the wall next to the desk where the paper clips lie and begins to crawl up that wall. My attention is distracted and I swat at him. He quickly, almost too quickly for the eye, escapes and flies to I know not where. Here is a moving, active being upon the face of the visual "world." With the moving, active appearance of the fly a second level or grouping of objects displays itself. This being which is seen is active and is characterized by motion. Movement belongs to the verb. *He walks, he flies, he escapes.* These are not quite correctly properties but activities. Who are the "metaphysicians" of the fly? I recall speculatively those traditions of "process" and movement which would question the dominance of the stable, mute object, and which see in motion a picture of the world. The verb is affirmed over the predicate.

But the metaphysicians of muteness may reply by first noting that the moving being appears against the background of the immobile, that the fly is an appearance which is discontinuous, that motion is an occasional "addition" to the stratum of the immobile. The fly's flight is etched against stability, and the arrow of Zeno, if it may speed its way at all, must do so against the ultimate foundation of the stable background. Even motion may be "reduced" to predication as time is atomized.

But what of sound? The mute object stands "beyond" the horizon of sound. Silence is the horizon of sound, yet the mute object is silently *present.* Silence seems revealed at first through a visual category. But with the fly and the introduction of motion there is the presentation of a buzzing, and Zeno's arrow whizzes in spite of the paradox. Of both animate and inanimate beings, motion and sound, when paired, belong together. "Visualistically" sound "overlaps" with moving beings.

With sound a certain liveliness also makes its richer appearance. I walk into the Cathedral of Notre Dame in Paris for the first time. Its emptiness and high arching dark interior are awesome, but it bespeaks a certain monumentality. It is a ghostly reminder of a civilization long past, its muted walls echoing only the shuffle of countless tourist feet. Later I return, and a high mass is being sung: suddenly the mute walls echo and reecho and the singing fills the cathedral. Its soul has momentarily returned, and the mute testimony of the past has once again returned to live in the moment of the ritual. Here the paired "regions" of sight and sound "synthesize" in dramatic richness.

But with the "overlapping" of sight and sound there remains the "excess" of sight over sound in the realm of the mute object. Is there a comparable area where listening "exceeds" seeing, an area beyond the "overlapping" just noted where sight may not enter, and which, like silence to sound, offers a clue to the horizon of vision?

I walk along a dark country path, barely able to make out the vague outlines of the way. Groping now, I am keenly aware of every sound. Suddenly I hear the screech of an owl, seemingly amplified by the darkness, and for a moment a shock traverses my body. But I cannot see the bird as it stalks its nocturnal prey. I become more aware of sound in the dark, and it makes its presence more dramatic when I cannot see.

But night is not the horizon of sight, nor Dionysius the limit of Apollo. I stand alone on a hilltop in the light of day, surveying the landscape below in a windstorm. I hear its howling and feel its chill, but I cannot see its contorted writhing though it surrounds me with its invisible presence. No matter now hard I look, I cannot see the

Fig. 2.1

wind, *the invisible is the horizon of sight*. An inquiry into the auditory is also an inquiry into the invisible. Listening makes the invisible *present* in a way similar to the presence of the mute in vision.

What metaphysics belong to listening, to the invisible? Is it also that of Heraclitus, the first to raise a preference for vision, but who also says, "Listening not to me but to the Logos, it is wise to acknowledge that all things are one."[2] Is such a philosophy possible beyond the realm of mute objects? Or can such a philosophy find a way to give voice even to muteness? The invisibility of the wind is indicative. What is the wind? It belongs, with motion, to the realm of verb. The wind is "seen" in its *effects,* less than a verb, its visible being is what it has done in passing by.

Is anything revealed through such a playful association? At a first approximation it seems that it is possible to map two "regions" which do not coincide, but which in comparison may be discerned to have differing boundaries and horizons.

In the "region" of sight there is a visual field which may be characterized now as "surrounded" by its open horizon which limits vision, and which remains "unseen." Such a field can be diagrammed [see Figure 2.1].

Here, where the enclosed circle is the present visual field, within this presence there will be a vast totality of entities which can be experienced. And although these entities display themselves with great complexity, within the abstraction of the approximation we note only that some are stable (x) and usually mute in ordinary experience, and that some (—y—) move, often "accompanied" by sounds. Beyond the actually seen field of presence lies a horizon designated now as a horizon of invisibility.

A similar diagram can be offered for a "region" of sound presences [see Figure 2.2].

Although once we move beyond this approximation, the "shape" of the auditory field will need to be qualified. Within the limits of the first approximation we note that the auditory field contains a series of auditory presences which do not, however,

Fig. 2.2

perfectly overlap those of the visual field. There are sounds which "accompany" moving objects or beings (—y—), but there are some for which no visible presence may be found (—z—). Insofar as all sounds are also "events," all the sounds are, within the first approximation, likely to be considered as "moving." Again, there is also a horizon, characterized by the pairing as a horizon of silence which "surrounds" the field of auditory presence.

It is also possible to relate, within the first approximation, the two "regions" and discern that there are some overlapping and some nonoverlapping features of each "region." Such a "difference" may be diagrammed [see Figure 2.3].

In this diagram of the overlapping and nonoverlapping "regions" of sight and sound we note that what may be taken as horizonal (or absent) for one "region" is taken as a presence for the other.
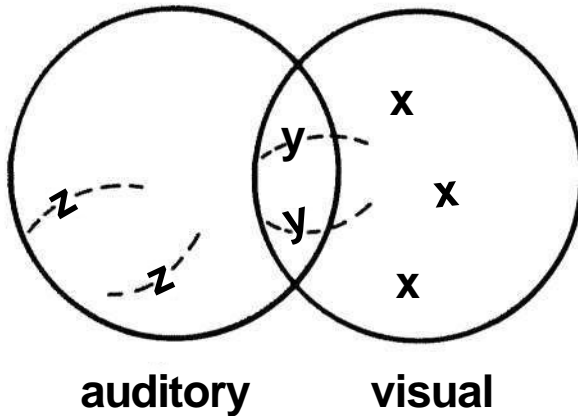
Fig. 2.3

Thus while the area of mute objects (x) seems to be closed to the auditory experience as these objects lie in silence, so within auditory experience the invisible sounds (—z—) are present to the ear but absent to the eye. There are also some presences which are "synthesized" (—y—) or present to both "senses" or "regions."

This pairing when returned to the revery concerning the associated "metaphysics" of the "senses" once more reveals a way in which the traditions of dominant visualism show themselves. If we suppose that any metaphysics of worth must be one which is at least comprehensive, then a total visualist metaphysics must find a way to account for and to include in its description of the world all those invisible events which at this level seem to lie beyond the reach of the visible horizon, but which are nevertheless present within experience.

This may be done in several ways. First, one can create some hermeneutic device which, continuing the approximation of the "regions," *functionally* makes the invisible visible. This implies some "translation" of one "region" into the terms of the favored "region." Such is one secret of the applied metaphysics often found in the sciences of sound. Physically, sound is considered a wave phenomenon. Its wave characteristics are then "translated" into various visual forms through instruments, which are the extended embodiments of the scientific enterprise. Voice patterns are "translated" into visual patterns on oscillographs; sound reverberations are mapped with Moire patterns; even echo-location in its practical applications is made a matter of seeing what is on the radar screen; the making or "translating" of the invisible into the visible is a standard route for understanding a physics of sound.

In the case of the sciences of sound this translation allows sound to be measured, and measurement is predominantly a matter of spatializing qualities into visible quantities. But in ordinary experience there is often thought to be a similar role for sound. Sounds are frequently thought of as anticipatory clues for ultimate visual fulfillments. The most ordinary of such occurrences are noted in locating unseen entities.

The bird watcher in the woods often first hears his bird, then he seeks it and fixes it in the sight of his binoculars. The person hanging a picture knows where to look for the dropped tack from the sound it made as it rolled under the piano. And although not all noises yield a visual presence for example the extreme case of radio astronomy may yield the presence of an unsuspected "dark" star which may never be seen—the familiar movement from sound to sight may be discerned.

The movement from that which is heard (and unseen) to that which is seen raises the question of its counterpart. Does each event of the visible world offer the occasion, even ultimately from a sounding presence of mute objects, for silence to have a voice? Do all things, when *fully* experienced, also sound forth?

In ordinary experience this direction is also taken. The bird watcher may be an appreciative bird listener. He awaits quietly in the hopes that the winter wren will sing his long and complicated "Mozart" song. But only in more recent times has this countermovement become conspicuous. The amplified listening which now reveals the noise of lowly ant societies gives voice to the previously silent. Physically even molecules sound, and the human ear comes to a threshold of hearing almost to the point of hearing what would be incessant noise.

Notes

1   A phenomenological warning must be issued here. There is a strict difference between empty supposing and what is intuitionally fulfilled. Thus the exercise at this point is not strictly phenomenological but proceeds toward strict phenomenology by approximations.
2   Philip Wheelwright. *The Presocratics* (New York: Odyssey Press. 1966), p 79.

Jacques Attali

NOISE: THE POLITICAL ECONOMY OF MUSIC

FOR TWENTY-FIVE CENTURIES, Western knowledge has tried to look upon the world. It has failed to understand that the world is not for the beholding. It is for hearing. It is not legible, but audible.

Our science has always desired to monitor, measure, abstract, and castrate meaning, forgetting that life is full of noise and that death alone is silent: work noise, noise of man, and noise of beast. Noise bought, sold, or prohibited. Nothing essential happens in the absence of noise.

Today, our sight has dimmed; it no longer sees our future, having constructed a present made of abstraction, nonsense, and silence. Now we must learn to judge a society more by its sounds, by its art, and by its festivals, than by its statistics. By listening to noise, we can better understand where the folly of men and their calculations is leading us, and what hopes it is still possible to have.

In these opening pages, I would like to summarize the essential themes of this book [see original publication]. The supporting argument will follow.

Among sounds, music as an autonomous production is a recent invention. Even as late as the eighteenth century, it was effectively submerged within a larger totality. Ambiguous and fragile, ostensibly secondary and of minor importance, it has invaded our world and daily life. Today, it is unavoidable, as if, in a world now devoid of meaning, a background noise were increasingly necessary to give people a sense of security. And today, wherever there is music, there is money. Looking only at the numbers, in certain countries more money is spent on music than on reading, drinking, or keeping clean. Music, an immaterial pleasure turned commodity, now heralds a society of the sign, of the immaterial up for sale, of the social relation unified in money.

It heralds, for it is *prophetic*. It has always been in its essence a herald of times to come. Thus, as we shall see, if it is true that *the political organization of the twentieth century is rooted in the political thought of the nineteenth, the latter is almost entirely present in embryonic form in the music of the eighteenth century.*

In the last twenty years, music has undergone yet another transformation. This mutation forecasts a change in social relations. Already, material production has been supplanted by the exchange of signs. Show business, the star system, and the hit parade signal a profound institutional and cultural colonization. Music makes mutations audible. It obliges us to invent categories and new dynamics to regenerate social theory, which today has become crystallized, entrapped, moribund.

Music, as a mirror of society calls this truism to our attention: society is much more than economistic categories, Marxist or otherwise, would have us believe.

Music is more than an object of study: it is a way of perceiving the world. A tool of understanding. Today, no theorizing accomplished through language or mathematics can suffice any longer; it is incapable of accounting for what is essential in time—the qualitative and the fluid, threats and violence. In the face of the growing ambiguity of the signs being used and exchanged, the most well-established concepts are crumbling and every theory is wavering. The available representations of the economy, trapped within frameworks erected in the seventeenth century or, at latest, toward 1850, can neither predict, describe, nor even express what awaits us.

It is thus necessary to imagine radically new theoretical forms, in order to speak to new realities. Music, the organization of noise, is one such form. It reflects the manufacture of society; it constitutes the audible waveband of the vibrations and signs that make up society. *An instrument of understanding, it prompts us to decipher a sound form of knowledge.*

My intention here is thus not only to theorize *about* music, but to theorize *through* music. The result will be unusual and unacceptable conclusions about music and society, the past and the future. That is perhaps why music is so rarely listened to and why—as with every facet of social life for which the rules are breaking down (sexuality, the family, politics)—it is censored, people refuse to draw conclusions from it.

In the chapters that follow [see original publication], music will be presented as originating in ritual murder, of which it is a simulacrum, a minor form of sacrifice heralding change. We will see that in that capacity it was an attribute of religious and political power, that it signified order, but also that it prefigured subversion. Then, after entering into commodity exchange, it participated in the growth and creation of capital and the spectacle. Fetishized as a commodity, music is illustrative of the evolution of our entire society: deritualize a social form, repress an activity of the body, specialize its practice, sell it as a spectacle, generalize its consumption, then see to it that it is stockpiled until it loses its meaning. Today, music heralds—regardless of what the property mode of capital will be—the establishment of a society of repetition in which nothing will happen anymore. But at the same time, it heralds the emergence of a formidable subversion, one leading to a radically new organization never yet theorized, of which self-management is but a distant echo.

In this respect, music is not innocent: unquantifiable and unproductive, a pure sign that is now *for sale,* it provides a rough sketch of the society under construction, a society in which the informal is mass produced and consumed, in which difference is artificially recreated in the multiplication of semi-identical objects.

No organized society can exist without structuring differences at its core. No market economy can develop without erasing those differences in mass production. The self-destruction of capitalism lies in this contradiction, in the fact that music leads a deafening life: an

instrument of differentiation, it has become a locus of repetition. It itself becomes undifferentiated, goes anonymous in the commodity, and hides behind the mask of stardom. It makes audible what is essential in the contradictions of the developed societies: *an anxiety-ridden quest for lost difference, following a logic from which difference is banished.*

Art bears the mark of its time. Does that mean that it is a clear image? A strategy for understanding? An instrument of struggle? In the codes that structure noise and its mutations we glimpse a new theoretical practice and reading: *establishing relations between the history of people and the dynamics of the economy on the one hand, and the history of the ordering of noise in codes on the other; predicting the evolution of one by the forms of the other; combining economics and aesthetics; demonstrating that music is prophetic and that social organization echoes it.*

This book [see original publication] is not an attempt at a multidisciplinary study, but rather *a call to theoretical indiscipline,* with an ear to sound matter as the herald of society. The risk of wandering off into poetics may appear great, since music has an essential metaphorical dimension: "For a genuine poet, metaphor is not a rhetorical figure but a vicarious image that he actually beholds in place of a concept."[1]

Yet music is a credible metaphor of the real. It is neither an autonomous activity nor an automatic indicator of the economic infrastructure. It is a herald, for change is inscribed in noise faster than it transforms society. Undoubtedly, music is a play of mirrors in which every activity is reflected, defined, recorded, and distorted. If we look at one mirror, we see only an image of another. But at times a complex mirror game yields a vision that is rich, because unexpected and prophetic. At times it yields nothing but the swirl of the void.

Mozart and Bach reflect the bourgeoisie's dream of harmony better than and prior to the whole of nineteenth-century political theory. There is in the operas of Cherubini a revolutionary zeal rarely attained in political debate. Janis Joplin, Bob Dylan, and Jimi Hendrix say more about the liberatory dream of the 1960s than any theory of crisis. The standardized products of today's variety shows, hit parades, and show business are pathetic and prophetic caricatures of future forms of the repressive channeling of desire.

The cardinal importance of music in announcing a vision of the world is nothing new. For Marx, music is the "mirror of reality"; for Nietzsche, the "expression of truth";[2] for Freud, a "text to decipher." It is all of that, for it is one of the sites where mutations first arise and where science is secreted: "If you close your eyes, you lose the power of abstraction" (Michel Serres). It is all of that, even if it is only a detour on the way to addressing man about the works of man, to hearing and making audible his alienation, to sensing the unacceptable immensity of his future silence and the wide expanse of his fallowed creativity. Listening to music is listening to all noise, realizing that its appropriation and control is a reflection of power, that it is essentially political.

The Sounds of Power

Noise and Politics

More than colors and forms, it is sounds and their arrangements that fashion societies. With noise is born disorder and its opposite: the world. With music is born power

and its opposite: subversion. In noise can be read the codes of life, the relations among men. Clamor, Melody, Dissonance, Harmony; when it is fashioned by man with specific tools, when it invades man's time, when it becomes sound, noise is the source of purpose and power, of the dream—Music. It is at the heart of the progressive rationalization of aesthetics, and it is a refuge for residual irrationality; it is a means of power and a form of entertainment.

Everywhere codes analyze, mark, restrain, train, repress, and channel the primitive sounds of language, of the body, of tools, of objects, of the relations to self and others.

All music, any organization of sounds is then a tool for the creation or consolidation of a community, of a totality. It is what links a power center to its subjects, and thus, more generally, it is an attribute of power in all of its forms. Therefore, any theory of power today must include a theory of the localization of noise and its endowment with form. Among birds a tool for marking territorial boundaries, noise is inscribed from the start within the panoply of power. Equivalent to the articulation of a space, it indicates the limits of a territory and the way to make oneself heard within it, how to survive by drawing one's sustenance from it.[3] And since noise is the source of power, power has always listened to it with fascination. In an extraordinary and little known text, Leibnitz describes in minute detail the ideal political organization, the "Palace of Marvels," a harmonious machine within which all of the sciences of time and every tool of power are deployed.

> These buildings will be constructed in such a way that the master of the house will be able to hear and see everything that is said and done without himself being perceived, by means of mirrors and pipes, which will be a most important thing for the State, and a kind of political confessional.[4]

Eavesdropping, censorship, recording, and surveillance are weapons of power. The technology of listening in on, ordering, transmitting, and recording noise is at the heart of this apparatus. The symbolism of the Frozen Words,[5] of the Tables of the Law, of recorded noise and eavesdropping—these are the dreams of political scientists and the fantasies of men in power: to listen, to memorize—this is the ability to interpret and control history, to manipulate the culture of a people, to channel its violence and hopes. Who among us is free of the feeling that this process, taken to an extreme, is turning the modern State into a gigantic, monopolizing noise emitter, and at the same time, a generalized eavesdropping device. Eavesdropping on what? In order to silence whom?

The answer, clear and implacable, is given by the theorists of totalitarianism. They have all explained, indistinctly, that it is necessary to ban subversive noise because it betokens demands for cultural autonomy, support for differences or marginality: a concern for maintaining tonalism, the primacy of melody, a distrust of new languages, codes, or instruments, a refusal of the abnormal—these characteristics are common to all regimes of that nature. They are direct translations of the political importance of cultural repression and noise control. For example, in the opinion of Zhdanov (according to a speech he gave in 1947 and never really disclaimed), music, an instrument of political pressure, must be tranquil, reassuring, and calm:

And, indeed, we are faced with a very acute, although outwardly concealed struggle between two trends in Soviet music. One trend represents the healthy, progressive principle in Soviet music, based upon recognition of the tremendous role of the classical heritage, and, in particular, the traditions of the Russian musical school, upon the combination of lofty idea content in music, its truthfulness and realism, with profound, organic ties with the people and their music and songs—all this combined with a high degree of professional mastery. The other trend is that of a formalism alien to Soviet art; it is marked by rejection of the classical heritage under the cover of apparent novelty, by rejection of popular music, by rejection of service to the people, all for the sake of catering to the highly individualistic emotions of a small group of aesthetes. . . . Two extremely important tasks now face Soviet composers. The chief task is to *develop* and perfect Soviet music. The second is to *protect* Soviet music from the infiltration of elements of bourgeois decadence. Let us not forget that the U.S.S.R. is now the guardian of universal musical culture, just as in all other respects it is the *mainstay of human civilization and culture against bourgeois decadence and decomposition of culture*. . . . Therefore, not only the musical, but also the political, ear of Soviet composers must be very keen. . . . Your task is to prove the superiority of Soviet music, *to create great Soviet music.*[6]

All of Zhdanov's remarks are strategic and military: music must be a bulwark against difference; for that, it must be powerful and protected.

We find the same concern, the same strategy and vocabulary, in National Socialist theorists. Stege, for example:

If Negro jazz is banned, if enemies of the people compose intellectual music that is soulless and heartless, and find no audience in Germany, these decisions are not arbitrary. . . . What would have happened if the aesthetic evolution of German music had followed the course it was taking in the postwar period? The people would have lost all contact with art. It would have been spiritually uprooted, all the more so since it would find little satisfaction in degenerate and intellectual music that is better suited to being read than heard. The gulf between the people and art would have become an unbridgeable abyss, the theater and concert halls would have gone empty, the composers working counter to the soul of the people would have been left with only themselves for an audience, assuming they were still able to understand their own wild fancies.[7]

The economic and political dynamics of the industrialized societies living under parliamentary democracy also lead power to invest art, and to invest in art, without necessarily theorizing its control, as is done under dictatorship. Everywhere we look, the monopolization of the broadcast of messages, the control of noise, and the institutionalization of the silence of others assure the durability of power. Here, this channelization takes on a new, less violent, and more subtle form: laws of the political

economy take the place of censorship laws. Music and the musician essentially become either objects of consumption like everything else, recuperators of subversion, or meaningless noise.

Musical distribution techniques are today contributing to the establishment of a system of eavesdropping and social surveillance. Muzak, the American corporation that sells standardized music, presents itself as the "security system of the 1970s" because it permits use of musical distribution channels for the circulation of orders. The monologue of standardized, stereotyped music accompanies and hems in a daily life in which in reality no one has the right to speak any more. Except those among the exploited who can still use their music to shout their suffering, their dreams of the absolute and freedom. What is called music today is all too often only a disguise for the monologue of power. However, and this is the supreme irony of it all, never before have musicians tried so hard to communicate with their audience, and never before has that communication been so deceiving. Music now seems hardly more than a somewhat clumsy excuse for the self-glorification of musicians and the growth of a new industrial sector. Still, it is an activity that is essential for knowledge and social relations.

Science, Message and Time

"This remarkable absence of texts on music"[8] is tied to the impossibility of a general definition, to a fundamental ambiguity. "The science of the rational use of sounds, that is, those sounds organized as a scale"—that is how the *Littré,* at the end of the nineteenth century, defined music in order to reduce it to its harmonic dimension, to confuse it with a pure syntax. Michel Serres, on the contrary, points to the "extreme simplicity of the signals," "the message at its extreme, a ciphered mode of communicating universals" as a way of reminding us that beyond syntax there is meaning. But which meaning? Music is a "dialectical confrontation with the course of time."[9]

Science, message, and time—music is all of that simultaneously. It is, by its very presence, a mode of communication between man and his environment, a mode of social expression, and duration itself. It is therapeutic, purifying, enveloping, liberating; it is rooted in a comprehensive conception of knowledge about the body, in a pursuit of exorcism through noise and dance. But it is also past time to be produced, heard, and exchanged.

Thus it exhibits the three dimensions of all human works: joy for the creator, use-value for the listener, and exchange-value for the seller. In this seesaw between the various possible forms of human activity, music was, and still is, ubiquitous: "Art is everywhere, for artifice is at the heart of reality."[10]

Mirror

But even more than that, it is "the Dionysian mirror of the world" (Nietzsche).[11] "Person-to-person described in the language of things" (Pierre Schaeffer).

It is a mirror, because as a mode of immaterial production it relates to the structuring of theoretical paradigms, far ahead of concrete production. It is thus an immaterial recording surface for human works, the mark of something missing, a shred of Utopia to decipher, information in negative, a collective *memory* allowing those who hear it to record their own personalized, specified, modeled meanings, affirmed in time with the beat—a collective memory of order and genealogies, the repository of the word and the social score.[12]

But it reflects a fluid reality. The only thing that primitive polyphony, classical counterpoint, tonal harmony, twelve-tone serial music, and electronic music have in common is the principle of giving form to noise in accordance with changing syntactic structures. The history of music is the "Odyssey of a wandering, the adventure of its absences."[13]

However, the historical and musicological tradition would still, even today, like to retain an evolutionary vision of music, according to which it is in turn "primitive," "classical," and "modern." This schema is obsolete in all of the human sciences, in which the search for an evolution structured in a linear fashion is illusory. Of course, one can perceive strong beats, and we will even see later on that every major social rupture has been preceded by an essential mutation in the codes of music, in its mode of audition, and in its economy. For example, in Europe, during three different periods with three different styles (the liturgical music of the tenth century, the polyphonic music of the sixteenth century, and the harmony of the eighteenth and twentieth centuries), music found expression within a single, stable code and had stable modes of economic organization; correlatively, these societies were very clearly dominated by a single ideology. In the intervening periods, times of disorder and disarray prepared the way for what was to follow. Similarly, it seems as though a fourth (and shorter) period was ushered in during the 1950s, with a coherent style forged in the furnace of black American music; it is characterized by stable production based on the tremendous demand generated by the youth of the nations with rapidly expanding economies, and on a new economic organization of distribution made possible by recording.

Like the cattle herd of the Nuer discussed by Girard,[14] a herd that is the mirror and double of the people, music runs parallel to human society, is structured like it, and changes when it does. It does not evolve in a linear fashion, but is caught up in the complexity and circularity of the movements of history.

This simultaneity of economic and musical evolution is everywhere present. We can, for example, toy with the idea that it is not by chance that the half-tone found acceptance during the Renaissance, at precisely the same time the merchant class was expanding; that it is not by coincidence that Russolo wrote his *Arte Dei Rumori* ("The Art of Noise") in 1913; that noise entered music and industry entered painting just before the outbursts and wars of the twentieth century, before the rise of social noise. Or again, that it is not by coincidence that the unrestricted use of large orchestras came at a time of enormous industrial growth; that with the disappearance of taboos there arose a music industry that takes the channelization of desire into commodities to such an extreme as to become a caricature; that rock and soul music emerged with the youth rebellion, only to dissolve in the cooptation of the young by light music programming; or finally, that the cautious and repressive form of musical production condoned today in countries with State-owned property designates "socialism" (if

that is truly what it is) as simply the successor to capitalism, slightly more efficient and systematic in its normalization of men and its frantic quest for sterilized and monotonous perfection.

At a time when values are collapsing and commodities converse in place of people in an impoverished language (which in advertising is becoming increasingly musical), there is glaring evidence that the end of aesthetic codes is at hand. "The musical odyssey has come to a close, the graph is complete."[15]

Can we make the connections? Can we hear the crisis of society in the crisis of music? Can we understand music through its relations with money? Notwithstanding, the political economy of music is unique; only lately commodified, it soars in the immaterial. It is an economy without quantity. An aesthetics of repetition. That is why the political economy of music is not marginal, but premonitory. The noises of a society are in advance of its images and material conflicts.

Our music foretells our future. Let us lend it an ear.

Prophecy

Music is prophecy. Its styles and economic organization are ahead of the rest of society because it explores, much faster than material reality can, the entire range of possibilities in a given code. It makes audible the new world that will gradually become visible, that will impose itself and regulate the order of things; it is not only the image of things, but the transcending of the everyday, the herald of the future. For this reason musicians, even when officially recognized, are dangerous, disturbing, and subversive; for this reason it is impossible to separate their history from that of repression and surveillance.

Musician, priest, and officiant were in fact a single function among ancient peoples. Poet laureate of power, herald of freedom—the musician is at the same time within society, which protects, purchases, and finances him, and outside it, when he threatens it with his visions. Courtier and revolutionary: for those who care to hear the irony beneath the praise, his stage presence conceals a break. When he is reassuring, he alienates; when he is disturbing, he destroys; when he speaks too loudly, power silences him. Unless in doing so he is announcing the new clamor and glory of powers in the making.

A creator, he changes the world's reality. This is sometimes done consciously, as with Wagner, writing in 1848, the same year the *Communist Manifesto* was published:

> I will destroy the existing order of things, which parts this one mankind into hostile nations, into powerful and weak, privileged and outcast, rich and poor; for it makes unhappy men of all. I will destroy the order of things that turns millions into slaves of a few, and these few into slaves of their own might, own riches. I will destroy this order of things, that cuts enjoyment off from labor.[16]

A superb modern rallying cry by a man who, after the barricades of Dresden, would adopt "the attitude of the rebel who betrayed the rebellion" (Adorno). Another example is Berlioz's call to insurrection:

> Music, today in the flush of youth, is emancipated, free: it does as it pleases. Many of the old rules are no longer binding: they were made by inattentive observers or ordinary spirits for other ordinary spirits. New needs of the spirit, the heart, and the sense of hearing are imposing new endeavors and, in some cases, even infractions of the old laws.

Rumblings of revolution. Sounds of competing powers. Clashing noises, of which the musician is the mysterious, strange, and ambiguous forerunner—after having been long emprisoned, a captive of power.

Understanding through Music

If we wish to elaborate a theory of the relations between music and money, we must first look at the existing theories of music. Disappointment. They are a succession of innumerable typologies and are never innocent. From Aristotle's three kinds of music—"ethical" (useful for education), "of action" (which influences even those who do not know how to perform it), and "cathartic" (the aim of which is to perturb and then appease)[17]—to Spengler's distinction between "Apollonian" music (modal, monodic, with an oral tradition) and "Faustian" music (tonal, polyphonic, with a written tradition), all we find are nonfunctional categories. Today, the frenzy with which musical theories, general surveys, encyclopedias, and typologies are elaborated and torn down crystallizes the spectacle of the past. They are nothing more than signs of the anxiety of an age confronted with the disappearance of a world, the dissolution of an aesthetic, and the slipping away of knowledge. They are no more than collections of classifications with no real significance, a final effort to preserve linear order for a material in which time takes on a new dimension, inaccessible to measurement. Roland Barthes is correct when he writes that "if we examine the current practice of music criticism, it is evident that the work (or its performance) is always translated with the poorest of linguistic categories: the adjective."[18]

So which path will lead us through the immense forest of noise with which history presents us? How should we try to understand what the economy has made of music and what economy music foreshadows?

Music is inscribed between noise and silence, in the space of the social codification it reveals. Every code of music is rooted in the ideologies and technologies of its age, and at the same time produces them. If it is deceptive to conceptualize a succession of musical codes corresponding to a succession of economic and political relations, it is because time traverses music and music gives meaning to time.

In this book, I would like to trace the political economy of music as a succession of *orders* (in other words, differences) done violence by *noises* (in other words, the calling into question of differences) that are *prophetic* because they create new orders, unstable and changing. The simultaneity of multiple codes, the variable overlappings between periods, styles, and forms, prohibits any attempt at a genealogy of music, a hierarchical archeology, or a precise ideological pinpointing of particular musicians. But it is possible to discern who among them are innovators and heralds of worlds in the making. For example, Bach alone explored almost the entire range of possibilities

inherent in the tonal system, and more. In so doing, he heralded two centuries of industrial adventure. What must be constructed, then, is more like a map, a structure of interferences and dependencies between society and its music.

In this book, I will attempt to trace the history of their relations with the world of production, exchange, and desire; the slow degradation of use into exchange, of representation into repetition; and the prophecy, announced by today's music, of the potential for a new political and cultural order.

Briefly, we will see that it is possible to distinguish on our map three zones, three stages, three strategic usages of music by power.

In one of these zones, it seems that music is used and produced in the ritual in an attempt to make people *forget* the general violence; in another, it is employed to make people *believe* in the harmony of the world, that there is order in exchange and legitimacy in commercial power; and finally, there is one in which it serves to *silence,* by mass-producing a deafening, syncretic kind of music, and censoring all other human noises.

Make people Forget, make them Believe, Silence them. In all three cases, music is a tool of power: of ritual power when it is a question of making people forget the fear of violence; of representative power when it is a question of making them believe in order and harmony; and of bureaucratic power when it is a question of silencing those who oppose it. Thus music localizes and specifies power, because it marks and regiments the rare noises that cultures, in their normalization of behavior, see fit to authorize. Music accounts for them. It makes them audible.

When power wants to make *people forget,* music is ritual *sacrifice,* the scapegoat; when it wants them to *believe,* music is enactment, *representation;* when it wants to *silence* them, it is reproduced, normalized, *repetition.* Thus it heralds the subversion of both the existing code and the power in the making, well before the latter is in place.

Today, in embryonic form, beyond repetition, lies freedom: more than a new music, a fourth kind of musical practice. It heralds the arrival of new social relations. Music is becoming *composition.*

Representation against fear, repetition against harmony, composition against normality. It is this interplay of concepts that music invites us to enter, in its capacity as the herald of organizations and their overall political strategies—noise that destroys orders to structure a new order. A highly illuminating foundation for social analysis and a resurgence of inquiry about man.

For Fear, Clarity, Power, and Freedom correspond in their succession to the four stages Carlos Castaneda distinguishes in his mysterious description of the initiatory teachings of his master, the sorcerer Don Juan Mateus. This convergence is perhaps more than coincidental, if music is a means of understanding, like the unbalanced relation to ecstasy created by drugs. Is the sorcerer speaking of drugs when he explains that:

> When a man starts to learn, he is never clear about his objectives. His purpose is faulty; his intent is vague. He hopes for rewards that will never materialize, for he knows nothing of the hardships of learning. He slowly begins to learn—bit by bit at first, then in big chunks. And his thoughts soon clash. What he learns is never what he pictured or imagined, and so

he begins to be afraid. Learning is never what one expects. Every step of learning is a new task, and the fear the man is experiencing begins to mount mercilessly, unyieldingly. . . . This is the time when a man has no more fears, no more impatient clarity of mind—a time when all his power is in check. . . . If a man . . . lives his fate through, he can then be called a man of knowledge, if only for the brief moment when he succeeds in fighting off his last, invincible enemy. That moment of clarity, power, and knowledge is enough.[19]

Don Juan's knowledge by peyote is reminiscent of the prophetic knowledge of the shaman, of the ritual function of the pharmakon. And of the interference between stages in the deployment of systems of music.

Music, like drugs, is intuition, a path to knowledge. A path? No—a battlefield.

Notes

1. Friedrich Nietzsche, *The Birth of Tragedy,* trans. Walter Kaufman (New York: Vintage, 1967), p. 63.
2. Nietzsche, *Birth of Tragedy,* p. 61.
3. "Whether we inquire into the origin of the arts or observe the first criers, we find that everything in its principle is related to the means of subsistence." Jean-Jacques Rousseau, *Essai sur l'inéqalité.*
4. Gottfried Wilhelm Leibnitz, "Drôle de pensée touchant une nouvelle sorte de représentation," ed. Yves Belaval, *La Nouvelle Revue Francaise* 70 (1958): 754 reverberations are mapped 68. Quoted in Michel Serres, "Don Juan ou le Palais des Merveilles," *Les Etudes Philosophiques* 3 (1966): 389.
5. [A reference to Rabelais, *Gargantua and Pantagruel,* b. 4, chap. 54. TR.]
6. [Andrei A. Zhdanov, "Music," address to a conference of leading musicians called by the Central Committee of the Communist party, 1947. Published in *Essays on Literature, Philosophy and Music* (New York: International Publishers, 1950), pp. 81, 95–96 (emphasis added). TR.]
7. Fritz Stege, *La situation actuelle de la musique allemande* (1938).
8. Michel Serres, *Esthétique sur Carpaccio* (Paris: Hermann, 1975).
9. Ibid.
10. Jean Baudrillard, *L'échange symbolique et la mort* (Paris: Gallimard, 1976), p. 116.
11. Nietzsche, *Birth of Tragedy,* p. 119.
12. See Dominique Zahan, *La dialectique du verbe chez les "Bambaras"* (Paris: Mouton, 1963).
13. Serres, *Esthétique.*
14. René Girard, *Violence and the Sacred,* trans. Patrick Gregory (Baltimore: Johns Hopkins University Press, 1977).
15. Serres, *Esthétique.*
16. Richard Wagner, "The Revolution," in *Prose Works,* trans. William Ashton Ellis, vol. 8 (New York: Broude Bros., 1966), p. 237.
17. [Aristotle, *Politics,* 1339a-1342b. TR.]
18. Roland Barthes, "Le grain de la voix," *Musique en Jeu* 9 (Nov. 1972): 51–63.
19. Carlos Castaneda, *The Teachings of Don Juan* (Berkeley and Los Angeles: University of California Press, 1971), pp. 57 and 60.

Jody Berland

CONTRADICTING MEDIA: TOWARD A POLITICAL PHENOMENOLOGY OF LISTENING

THE NUMBER OF HUMAN HOURS, days, weeks spent listening to the radio is phenomenal. The number of radios purchased, possessed, listened to in Canada is phenomenal. It wouldn't be Canada without radio. Despite noises made with the introduction of TV, radio did not disappear between 1950 and 1960 (though of course it changed). If anything its constant presence became more constant, since the transistor (and freeways) appeared at about the same time. Radio hasn't gone away. What did disappear to a correspondingly phenomenal degree was critical attention to radio. Compare the number of publications on TV or film in your local bookstore to those on radio and the culture of sound technology. The last major research projects on radio content and listening habits were conducted in the 1940s. Only recently has this absence begun to register.

The "renaissance" of interest in broadcast sound can be attributed, to a small degree, to the emergence of alternative forms of radio broadcasting, which themselves owe their genesis to major shifts and consolidations in the international and local structuralization of technology, economics, power, and cultural production. Though alternative radio takes as many forms as there are cultural and political locations, these different forms of opposition articulate their strategies in relation to a common force: the global network of telecommunications whose musical arms have with unprecedented rapidity entered and transformed every social and cultural community in the world. It is said of music that it disdains all boundaries of language and location. If that can be argued, we are indebted for both its proof and its counterproof to the global explorations of the music industry. These explorations both transform boundaries and create the felt necessity for their rearticulation. Whether the "global village" toward which these powerful corporations drive us marks the end or the beginning of *autonomous* difference depends on a complex interaction of technology, power, and politics within which music plays a very central and unique role. Knowing how the struggle progresses means learning how to listen.

My own attentiveness to radio is logical enough, since I am a musician with a professional interest in media and politics. Also I am Canadian, and (even worse) a Canadian woman, which explains a certain paranoid ear for the discourses of power effected by technology, technological processes, mediated social relationships. At the same time, as I am completely inside of these, I am completely at the margin. But this logic would never have followed its apparently inevitable course were it not for the influence of CKLN, a campus-based alternative community FM station in Toronto. There I was one evening, sitting in the kitchen, reading Anthony Giddens of all things and listening to CKLN. Giddens was playing some fancy tricks with the terms "mob" and "mass" culture and I had just listened to about half an hour of uninterrupted music when I suddenly realized that what I was hearing was a totally different form of cultural/technological communication. I was being constituted as a member of a listening public in a way I hadn't experienced before (though similar stations in Australia first introduced me to such possibilities); most notably because the form of broadcasting had nothing to do with the usual injunction to recognize/desire/purchase the record whose commodity form corresponded to what I was hearing. I didn't always know whose they were, for one thing; and the different relationship between me and the music corresponded to a different relationship between pieces of music, which "made sense" of them in a different way. I forgot to be annoyed by the absence of immediate author-information. I wasn't listening to advertisements; I was listening to radio.

Structure, Space, Time

Radio is an alteration of space and a structuring of time. It extends space if you're making music, shrinks it if you're listening. It both joins people together and reaches them where they are lonely, which may be why it was embraced so vigorously by Canadians from the beginning. Its centrality is clearly related to the geographic scale of the country. Though if we recognize considerations other than the physiological, we have to say that in other respects Canada is a very small country, and that smallness has had as determinant an impact on the development of its broadcasting as its largeness. Radio redefines space and structures time not only in its acoustic movement over distances but also in its format. R. Murray Schafer argues in *The Tuning of the World* that the joining of geographically and philosophically unrelated items in radio achieves an "irrationality of electroacoustic juxtapositioning" which we should refuse to take for granted. Though Schafer has done as much as anyone to analyze the experiential effects of what he calls the "schizophonia" of modern sound technology and its splitting of sound from source, we can go further by recognizing that the principles of juxtaposition that dominate ordinary radio programming are as "rational," i.e. motivated, as they are irrational, i.e. static.

Radio achieves this rational irrationality by its ability to place together sound messages that are disparate in terms of their location of origin, their cultural purpose, and their form, in order to create a continuous enveloping rhythm of sound and information. The rhythm's "reason" isn't about insight, originality, history, logic, or emancipation. It's about the market. Since the continuous rhythm of sound is more

powerful than any single item enveloped in its progression, the reception of particular items is substantially determined by the larger discourse of radio programming, which teaches us addiction and forgetfulness. In commercial radio, the pleasures of location and identity, of specific recognitions or discoveries, are sacrificed to the (real) pleasures of the media's "boundless hospitality," which defends itself against anarchy by being totalitarian in its mode of address and in its structuring of program, genre, and rhythm. The tempo of events, information, pleasure, and interruption, with its prescribed balance of familiar and unfamiliar, is determined by economics, market research, and convention, before the DI ever gets there. Music is meted out by measure to reward the listener. The carefully managed rapidity and predictability of pattern maintains what might be called a community of listeners who identify with its generic classifications (Top 40, country, "easy listening," big band, classical, "new music," etc., all rigorously carved up by market research and broadcast regulation) and who share a certain locus of informed style.

Because of increased mobility, transience, fracturing of urban space via transportation, shopping centers, centralization, and marginalization—conditions that radio restructures but is simultaneously inseparable from—this listening community rarely exists today without radio having first brought it together. Imagine how different radio would be if there were real urban planning. The listening community is predominantly constituted, at least by ordinary radio, on the basis of a paradoxical and abstract relationship to depression, if I can use this precariously psychological term. We listen to radio, or rather, hear radio without always having to listen too closely (and in fact *hear* less and less) to keep from being depressed or isolated, to feel connected to something, to enfold ourselves in its envelope of pleasure, information, power; while the absence of any spontaneous or innovative event, or of any specific (vs. abstract) intimacy, contributes ultimately precisely to depression, which after all is merely a sideways description of powerlessness, of being prevented in various ways from achieving anything spontaneous or innovative, of having or living a new idea.

But this can be represented in economic terms, by locating the actual development of radio language in relation to the developing structural integration of the various sections of the communications industries.

The Play of Technology: Enter Economy, Center Stage

Radio entered the marketplace in the 1920s, the same decade in which American entertainment capital began the sweeping process of concentration and integration that now dominates the international production and dissemination of music. The first station networks were established in that decade and linked, via corporate ownership, to the production of radios, records, record players, music publishing, and film. The entertainment monopolies have triumphed through a process of continuous centralization and integration of all the stages of music production and dissemination; their imperatives of growth have marked the development of music technology and its communicative discourse from the beginning of broadcasting history.

Commercial broadcasting has become the dominant mode of promotion for musical commodities, i.e. records, and is totally dependent on the strategies of those record companies for its musical programming. DJs and local programmers have become a substantively irrelevant embellishment, and the medium of radio a totally instrumentalized form of communication. Record company profit is in turn dependent on the airtime acquired through various infamous strategies (though most communities have their own exceptions to point to). The profitability of record production contributes to the continuous *economic centralization,* which itself depends on exploiting the "strategical margins" of independent labels and innovative trends. But such centralization of profit also contributes to *symbolic centralization,* whereby the dynamics of technical innovation led by the big companies create more and more sophisticated sound production values, through which listeners learn to judge musical value. The changing modes of musical performance are, if not determined, certainly mediated by the evolving strategies of the big companies, who monopolize the development of new technologies and the marketing of music as a whole. In terms of the dominant discourse, there are only 30 "real" musical acts in the world. The rest are shadows, or so it would seem, flabby imitations, or marginal testimonies to the mythology of boundless hospitality by means of which the industrial powers weave their web.

Of course this is not the whole story, since behind this bland mask of boundlessness is the productivity of music itself, which is always also a social productivity. The traces of this are audible in the ruptures of rock, in black music, third world, or women's music, the "experiments" with space of new music, in all the spaces where location names itself and makes itself heard. The history of communications technology is not only that of the discourses of power, but also of opposition and difference, and of the interaction of these. At certain times the cultural productivity of making music becomes also an oppositional expression of new social formations and values. To work out when such cultural productivity becomes oppositional practice, it is important to understand more precisely how cultural domination works, and how it creates not only its own structures of imprisoned desire but also its own alternatives and oppositions.

American broadcasting has been officially private (with notable exceptions) since the 1927 Radio Act, a government decision of characteristically heroic self-denial which empowered the newly formed Federal Communications Commission to license and regulate radio communications "as public convenience, interest, or necessity requires." 1927 was also the year that NBC and CBS took control of programming and production. Obviously "public interest" offers a controversial framework for broadcast regulations, as indeed it has been in Canada since the federal government bestirred itself to create an alternative public broadcasting system in the 1930s. The American interpretation of "public interest" represented a clear victory for private interest and thus, explicitly, for direct broadcast advertising. The consequent strategical imperatives were imposed on broadcasters uniformly. They entailed the maximization of audience size in order to increase advertising revenue, and this meant both a continuous standardization of musical styles/forms and an increasing reliance on the mass-produced recorded music of the big companies. Such music, while cheaper, was produced through increasingly sophisticated processes,

which encouraged the entrenchment of powerful implicit values of what constitutes "good" music. This control of technology is the real motor of symbolic centralization, rewarding listeners with continuous pleasure and thus continued confidence in the freedom of our pleasured ears.

But most of us, like our comrades in the "developing" nations, don't need to be reminded of what "free speech" really means in terms of American communications policy. As its horizons expand, we can enjoy wonderful things from Cuba, Warsaw, Liverpool, Kingston, Harlem, Nigeria, or Kamloops, British Columbia. We are in a particularly advantageous position to celebrate what McLuhan called the "global village." This privilege, like the Trojan horse, introduces the power dynamics of the technological conquering of space, and this has also been the case since broadcasting began.

Music In/Out of Canada

Canada—the space, the people, the airwaves—has had to deal far longer with the cultural and economic effects of the American communications empire than most other countries. We're not unique with respect to this challenge, but because the problem is a much older one here, it takes a different form. When the world hears African music, which it increasingly seems to want to do, our immanent recognition forms part of the pleasure and experience of listening to what is heard as African music (or, as music whose producers have heard African music and wanted to join in, which is also increasingly the case). African-ness can be heard. The music fills a specific symbolic and social space, that which is constructed as African-icity. Our hearing it is part of an international technological network by which African-ness, to us a symbol of preindustrial culture, is itself affected. As the tools of that network edge their way into the various centers of African music (which itself has never been a single style or discourse), they transform its social organization and, to some extent, its form. Africans themselves have, in response, begun to mobilize their own music production through various strategies of technological appropriation: cassette tapes and broadcasting policy in those countries, like many others, have become central to campaigns for cultural self-production. What we hear as "African" is increasingly inflected with the strategic language of such resistance/appropriation.

The same phenomenological representativeness marks American music, in a completely different sense. Its power signals not only the entrepreneurial prowess of the "big five" of the music industries, but also the symbolic powers attached to American formulations of the modern, the free, and the fun. American and African music articulate different kinds of aspirations for listeners in various locations. This difference is also a relationship, again not only economic, but also in terms of symbolized value systems struggling over formulations of the modern, the free, and the fun. Of course it is people who actually struggle, not symbolic systems. In all this global symbolic warfare, this "creative" tension between center and articulate margins, where does Canada stand?

When you hear Canadian music, its Canadian-ness doesn't often reach out and grab you as the first note sounds. It becomes an issue, so to speak, after the fact. This

is part of how we are constituted as listeners. We may know that Rough Trade or Joni Mitchell or Burton Cummings or Anne Murray are Canadian, but we mainly know this factually, not musically. To ask whether the music we listen to is knowable musically as Canadian raises a number of questions that in themselves have been dubiously productive. Here I place native and Québecois music in brackets. In any case, hearing "prairies" or "Toronto" as a climactic aura framing the voice may be an externally informed part of the experience of listening, but it is part of it nonetheless. We still claim what we want of it as ours. What arises more readily as an immanent question from our historical experience as listeners concerns what we hear and how we hear what we hear. How we hear what we hear has, from the moment there was a listening "we," been predominantly from the radio. Because of this fact, and the specific patterns it implies, how we hear what we hear has been a question as long as we have heard it, and so this question is part of what we have always heard, though we haven't always heard it musically.

This historical centrality of radio to Canadian cultural experience is a function of geography, which was given, and of invention, which was made and which took form not long after American radio had firmly taken root, as a conscious strategy of public purpose in the name of national unity. Following the trail of the CNR, the CBC developed a radically different approach to broadcasting and specifically to music broadcasting. This is a rich and fascinating history of cultural self-defense (mediated by colonial elitism) that remains largely unwritten. For some decades, the CBC was the single most influential support system for the production and dissemination of Canadian music. Composers and historians maintain that without CBC radio there would not have developed a community of music producers able to conceive of the possibility of making music. The CBC organized, produced, and broadcast across the country a range of musical performances, from new operas to a prize-winning pipe band of CNR employees, from big bands to Irish folk songs, from commissioned compositions for radio and film documentaries and dramas to national talent-hunt singing contests.

No doubt it was an inspiring moment, that bringing together of so many voices under the protective rubric of the nation. Listeners congregated in rural living rooms and wrote letters about being truly thrilled by the sound of the bells ringing out from the Ottawa hilltop . . . In retrospect it may seem like so much state-funded maple syrup, but clearly something was happening in Canada in the '40s and '50s. Regions and communities had their voices and their voices could be heard. The CBC provided a space for this to happen in, if not a context for the larger implications to cohere in a political sense. They proved that when people themselves produce such complex sociality, the juxtaposition of sounds and messages starts to become intelligible (rather than "coherent," a term that implies singularity). The provision of resources for expressive social communication, and the making of such communication in a continually new and different way, rather than simply the making of new things to fill solidified frames: these are the bases of "value," if such a concept can be retrieved with respect to radio.

The CBC, however, could not grow to accommodate its own resources. Instead it was gradually transformed by a narrowing concept of public interest, with its related notions of "quality," and, equally important, by its growing vulnerability to

commercial pressures and decreasing protection from the Canadian state. These pressures led to the consolidation of broadcasting conventions in which music airplay in urban centers (especially the more "serious" FM) has become largely as predictable and dead as it is predictable and transient on the private stations. The fertile interdependency of music production and broadcasting, which had found articulation in changing musical thinking, has mostly given way to the triumph of the economic and formal interdependency of broadcasting and prerecorded music. A former CBC music producer argues that this change has worked to discourage imagination, to decrease the producer's control over the final broadcast format, and to sever the relationship between host and musician. The effects of the transformed mode of musical packaging are passed on to the listener, to whom the daily spate of music becomes simply a component of the familiar daily environment. Music on radio ceases to matter. Against such an attitude it is all the more difficult for radio producers of imagination and originality to make their own demands on the time and special attentions of their potential audiences . . . The will to create, to experiment in imaginative and significant radiophonic forms, indeed to provide musical services as only radio can, seems to be far less influential than formerly.

It is no wonder, to add an apparent aside, that increased content quotas are treated with such aversion by the Canadian public. (Though, significantly, this is more true with respect to TV.) To suggest further restriction and regulation of the present petrified frameworks of broadcasting is bound to invite opposition in this context; not only because of the systematic training of cultural value through which American modernization effects its strategies, though this is important; but further, because "content" remains an empty formula for evoking public sympathy as long as the more essential "content" of media discourses—its unending, unbreakable flow—continues to reproduce itself through productive and regulatory processes that allow little participation other than consumptive choice (Coke or Pepsi?). The public chooses "freedom of choice." A militant defense of illusory freedom points to the absence of the real thing. So what else is new?

Reclaiming the Discourse

I said earlier that the recent emergence of alternative broadcasting is tied to major shifts in the international and local structuralization of technology, economics, power, and cultural production. While this structuralization works internationally, its local forms vary, as do strategies of local mobilization and cultural opposition. For many years "alternative" broadcasting in Canada took the form of a national public network (demanded and fought for by Canadians) whose mandate was to broadcast on behalf of a national community whose identity it simultaneously sought to build. That mandate could only have been fulfilled by allowing a far more complex and multiple concept of "public" than the dual imperatives of national (cultural) defense and the economy of dependency have permitted. The failure of the CBC joins with the simultaneous effects of a more universal colonization of musical resources, which make cultural opposition at once more international and more local. The "margins" reassert their power and find mutual recognition. The potential strength of CKLN is

that it can exemplify and reinforce this dialectic of internationalism and localism; both are strengthened as it participates in the evolution of cultural self-determination within, and between, the various musical communities in Toronto.

As the station's manager explained to me, CKLN has no difficulty fulfilling Canadian content requirements because they like to play local music. A resource can be a catalyst; after a year of broadcasting, their library now contains 250 local cassette tapes. Without CKLN (I speak from experience!) many of these would not have been made. Many won't be heard elsewhere. The more complex and open the musical thinking of the station's programmers, the more autonomous, and "significant" as communication, can be the musical thinking that goes into making these tapes. It is not so much the individual authorship of music which is important within the programming discourse of the station, but the control and creative use of the medium as it mediates our musicality and our sociality. This can only evolve through an interaction between the station and the community, between listening and playing, and between music and other issues and activities.

The programs in which local tapes appear are not ordinarily organized around Canadian-ness, though there are special programs on local music (as on women's music, reggae, blues, imports, experimental music, jazz; musical "location" is a funny thing). Most frequently they are woven into a fabric of music discourse that draws connections in many different directions. Nowhere else would you hear the particular combinations and threads connecting those pieces of music. The juxtapositions cutting across time or space pull different sound thoughts together, as (for instance) when I heard the Birthday Party follow Janis Joplin, and suddenly recognized something about the voices of West Coast angst, or when I heard a series of pieces by the end of which I *really heard* the guitar. Such eventfulness can change as it responds to—is produced by—the community that is also the listening public. This process of enfranchisement has political effects, evident in the production of "documentary" talks on social issues in which the music intervenes, not (reduced) as illustration, not (inflated) as propaganda, but as a separate-but-equal movement of musically embodied expressive response to a politicized world. The station's evolving strategies of mediation make possible the development of a political phenomenology of listening, without which no emancipatory strategy in sound is possible.