The Sound Studies Reader

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Jonathan Sterne

SONIC IMAGINATIONS¹

CCORDING 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. 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. 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 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 culturaltheoretical 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." 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 conjunctures¹⁸ and problems, but they also redescribe them from unexpected standpoints. Don Inde 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.'" 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." 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." 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. Francis of 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." 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." 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."²²⁹

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. 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. 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." 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." 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. 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 selfconsciously 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

- 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.
- Gopinath, "Ringtones, or the Auditory Logic of Globalization"; Théberge, Any Sound You Can Imagine: Making Music/Consuming Technology.
- 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.
- 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 Audiovisual Culture." See also the special section "In Focus: Sound Studies" in Cinema Journal 48: 1 (Fall 2008).
- 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.
- 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.
- 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.
- 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.
- 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.
- 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."
- 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.
- 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).

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