

sound

an acoulogical treatise · MICHEL CHION



TRANSLATED AND WITH AN INTRODUCTION BY JAMES A. STEINTRAGER

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Introduction

Closed Grooves, Open Ears

JAMES A. STEINTRAGER

The first thing likely to strike the reader about the book translated here is the emphatic generality of the title: sound, simply. Yet while the author is certainly interested in an inclusive approach, he is not after blanket statements or universal declarations. He is in pursuit of particularities, multiplicities, and the often uncertain borders both around and within the sonic domain. Take the case of music, one region of sound that understandably receives ample attention in the following pages. Seemingly our most organized and intentional sonic intervention, music would simultaneously be guided by universal physical and mathematical laws. But what if we turn to the *matter* of music? What happens, for example, if we attend to timbre, that generally unnotated and in most respects unnotatable bundle of characteristics that makes a given type of instrument and sometimes even a specific instrument recognizable as such? Or what happens when instead of assuming a fundamental difference between music and noise, we question the legitimacy of this distinction between sound regions and concentrate on—rather than ignoring or repressing—the surreptitiously musical role of fingertips scraping along a fret board or the guttural sputtering in and of a human voice? What happens if we do not approach music as the least representational and most abstract of arts? If we suspend the notion of music as an aural mathematics, a conception not limited to the classical era and one that, on the contrary, marks many modern and postmodern compositional schools such as serialism, microtonal music, spectralism (which applies mathematical analysis to timbre rather than pitch), German *elektronische Musik*, and even practitioners of the aleatoric? What if we follow instead the path of music forged from material mined from the ambient sound world? And what if it turns

out that the so-called laws of tone are regularities rather than universals at the extremes and that these extremes are only so to human ears? And when the gut vibrates with a rumbling bass rather than ossicles intelligently tapping out melodies and harmonies within the ear, are we still in the realm of sound at all, or have we passed over to a different, perhaps yet unnamed, sense? Why or why not?

These are some of the questions that Michel Chion ponders and for which he provides some provisional answers in *Sound*. And he hardly limits himself to music. The Anglophone reader most familiar with Chion as one of most subtle and engaging theorists of film as at once a visual and a sonic medium—a medium of audio-vision to employ his coinage—will find elaborations and systemizations of insights found in translated works such as *Film, a Sound Art*, *The Voice in Cinema*, and other writings.¹ With Rick Altman, Chion has been both a pioneer and an ongoing critical presence regarding the need to take sound in film seriously and the tendency to privilege the visual. Along with music and so-called sound effects, film is also a vocal art, providing one of many manifestations of the human voice that Chion considers: from the arts of drama and poetry to cocktail party conversation. He also examines sounds of everyday life, from the feedback loop created when we listen to subtle sonic gradations as we pour a liquid into a container and adjust our motions accordingly to the global diversity of “soundscapes”—to use R. Murray Schafer’s evocative portmanteau, the pertinence of which Chion thoughtfully probes—and on to the beeps, buzzes, and assorted signals of our latest technological companions.² Then there are reflections on and interrogations of other differentiations within sound: live versus recorded, in situ versus broadcast, digital versus analog, and so forth. A book simply about sound, then, turns out to have complexity at its core. Soon enough, we are not even sure what sound is or, to put the matter more philosophically, what its ontological status might be.

To grasp why such philosophical terminology is apt, we must examine some of the cultural and historical factors that have shaped Chion’s guiding questions and concerns. These factors include innovations in media and communications technologies, as well as specific institutions and somewhat more vague milieus, for instance, the “French musical establishment.” Chion himself invites considerations of the sort insofar as he dedicates ample analysis to his crucial forebear Pierre Schaeffer and to the latter’s ongoing indispensability for thinking about sound. Schaeffer may not be a household name in the Anglophone world, although he will be familiar to those inter-

ested in the history of electronic music and in contemporary composition. He was the instigator of one of France's most distinctive postwar contributions to both: *musique concrète*. In 1951, he created an institutional home for the latter in the *Groupe de recherches de musique concrète* [Research group for *musique concrète*], subsequently transformed into the *Groupe de recherches musicales* [Group for Musical Research (GRM)], which, along with Pierre Boulez's *Institut de recherche et coordination acoustique/musique* [Institute for research and coordination in acoustics/music (IRCAM)], was a center of musical innovation in postwar France and continues its work of support, experimentation, and dissemination to this day.³ Over the years, the GRM's membership has included key composers of electroacoustic music such as François Bayle and Bernard Parmegiani, along with younger practitioners such as Lionel Marchetti, and during his formative years, Chion himself, who has long been a practicing composer of *musique concrète*. As for *musique concrète*, in Schaeffer's initial formulation, the composer in this genre starts with sounds recorded from the environment (generally referred to as field recordings today) or simply with recordings of various sounding objects (although not usually musical instruments, unless treated along lines now labeled "extended techniques," for example, the clicking of valves on an unblown trumpet or striking its bell with a mallet). He or she subsequently arranges and otherwise manipulates such material to produce, hopefully, something worthy of the name music. One of Schaeffer's earliest and most famous examples is his *Étude aux chemins de fer* (1948), in which train whistles and the chug of steam engines are shaped into a short composition. Could anyone really turn such sonic base matter into musical gold? It was not simply reactionary naysayers within the cultural establishment who posed the question. Rather, the success or failure of his studio alchemy exercised Schaeffer as well, and, having opened the gambit with his early experiments, he wondered if there was "a case for seeking out a new sound domain on the borders of music" or, contrariwise, whether "these new concrete music materials, presuming they finally become more malleable," should simply be "incorporated into a musical form."⁴ Ultimately, Schaeffer suggested that the processes and procedures of *musique concrète* could engage dialectically with traditional composition or that at least the two could become mutually informative.

Schaeffer's hesitance is understandable. After all, what "concrete" music set out to do was to stand composition as traditionally understood on its head. Rather than starting with the abstract—with music transcendently

and immaculately conceived before being notated and finally materialized in performance—the starting point would be real. The composer would begin with the immanent properties of actual sonic material and thus with material often bearing an uncertain relation to tonality and its laws. The givens of composition, including the ongoing reliance on precise pitch in so-called atonal music, could no longer be assumed. Of course, what Schaeffer was articulating both conceptually and in sonic practice were some of the possibilities of new media of capture, replay, and manipulation. He did with phonographic recordings and magnetic tape what is more often and more easily done at present with digital technologies, and from phonographs and tape he drew his thinking, so to speak. Now sampling is firmly established practice, and not only in popular music. Audio processing of multiple sorts is ubiquitous: compression, clipping, all manner of frequency-domain modifications, and so forth. The adjective “electroacoustic,” often applied to real-time processing of sounds emanating from traditional instruments, is not a shocking amalgamation, as when Schaeffer employed it, but an accepted, even common, way to make music.

At this point, we could trace some intriguing genealogies. For example, Pierre Henry, one of Schaeffer’s earliest pupils and collaborators, not only would go on to release important compositions in *musique concrète* but also would adapt the latter’s techniques to popular music with the short composition “Psyché Rock” (1967) and a subsequent collaboration with the progressive rock band Spooky Tooth on the LP *Ceremony* (1969). The former was originally part of a dance suite composed at the behest of the choreographer Maurice Béjart and a collaboration with the composer Michel Colombier. In a nod to electroacoustic innovation and thanks to the catchy, simple, repeating chord progression on which it is built, the single has been remade and remixed multiple times, including thirty years after its initial release by the British DJ Fatboy Slim, also known as Norman Cook. As for *Ceremony*, while not innocent of the excesses and sonic bombast of much “prog,” the album helps recall just how much cross-pollination between classical, avant-garde, and popular music took place in the late sixties and early seventies, with new technologies often a motivating factor.⁵

As the possibilities of sonic intervention have multiplied and become accepted as natural facts, the question of the boundaries of music has never gone away. If anything, the general availability of digital technologies of recording and manipulating has motivated and augmented the number of those who embrace the moniker “sound artist” and by implication reject the

label “musician” as inapposite and even antiquated. What once might have rung sarcastically now figures capaciousness, openness, and difference. Let us take this as a sign that we are still in the era that Schaeffer helped inaugurate and about which he carefully thought. One of Chion’s aims in *Sound* is to re-think, extend, and complicate his own—and our—belongingness to Schaeffer’s world, and in this regard there are two essential Schaefferian terms and concepts that we must grasp: the “acousmatic” and the “sound object.” Both are related to specific, material media of sound reproduction and transmission, or what in French are often called *supports*. “Acousmatic” refers primarily to a sound the cause of which remains unseen. Within film studies, Chion’s writings have already made the term somewhat familiar, along with his *acousmètre*, a being that exists as voice alone.⁶ A notorious example of such a sonic being or nonbeing is Norman Bates’s mother in Alfred Hitchcock’s *Psycho* (1960).

When Schaeffer revived the term “acousmatic,” he emphasized its ancient provenance and pedigree: traced to the Greek philosopher Pythagoras, who supposedly taught from behind a curtain, sensually speaking reduced to a voice alone.⁷ In Schaeffer’s account, this somewhat contrived pedagogical and philosophical position figures a desire to concentrate the pupil’s attention, although we might note a certain mystifying potential as well. For Schaeffer, however, new media technologies had introduced acousmatic listening as an increasingly normal and, in fact, inevitable listening position. Central in this conceptual universe was the broadcast medium of radio, which would have been much on Schaeffer’s mind and a significant aspect of his institutional reality.⁸ Starting in the late 1930s and throughout the time he was formulating his theories and producing much of his experimental music, he worked for Radiodiffusion Française (later Radiodiffusion-Télévision Française [RTF]), the studios of which also provided many of his tools and toys. Radio sounds evidently had no equivalent visual component—images were not broadcast alongside music, voices, or other sonic content—which does not mean that the medium was not embedded in various ways in regimes of visibility.⁹ In this regard, one of the charges of both sound engineers and vocal artists working in radio was to provide material and cues for visual conjuration.¹⁰ This charge of encouraging the imagination of sonic sources, causes, and scenes still exists, although probably to a much lesser extent than initially, when, for example, radio dramas were common. On the other hand, conceived as an invisible or rather a-visual medium, radio suggested another route: the pursuit of sounds in themselves, severed from sources

and the very materialities on which musique concrète as precisely concrete had taken off. As Schaeffer wrote of his own early compositions and the matter from which they were built, what he was undertaking was an “effort to abstract the noise from its dramatic context and raise it to the status of musical material.”¹¹ For Schaeffer, the conjuring ability of sounds might be, in other words, erased, repressed, or, in a word, processed out of existence; from concrete sources, something like perfect sonic abstraction might be reached. Notwithstanding, we can easily grasp why the medium of radio was conceptually so important. Ironically perhaps, it was the conjured *radio-phonetic scene* that above all offered up the acousmatic for contemplation and figured a generalized, mediated return to Pythagoras’s putative pedagogical curtain: an armchair listener with ear cocked to a speaker from which emanate disembodied voices.¹²

Following Schaeffer, Chion claims as a general fact about technological media of sound reproduction per se that they place the listener in an acousmatic position and this regardless of any particular format. He remarks, for example, that although acousmatic situations were “certainly not new when telephone and radio were invented,” “the radio, telephone, and recording systemized the acousmatic situation and provided it with a new meaning by dint of insinuating it automatically and mechanically” (see chapter 9). Phonographs, tape, compact discs, and MP3s all seem to isolate sound from vision; they thus belong together in the same way that live opera, music videos, and most films do, granting that these latter media nonetheless link sound and vision in diverse ways.¹³ More important—and in a tautological formulation that has crucial implications—original sonic *causes* are not visually available or visually implied with media restricted to sound reproduction alone. In this regard, Schaeffer’s other concept—the “sound object”—has an intriguingly ambiguous relationship to technical mediation and causation. Indeed, it might be said to *take off* from both, in the sense that it emerges and then liberates itself from them. Although best understood as a perceptual or even conceptual unity abstracted from the conditions of actual production in Schaeffer’s elaborated formulations on the topic in the sixties, the “sound object” was early on epitomized in what otherwise might seem a technical malfunction: a phonographic stylus tracing not an ever-tighter spiral but a circle, stuck in a closed groove and thus repeatedly reproducing the sonic information impressed on the format. Prior to the possibility of recording, sound was necessarily an event, and this entailed its uncertain ontological status. As opposed to a visual or tactile object that stands against

us and perdures, sound was quintessentially ephemeral. These conceptualizations of sound are certainly debatable and can be negated in various ways (watch the flow of a liquid, for example). Still, technologies of recording or “fixation,” to use Chion’s preferred term, do seem to have introduced new possibilities for relating to sonic temporality. With the closed groove, tape loop, or simply the ability to hit rewind or replay, time is not exactly mastered or irrelevant, yet repetition for Schaeffer makes the *sound object as such perhaps possible for us*. Before examining why this formula is tentatively put, I should note once more that contemporary musical practice seems to follow Schaeffer’s thesis in certain respects: not only has the use of loops become commonplace, but popping and scratching of vinyl records has produced sound objects that are put into play rather than treated as errors or flaws, and digital “glitches” may likewise serve as starting points for composition and improvisation.

The concepts of the acousmatic and the sound object are complementary. Together they allow for an abstraction of sound from the visual or, better, the linked isolation of listening and sonic phenomena. We might here recall Descartes, mentally stripping away the accretions of Scholastic philosophy to get to first principles, as he sits in his chair by the stove, eyes closed and manipulating a piece of wax in his fingers. Instead of focusing on the haptic sensations of mass, volume, extension, and texture, however, our ideal listener, perhaps outfitted with headphones, is fixed on their aural analogues. This would give us a Schaefferian construct that we might call the auditory original position. Like the wax in Descartes’s hand, once the sound object, first imprinted on wax cylinders, comes to be, it can be turned over in the listener’s mind and further manipulated in theory. With the aid of acousmatic listening, this object can be experienced for its intrinsic properties and is no longer bound to extrinsic ones such as instrument, source, or intent. Yet if media such as radio, tape recorders, and phonographs provide context, impetus, and means for Schaeffer’s practices and conceptualization, we must recognize too that the latter in particular were shaped by one of the dominant trends in early to mid-twentieth-century philosophical thought: phenomenology.¹⁴ In his mature theorization of music and sound, Schaeffer makes explicit reference to Edmund Husserl, who self-consciously returned to Descartes’s experiments in doubt and building up from first principles. Husserl’s philosophy begins with a suspension, or *epoché*, of all but phenomenal experience. We are also reminded that Maurice Merleau-Ponty, another avatar of phenomenological method to whom Schaeffer refers, was

one of the crucial figures in French philosophy at the time the latter was formulating his notions of *musique concrète*.¹⁵ Finally—and compressing a couple hundred years of complex epistemology into a sentence or two—phenomenology was an extension of the Kantian critique of pure reason. This critique put access to *noumena* or things-in-themselves off limits. At the same time, it attempted to bypass the same by focusing on what could be derived purely from *phenomena*, regardless of any conjectural underlying reality or cause.

Schaeffer's conceptual apparatus has profoundly informed Chion's work on sound. This includes—but is certainly not limited to—the two key notions of the sound object and the acousmatic. Chion adopts as well an enduring distrust for considerations of cause. To *really* listen to a sound entails ignoring or bracketing, insofar as possible, where that sound comes from, what makes it, and why it exists at all, because such inferences tend to prejudgment, distraction, and distortion. This is particularly true for that pedagogical-cum-ethical mode of listening, evidently related to the acousmatic as a sort of ideal, that Chion, following Schaeffer, calls “reduced listening.” The label describes the type of listening where the sound object is considered only in itself and not for what it might, for example, signify or whence it might come. The choice of terms is not accidental: the phenomenological notion of *reduction* entails a similar bracketing. This distrust of causes is presumably why Chion prefers “fixation” to the more usual “recording”: the former term emphasizes the sound object, which *comes to be* through fixation; the latter draws attention to the cause or original instance of a sound, of which the re-cording or re-sounding is semantically and cryptically stained as derivative, a lesser repetition of a sonic event rather than a sonic object in and of itself.

In his distrust of causes and how they may lead the listener away from sound as such, Chion inherits from Schaeffer what we might call the temptation of sonic purity or immaculate audition. At the outset, this might be explained as a social defense mechanism of *musique concrète*. When your sources are deemed suspect, noisy, clattering materials rather than, say, a perfectly tuned, well-tempered piano, an instrument with the imprimatur of the musical establishment, the composer working with the former might shift the blame to the critics. The problem becomes not the impurity of the sources but the closed mind and thus the closed ears of the institutionally molded listener. The temptation of sonic purity notwithstanding, what ultimately interests Chion are the difficulties of this ideal: everything that

makes the ontological status of sound objects unsure and, concomitantly, everything that informs our listening. Part of the sound object's refusal, so to speak, is produced because there is no sound object without a listener. This should not come as a surprise. After all, no one but the most committed idealist doubts whether the tree in the forest falls, but whether it makes a sound. We accept or at least intuitively comprehend the inherent subjectivity of sound. For another thing, we tend to analogize sound to other sensual registers—sight above all—and so miss or distort what is specific to sound objects. But beyond this, it is unclear whether even when grasped in its specificity, the so-called sound object really ever attains an objective status. As Chion puts the matter early on, when we approach the sound object, we immediately get off to a bad start. By this, our author suggests the sound object's fundamental or essential malformation, at least if we stick to our usual notions of what makes an object. As it turns out, however, getting off to a bad start means getting off to a good start. The object's resistance—its very oddness—tells us something; it serves as an entrée to deeper questioning and complexities.

Approaching the Sound Object: Theory, Practice, and Pedagogy

The territory that, in Chion's account, Schaeffer discovered and began to map is the one that our author continues to explore, all the while redrawing and questioning its internal and external boundaries. This means that we need not endorse or embrace every aspect of Schaeffer's conceptual world to follow Chion. Indeed, we might say that he is committed both to the phenomenological project and to its simultaneous, ongoing disruption: unearthing and thoroughly examining what sunders, distorts, or simply makes the purity of sonic experience and the unity of the sound object impossible. Early on in *Sound*, we come across the infant, who, prior to speech and thus not yet initiated into the structuring effects of language on the senses, seems to enjoy access to an unmediated, full, and present experience of sound (much like the angels who can hear the music of the heavenly spheres). Language in this instance represents a fall. It darkens or "scotomizes," to use one of Chion's favorite terms, borrowed from psychoanalysis and the visual register, our access to sound. Yet language is for the most part positively valued in Chion's account. We can learn from poets, who not only have thought deeply about sound but also have put sounds into vocal play. *Sound* begins with lines from Racine, moves on to Victor Hugo's rich sonic evocation of a Guernsey morning, experienced acousmatically by a just-awaking listener,

and has us consider lines from Mallarmé and Rilke, as well as haiku (in which I might add that the sonic *kireji*, or “cutting word,” is a crucial, structuring component). But this emphasis on language is not restricted to poets or to the spoken word. Thus Proust’s distinction between the front gate bell and the back gate rattle in *In Search of Lost Time* becomes a motif in Chion’s book. The novelist’s descriptions help us differentiate sounds and, in this case, grasp how they are interwoven with social signification: the resounding bell announces relative outsiders to the family circle; the tight, buzzing rattle the return of insiders. But it is not only those wielding creative insight, as it were, to whom Chion turns. Everyday language also yields sonic insights, and perhaps the most important ones. It guides our listening, shapes and obscures it, but also serves to open our ears.

This takes us to what I would call the constructivist linguistic and cultural thesis that runs throughout *Sound*. The philosopher and historian of science Ian Hacking has argued that the notion of social construction has become so ubiquitous as to be potentially meaningless until further specified. He also offers a range of constructivist commitments. These go from historical and ironic, the weakest commitments, to either reformist or unmasking, and on to the strongest degrees: rebellious and finally revolutionary.¹⁶ While Hacking proposes these as levels of commitment, I would submit that his categories or positions are hardly mutually exclusive. One might be, for example, a suspicious or radical historicist or an ironizing unmasker. As for Chion, his constructivist commitment appears moderate but insistent. He knows that there are ears, brains, vibrations, and waves with heights and widths subject to measurement and analysis. Still and more interestingly, there is much that we bring to these objective givens, including cultural and linguistic prejudices *and* guideposts. He has no doubt that different languages and various cultures of listening divide up and make us attend to sound in different ways. An important example of the linguistic hypothesis is the French word *bruit*, for which “noise” would be the usual dictionary translation. Chion is eager to demonstrate that this easy equivalence is misleading. First, take an example of English usage: the sound of the neighbor’s footsteps in the hallway might be a fact or even a comfort; the noise of his footsteps must surely be a bother or even a threat. In French, this distinction is blurred because of the tendency to use *bruit* instead of *son* for both such circumstances. In other words, in French usage *bruit*, with its negative connotations of disturbance, takes up part of the Venn diagram that English tends to annex to the more subjectively neutral “sound” (*son* in French and the title word

of this book). The author explores what he deems the consequences of this usage at length, and there is no reason for me to repeat or summarize his analysis. What I wish to underline is that for Chion ordinary language is not wholly innocent. It is linked, however unconsciously, to mind-set and attitude, and it covertly molds the listener and listening. For this reason, I have usually indicated in brackets whether *son* or *bruit* is employed in the original. This is the sort of obtrusion usually avoided in translations, but it serves here to draw attention to—and concomitantly to not repress or render invisible—linguistic difference. Comparing French and English usage also helps us better understand a number of related questions that Chion addresses. For example, how do we distinguish between a “noise” and a “sound”? Is this distinction inherent or imposed? If the latter, how is it drawn, who perhaps draws it and to what ends? Similarly, is the difference between “noise” and “music” culturally or linguistically conditioned? How do we deal with “noise” within “music”? It turns out that cultural-linguistic distinctions are interwoven with social, institutional distinctions in the sense put forward by Pierre Bourdieu: matters of language and matters of taste, institutions, class, and politics are, in the final analysis, inseparable.¹⁷

Chion’s concern for language means that the usual translation issues such as the difficulty of capturing connotations, nuances, and the pluralities of possible meaning often enveloped in a single word are frequently exacerbated. Yet these apparent problems turn out to be useful complications, heuristic and revelatory. To take an example, I have used “intensity” to denote changes in perceived loudness, that is, perception of wave amplitude, in preference to the more usual English term “volume.” I have done so not only because “intensity” is obviously cognate with the French *intensité* and not only because it more readily connotes strength and weakness, but also simply because Chion, following Schaeffer, tends to use “volume,” along with “density,” to describe that aspect of the perceptual field that they label “caliber.” “Volume” in this latter usage is not a matter of strength but rather of a sonic substance or capacity—or at least of capacity as figure for certain sonic features. Of course, a linguistico-cultural constructivist might argue that the English use of “volume” links perception of wave amplitude intrinsically to notions of sonic capacity (although a Wittgensteinian might counter that ordinary usage conjures nothing of the sort, and the encounter between the two positions might itself be instructive). There are thornier cases as well, created by the inherent, often allusively rich and instructive, polysemy of some terms. Consider *allure*, which can mean “speed,” “pace,” “look,” or

“bearing.” I have chosen the latter, but clearly not without risk of semantic loss.¹⁸ Schaeffer describes *allure* in his summative *Traité des objets musicaux* [Treatise on musical objects] (1966) as a formal quality of sounds that “evokes the dynamism of the agent and kinesthetic sense,” and Chion has glossed the term elsewhere as referring to “the oscillation, the characteristic fluctuation in the sustainment of the certain sound objects, instrumental or vocal vibrato being examples.”¹⁹ The reader wanting a more concrete notion might listen to Schaeffer’s composition *Étude aux allures* (1958) and try to hear what is at stake.

When the sound of words is part of their significance and, indeed, signification, these issues are compounded. In such cases, providing the original French and occasionally other languages in conjunction with English glosses is necessary. This is most obviously the case with onomatopoeia, where the goal is to underline phonetic distinctions between, say, an American cat’s “meow” and a French *miaou*. Chion suggests that attending to differences in such descriptive terminology and bilingual journeying yields food for thought and attunement for our listening. What language does, or can do if we attend to the distinctions both sonic and conceptual that it makes, is to turn us into more nuanced second-order auditory “observers”: listeners to our listening and more articulate describers of the same. Examination and attention to the various ways that different languages intersect with the sound world open up new possibilities of listening and heighten awareness of what might be called our naturalized linguistic positioning within it. This attuning power helps explain Chion’s general preference for linguistic articulation over notation in spite of his adherence to the symbolic marks that Schaeffer set forth in the *Traité des objets musicaux* for general categories of sound: N for tonic sounds, X for continuous complex sounds, X' for complex impulses, and so forth. The use of such marks harkens to a certain positivist strain perhaps best expressed by symbolic logic in the Anglo-American tradition and in France by structuralism, including Lacan’s otherwise idiosyncratic obsession with mathematical-looking formulas, graphs, and the like. Schaeffer himself, however, prior to formulating his mature categorization of sound objects and their characteristics, wrote at the outset of his explorations that having sketched and preliminarily notated a “draft structure,” “it would be easy to yield to the temptation of paper, which is contrary to the spirit and the method, and even the potential, of concrete music.”²⁰ Notation only truly covers parts—and quite partially—of the traditional four aspects of music in Western theory. These aspects are pitch, marked as notes,

of course, and that can at least be tied to “reality” in the form of frequencies; duration, from conventionally determined beats per measure to vague markers such as *allegro* and *adagio*, and in any case shifting and modulating rather than metronomic even in the case of the Western classical tradition; intensity, with highly relative dynamic terminology such as *pianissimo* and *mezzo forte*; and finally, timbre. The latter is a category that Chion considers hopelessly vague and which the Schaefferian system is meant to supplement or replace. In Western notation, beyond specifying what instruments are to be used, the matter of timbre is almost nonexistent, with the exception of some indications of attack: staccato marks, pizzicato indications, and so forth.²¹ For Chion, symbolic notation may appear to be or at least promise to be exhaustive and almost scientific. It is neither. Further, it misleads us into judgments of what is worthy of capture and therefore worth our while as listeners. Language would seem an odd preference, however, since surely terms such as *sforzando*, *smorzando*, or *perdendosi*, let alone onomatopoeias such as “creaky” or metaphors taken from other sensual registers such as “bright,” remain vague. This weakness or fuzziness turns out to be a strength: words draw attention to their poverty, to their lack; even as sonic matter, when spoken or heard, they do not imitate, indicate, or figure perfectly. We might say that it is precisely their failure that draws us closer to sound, forcing our attention and honing our discriminatory and descriptive powers.

This helpful fuzziness might be seen as deconstruction in action. And in spite of—and really because of—the temptation of auditory purity, there is a deconstructive strand that runs through *Sound*. Already noted are the difficulties of linguistic representation and the inevitable play of language. It is striking how frequently sonic descriptions rely on other sensual registers—sight, first and foremost, although touch contributes significantly as well—and lend an inevitable figurativeness and instructive slipperiness to the sound objects we attempt to grasp and describe. What exactly is a clear sound or a rough one? More technically, Chion reaffirms one of the core theses of structural linguistics: Ferdinand de Saussure’s claim that spoken languages carve up sounds into systems of oppositions. Saussure figured this division visually as the carving up of a continuum. Once it is carved, moreover, speakers of different languages can be said to hear otherwise from each other. For example, while the difference between sounds represented in English by the consonants “l” and “r” can be described according to the physics of sound as well as anatomy, for the speaker of Japanese, where this opposition is *insignificant*, hearing the difference may not be possible. The difference

is scotomized. Similarly, the vowel sounds represented by “u” and “ou” in French or “u” and “ü” in German do not have equivalents for the Anglophone. Jacques Derrida began his deconstructive project by applying Saussure precisely to Husserl’s phenomenology. The voice that would re-present phenomena and phenomenal experience for the subject within the *epoché* is itself a tissue of differences and absences.²² Chion explicitly refers to Derrida’s critique of Husserl, reiterating his analysis of the ineluctable reflexivity of the voice, encapsulated in the expression *s’entendre parler*. This can be more or less rendered “to hear oneself speak,” although reflexive constructions come more readily to French. Further, the verb *entendre* means both “to hear” and “to understand”—not to mention suggesting the phenomenological notion of intentionality—uniting sound and cognition in a neat bundle that Derrida is keen to untie. That we hear ourselves speaking divides us from self-presence even as it holds it out as a promise. Ultimately, though, it is one of Derrida’s later coinages that comes to mind to describe Chion’s project: “hauntology.”²³ Relieved of its portentousness, this seems an apt term for a science of sound objects that never fully cohere as such and for considerations that take off from musique concrète. After all, the latter begins with an actual sound source in the world and, while perhaps distorting it beyond recognition, nonetheless registers a ghostly trace of this quasi object’s “being” as event, moment, and passage.

The affinities between *Sound* and deconstruction, beyond their clarifying and suggestive functions, may lead us to ponder Chion’s relation to that set of academic discourses that often goes simply by the name of “theory” and that was predominantly a French import into literature departments—along with a host of other disciplines, including film studies, women’s studies, and anthropology—in the 1970s and 1980s. Much has been written about the so-called theory boom, its institutional history, its critics, its diminishing influence and ongoing relevance.²⁴ Some of the key names of theory such as Derrida and Lacan, either explicitly or allusively, and crucial forebears such as Saussure and Roman Jakobson have significant roles to play in Chion’s considerations. Yet the reader who wants to class him as belonging to theory—either positively or negatively valued—will have a difficult time doing so categorically. Of course, this does not mean that his work is not and has not been amenable to more evidently theoretical investigations.²⁵ While Chion comes out of a French intellectual context at a time when theory was a given, he was also informed by different sets of institutions and institutional concerns and conceptualizations. This is why I have thought

it important to introduce *Sound* not with the familiar names of theory for the Anglophone academic reader but rather with Schaeffer and musique concrète. If we are looking for contextual fit, then a name such as François Bayle makes equal if not more sense than Derrida. A major figure in French music in his own right for several decades now, Bayle was an early disciple of Schaeffer, as well as a student of Olivier Messiaen and Karlheinz Stockhausen, two pillars of twentieth-century composition. He took up the director's position of the GRM in 1966, oversaw its linkage to the Institut national de l'audiovisuel (National Audiovisual Institute [INA]) in the midseventies, and directed the INA-GRM for two decades. Bayle, who has composed in the genre of musique concrète, has also laid out a theory of *i-sons* (i-sounds) or *images-de-sons* (sound-images) that resonates with Chion's elaboration of the phenomenological "sound object."²⁶ Chion himself indicates the parallel, albeit not without pinpointing the potentially misleading visual analogy. Similarly, Bayle has followed Schaeffer's path in founding and forwarding the conceptual project of "acousmatic music," as well as creating his Acousmonium, a multispeaker sound system, to support it. There is no reason to paint Chion within narrow institutional confines, however, and his work—to borrow the title of a collection of his essays—has been that of a strolling listener: nondogmatic, eclectic in its sources, its impulses, and, it must be said, its criticisms. The reader of *Sound* will thus come across considerations of Alfred Tomatis, the pioneering and controversial speech and hearing therapist; Robert Francès, psychologist and author of *La perception de la musique* [*The Perception of Music*]; and many other figures from various disciplines and domains.

Above all, Chion eschews emphatic theoretical gestures. Such gestures inevitably oversimplify what the author would like to maintain as a complex, multifaceted subject. We can see this clearly in his brushing aside of Jacques Attali's *Bruits: Essai sur l'économie politique de la musique* [*Noise: The Political Economy of Music*] (originally published in 1977). Attali himself drew eclectically on Marxism and scientific notions of order and entropy. He liberally invoked René Girard's notions of sacrifice and violence as constitutive of human societies, themselves informed by Freud's *Totem and Taboo* and other texts. His overarching thesis was that "noise" is a form of violence and disorder and that this violence and disorder has a revolutionary potential. From this the author projected a utopian future when we would all become emancipated composers. While Attali's book is not without interest and insights, Chion succinctly remarks its limitations. A slightly expanded account

of these would be the evocative but ultimately unhelpful polyvalence of key terms, “noise” first and foremost; the unjustifiable slippage between extreme loudness, which might be reasonably deemed a form of violence, with other sonic manifestations, including music, all reduced to noise and then treated as revolutionary; and a tendency to vastly overstate historical and psychological effects. Regarding these limitations, I might add that Attali finds himself in good company. The discourse of violence and liberation has Romantic roots and had already reached a heady peak in Nietzsche’s *Birth of Tragedy* (1872). In the latter, Nietzsche had contrasted the Dionysian, veil-lifting, corporeal, frenetic impulse in music to Apollonian orderliness, abstraction, and the play of appearances. (At the time, he thought that the two were wed perfectly in Wagner’s operas, although later he repudiated both the composer and his own earlier, naive views.) There are traces of this discourse as well in Adorno’s notion of dissonance as disruptive. For the critical theorist, jazz momentarily unleashes this power only to bury it all the more deeply in the narcotizing sonic machinery of the culture industry.²⁷ As for Attali, he continues to attract adherents, especially among enthusiasts of “noise music”—granting that the “music” side of the label is frequently rejected by adherents and detractors alike—who look to the subjectivity-shattering appeal of noise and its supposed, inherently emancipatory force.²⁸ Meanwhile, Chion has wondered whether it might simply be better to do away with the notion of noise altogether as at best vague and at worst encouraging a sort of sonic snobbery, ethnocentrism, and even racism.²⁹

Similarly, while Chion is clearly a thinker about media and the ways in which various *supports* inform sonic experience and sensual experience more generally, he makes no attempt to provide an overarching narrative that would link forms of subjectivity to a dominant medium or media. For Marshall McLuhan, the printing press created a world, or what he in fact called the Gutenberg galaxy. This world began to come apart with the broadcast media of radio and television. Since McLuhan, various other versions of privileging the “mode of information” instead of the Marxian mode of production to provide a coherent, unfolding account of historical and psychic change have been put forward.³⁰ For Friedrich Kittler, for example, the institutions, pedagogies, and other practices determined by print peaked in the eighteenth and nineteenth centuries. Hermeneutics—interpretation, the quest for meaning mined from texts above all—was print’s master science and the molding of minds as fundamentally reading minds a key concern. This unity, along with our subjectivities, was sundered by the arrival of the

holy trinity of early twentieth-century media: gramophone, film, and type-writer. Moreover, Kittler maps these media neatly onto Lacan's distinctions among Real, Imaginary, and Symbolic orders, respectively.³¹ Nothing so neat or grandiose will be found in *Sound*, and this without denying the simple fact that media are historical and that changes in media can have profound effects. While some media push out others more or less definitively and permanently—a boom box is as rare as a wax tablet and stylus these days—others evolve, coexist, and mingle. As Schaeffer undertook his experiments, magnetic tape, phonographs, early computing, radio, television, film, and, of course, print too, all shared space. While the shift to digital technologies in recent years is obvious, we still inhabit a variegated and complex media environment, and this is the environment, with an emphasis on sound of course, that Chion invites us to explore with him.

In spite of this commitment to audio media in their diversity—including the manifold manners in which they can be linked to visual media above all—it is true that film is the medium that appears conceptually fundamental for Chion, and precisely because of its “impurity” (which Kittler's mapping seems conveniently to ignore). Radio provided the acousmatic model for Schaeffer; the closed groove of the phonograph that of the sound object. Sound film entails deeply ambiguous relations to both. Film may be acousmatic in a sense. That is, we do not necessarily see the voice on the soundtrack, and this itself can have various effects on the listener, as the *acousmètre* shows. In the film medium, sight and sound are nonetheless essentially linked, yet they can be decoupled and recoupled in ways that would be unusual and often simply unavailable in everyday conversation and life. For example, when we hear a stick of celery snapped along with the sight of a twisted arm in an action movie, we do not hear the sound's cause as such. Rather, we hear a bone snapping, and this sound reinforces what we think we see, even if there is no underlying “truth” or ground to either. The “sound object” in this case, removed from its source, renders or figures forth *something else*. We hear *as* and not *in itself*. This is what the Foley artist knows, and this is why audio-vision is more than simply simultaneous audition and vision. The term indicates productive conjunctures, the creation of various subjective effects. For these reasons, film is to be celebrated yet approached with curiosity, care, and even suspicion. Constructive and creative, potentially ideological and falsifying, it is medium in which the purity of sonic experience is impossible because of its interplay with the visual. This interplay is one of mutual information and formation, although the visual always seems

to overmaster. For the sound object, film might be called a fallen medium, keeping in mind that things only really get interesting after the fall. Or, to take a related register, in the master-slave dialectic between sight and sound, the former tends to get the acknowledgment; as Hegel has it, however, this is when the latter gets to work.

I have described Schaeffer's philosophical impulses as broadly phenomenological. While these impulses have been transmitted to Chion, the conceptual universe of the latter is ultimately constructivist. This is an unhelpfully large basket, including everything from both structuralist and hermeneutically inclined anthropology to various forms of sociology, linguistics, cognitive neuroscience, and much more.³² Constructivism might be said, moreover, to stem in large part, like phenomenology itself, from Kant's critical epistemology, insofar as, unable to get to things-in-themselves, we build our worlds through intuitions of time and space, as well as through various categories of knowledge. Speaking generally, constructivism tends not to overcome the divide between objective and subjective but rather to inscribe it as a source of paradox. In spatial terms, an outside is posited as necessary but impossible to grasp in itself. In temporal terms, this paradox shows up in the Heideggerian term, adopted in deconstruction and beyond, of the "always already." For example, we find the "always already" put to use in Lacanian psychoanalysis to describe the structuring effects of language that exist prior to the infant eventually taking up and recognizing his or her place within the Symbolic order. Deconstruction and poststructuralism tended to irritate rather than cure this tendency—repeatedly and ultimately repetitively pointing out the slipperiness of language, the impossibility of presence and unmediated experience, and the problems associated with quests for origins as pure points of departure. In *Sound*, we come across problems of spatial, temporal, and linguistic reflexivity, to be sure, but Chion's constructive and deconstructive tendencies are rich, his paradoxes productive and, finally, mitigated by years of hands-on experience with sound: as a composer of *musique concrète*, as one who has worked in and not merely on film as an audiovisual medium, as a teacher, and as an observer of the sounds in their multiple, everyday as well as more rarefied, institutional settings. The cryptically idealist bent of much constructivism is tempered by kicking against the rock of practice. Theses are tested in the classroom, where experiments take place and consensuses emerge, as well as through the feedback loop of reception. In film in particular, where sounds are shaped with an ear to nar-

rative, emotive, and other “effects,” it becomes possible to measure success and failure, however tentatively. The question of what works sonically becomes inseparable from considerations of why. Calling up an American school or perhaps antischool of philosophy, there is something deeply pragmatic about Chion’s approach.

While the title of Chion’s book proclaims a simple word that hides complexity, its subtitle confronts us with a neologism and seeming technicality: a “an acoulogical treatise.” At the outset of his research program, Schaeffer had suggested a discipline of “acousmatics” that would focus on the experience of sound as opposed to acoustics, for which a science of waves and vibrations already existed. He would later somewhat offhandedly suggest along the same lines “acoulogy,” the term that Chion has embraced and that specifies his domain as the multifarious one of listening and listeners. As for the other part of the subtitle, Chion’s “treatise” is neither the diary-like, tentative inauguration of a program that we find in Schaeffer’s *In Search of a Concrete Music* nor, in spite of the shared generic marker, the latter’s seemingly definitive statement of his findings: the *Traité des objets musicaux*. Rather, the work translated here retains the probing, tentative quality of the former with knowledge gained over a career in sound. First published in 1998 and substantially revised for the 2010 edition, *Sound* is in many respects—and the author refers to it as such in his preface to the later editions—an *essay*, which in French retains the sense of an effort or attempt. Fittingly, it ends with a lengthy citation of a loose page of observations that the author wrote in 1971, early on in that career, and that he subsequently rediscovered. A youthful, exuberant expression, post-’68, of the politics of sound, this page sketches a project, more or less, to transfer the Situationist critique of the society of the spectacle to the sonic domain. Many of the concerns that we find some forty years on are still intact, but the combination of revolutionary optimism and pessimism about the system is gone. Or, rather, these attitudes are toned down, fused and metamorphosed into thoughtful enthusiasm. There is a sense that any approach to a politics of sound must first pass through a hard-earned and never quite achieved ethics of listening. Returning to Hacking’s gradations of constructivist commitment, we might say that the revolutionary degree is now absent, but that all the others remain: historicist, at times ironic, unmasking—or whatever the sonic equivalent might be—and circumspectly reformist. If “reduced listening” sometimes appears a quixotic quest for a sonic purity that cannot

succeed, the overwhelming sense of *Sound* is that this mode of approaching the sound world—frayed borders and all—is both curious and interested. In *Sound*, the acousmatic has been returned to pedagogy: the work not only of a teacher committed to demystifying and unsettling reified “sound objects” but of a dedicated pupil of auditory experience. No shouting. All ears.

Preface to the French Edition of 2010

Initially published in 1998, my essay *Le Son* [*Sound*], greatly restructured and lightened for clarity and readability, has become a volume with a less modest title but one that openly asserts the idea of a novel discipline: acoulogy. This work, intended for those interested in the topic from whatever discipline, for the most part gathers together my research, observations, and acoulogical experiments undertaken over the past thirty-five years and more.

Thanks to the multiple ambiguities that the vague meaning of the word “sound” sustains, there can be no agreed-upon overview of all that has been written on the topic. This is inevitably an engaged book and one that makes arguments, but it also proposes an entire series of overtures, proposals, reflections, and original concepts. To do so, it goes back to language, and this is why the word “acoulogy,” which Pierre Schaeffer coined and which I have taken up again in order to redefine it, seems to me the most appropriate to denote the discipline put forward here. My experience as a composer, interpreter, producer, and, in general, a sound maker of *musique concrète* and for radio, television, video, and film, as well as my experience in training and teaching (notably at the École supérieure d'études cinématographiques and at the University of Paris III), has also been very helpful. Which is to say that when it comes to this subject, the demarcation that some would presumptively draw between a theoretical approach and a practical one seems to me artificial.

My warmest thanks go once again to Michel Marie, who has both followed and encouraged the realization of this work, and who enabled its publication in the series that he created.

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PART I · hearing

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1))) Listening Awakes

Yes, it is Agamemnon, your king, who wakes you;
Come, acknowledge the voice that strikes your ear.
[Oui, c'est Agamemnon, c'est ton roi qui t'éveille.
Viens, reconnais la voix qui frappe ton oreille.]
—Jean Racine, *Œuvres complètes*, vol. 1, 1950

With these two lines of verse, Racine's tragedy *Iphigénie* begins. They constitute a familiar introductory tactic for the author, which consists in raising the curtain on a conversation already under way. In this case, the lines make the voice of Agamemnon resonate as he addresses his servant Arcas, at the threshold of dawn, as if first heard while half asleep. The voice seems to come from Arcas's dream, while simultaneously wrenching him from that dream, and the words wreck themselves at the end of the night, at the edge of the unconscious, and are tossed onto the shore—the same shore where the encamped Greek army waits for the gods to raise the wind. But these two lines also presuppose words spoken previously by Agamemnon that have not been clearly heard, that have been recorded somewhere, all the while becoming lost, as much for the servant as for the spectator. It is thus in the nature of sound to be often associated with something lost—with something that fails at the same time that it is captured, and yet is always there. In this opening inspired by Euripides, Agamemnon, let us note, speaks of himself in the third person, as adults often do with infants ("Don't worry, mommy is here"). There is here an interesting reminiscence: in the second book of the *Iliad*, a work with which Racine was quite familiar, the same King Agamemnon finds Zeus sending him in his sleep a talking—and deceptive—dream. This