

"The Origin of Daredevil,"
Daredevil, no. 1
(Marvel Comics, April 1964).

Spacing and Sounding Out

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“The sound of architecture,” if we are to take this expression seriously, should not be conceived of as the sound of resonating things that happen to be in space, as if space were the neutral and indifferent receptacle of their sonic emissions.¹ Rather, the sound of architecture is the sound of their very *spacing*.

Hearing this sonorous spatiality—the sound of spacing itself rather than sounds in space—implies a remarkable auditory faculty that has been developed in, among other fields, medical practice (i.e., auscultation). The writings of the French physician René Laennec, the inventor of the stethoscope, could therefore be seen as one of the first attempts at theorizing listening as *sounding out*. Later, in the famous preface to *The Twilight of the Idols*, Friedrich Nietzsche generalized the auscultating gesture, turning it into a philosophical mode of exploration of all sorts of bodies—not only physical or anatomical but discursive or ideological. After all, auscultation, for Nietzsche, was also a way to make quiet things—mute things—“speak out.”² We should at least consider the possibility, then, that things or objects, when they *sound out* quasi-words or syllable-like noises, add up, like so many sonorous building blocks, to what we could see as a phonocartography of architecture.



In order to understand what is at stake in such a practice or theory of hearing, though, we should not brush aside too quickly an apparently naive—even animistic—approach to the “sound of architecture,” an approach according to which each component of a building (such as a door, a window, etc.) has its own “voice.” All kinds of objects or things have been turned into the narrating subjects of their supposed lives. Consider the many, often unattributed or anonymous novels with titles like *The Adventures of a Watch* (published in London in 1788), *Argentum; or, Adventures of a Shilling* (1794), or *The Adventures of a Black Coat* (1762), with its subtitle explaining that the “adventures” in question are “related by [the coat] itself.” Inspired by this literary genre known as “it-narrative” or “object tale”—that is, “autobiographies of things”—we could try to imagine the auditory memoirs of various architectural elements.³ This is especially relevant since sound always tends to be considered, to borrow Georg Wilhelm Friedrich Hegel’s words in his *Philosophy of Nature*, as a “mechanical animation” (*mechanische Seelenhaftigkeit*) of material bodies.⁴ One of the most striking examples of animism, as far as architecture and acoustics are concerned, is Adolf Loos’s short pamphlet of 1912 dedicated to *The Mystery of Acoustics*. Protesting against

the destruction of the Bösendorfer-Saal in Vienna, which opened in 1872 and hosted many prestigious concerts until it was demolished in 1913, Loos wrote,

For forty years the material [of the Viennese Opera house] has absorbed good music and has been impregnated [*imprägniert*] with the sound of our musicians from the Philharmonic and the voices of our singers. These are mysterious molecular changes, which until now have only been observed in the wood violins are made of. Does that mean that to give a space good acoustics you have to play music in it? No, that is not enough. You have to play good music in it. You can fool the souls of people, but you can't fool the souls of the material. Halls in which only brass bands have played will always have poor acoustics [*unakustisch*]. And the soul of the material is so sensitive that you only have to let a military band blast away in the Bösendorfer-Saal for eight days and its celebrated acoustics will have gone to the devil. . . . The tone of Liszt and Messchaert [a Dutch baritone] live on in the mortar of the Bösendorfer-Saal and vibrate with every note of a new pianist or singer.⁵

Hegel's "mechanical animation" (*mechanische Seelenhaftigkeit*) could be read as suggesting that animation—the attribution of some sort of soul (*anima*)—is congruent with the very possibility of sound. Therefore, our problem is not that Loos or the narrators of it-narratives are animistic. Rather, the regrettable fact is quite simply that we would have difficulties finding, among all the narrating objects, any building components. Unfortunately, I do not know of any book titled *Adventures of a Window* or *The Life and Opinions of a Ceiling*.

Since animated or animistic building components have nothing to tell us and since their firsthand depositions are unavailable, another, supposedly less authentic—or less authorized—way of approaching the aural biography of architectural constituents would be to resort to secondhand testimonies. Take a door, for example. Doors sound, as attested by many witnesses. And their recounted soundings could become the thread for an inquiry into the sonic history of doors. We could thus summon Arthur Schopenhauer, Franz Kafka, or Italo Calvino to speak on behalf of doors and their phonic animation. But they might turn out to be unreliable, untrustworthy witnesses, since their hearing, their way of listening to the sound of an architectural element is likely to be biased by their memories or expectations.

Schopenhauer, for example, would probably repeat the complaint about German noisiness that he had already voiced in his *Parerga and Paralipomena*: "The general toleration of unnecessary noise—the slamming of doors, for instance, a very unmannerly and ill-bred thing—is direct evidence that the prevailing habit of mind is dullness and lack of thought."⁶ Kafka, in turn, would be influenced by the recurring trauma of his

being loudly woken up, which he described in a short story titled “Great Noise” (*Grosser Lärm*):

I sit in my room in the headquarters of the noise of the entire apartment. I hear all the doors slamming; because of their noise, I am spared only the footsteps of the people running between them; I can also hear the banging of the oven door in the kitchen. My father breaks down the doors of my room and trudges through them in his trailing robe. . . . The apartment door is unlatched, rasping like a catarrhal throat, then opens further with the singing of a female voice, and finally closes with a dull, male thud, which is the most inconsiderate sound of all.⁷

A door, for Kafka, can have an almost organic or bodily sound, as if the unfortunate sleeper were auscultating it, hearing in it the same sounds a doctor hears in her patient’s chest. We should remember Kafka’s words, for we will have to recall them when browsing through the writings of René Laennec, the inventor of so-called mediate auscultation. Let us bear in mind for now that a door, like many other things, can *sound out*, if not words, at least syllable-like noises, quasi-phonemes: it utters, articulates, pronounces—that is, it colors the sounds it emits or transmits with its characteristic resonating structure.

Finally, Calvino, the last of our three witnesses, would be carried away by his dreams and start to imagine some invisible city, some fiction of a city that “has earth instead of air,” where “the streets are completely filled with dirt,” where “clay packs the rooms to the ceiling” and “over the roofs of the houses hang layers of rocky terrain like skies with clouds.” In this city, he would say, “at night, putting your ear to the ground, you can sometimes hear a door slam.”⁸

We could go on endlessly, imagining other doors making other sounds, such as the creaking recorded by Pierre Henry in his *Variations for a Door and a Sigh*.⁹

But so much for doors.

We could then gather the same kind of audio testimonies for other architectural elements—windows, stairs, corridors—. . . then do so for buildings, for cities or neighborhoods, and so on. Ideally, we would then end up with a complete sonic mapping of what has been described by Raymond Murray Schafer as our “soundscape.”¹⁰ Such a soundscape would include the sounds we know and the ones we fancy; it would include the looming “world problem” of “noise pollution” (as evoked in Schopenhauerian terms by Schafer),¹¹ as well as Calvino’s sonic fantasies about Armilla, a city that “has no walls, no ceilings, no floors”: “it has nothing that makes it seem like a city, except the water pipes that rise vertically where the houses should be and spread out horizontally where the floors should be: a forest of pipes that end in taps, showers, spouts, overflows.” In all of these pipes, Calvino writes, are “nymphs and naiads”: “in the morning you hear them singing.”¹²

From doors, slamming or creaking, to the general soundscape

of the world, real or fictional: how far could our Borgesian mapping of the sounds of architecture develop without being disturbed, without hindrances? I do not mean empirical impediments like the absence of documentation or testimonies, but structural obstacles, complications that would force us to reconsider the very project or idea of a general phonocartography of architecture.



One such complication—or, more precisely, one such coimplication—is demonstrated by the beam. The beam, an architectural element that is often considered banal and unworthy of our attention, becomes, if we listen closely, a singular object. For in a certain narrative about a sounding beam, a wholly different sonic perspective opens up: not new sounds being added up in an infinite list but new ways of hearing sounds; not the Schafer-like cataloguing of all the items in a worldwide soundscape but an ear for their *differential* location, for their spacing.

The narrative I have in mind is of the invention of mediate auscultation, as told by Laennec to his friend and disciple Jacques Alexandre Le Jumeau de Kergaradec. The story is recounted by Henri Saintignon in his biography of Laennec:

Passing one day through the courtyard of the Louvre, he saw children pressing their ears to both extremities of long pieces of wood, thus transmitting the noise of a small pin hitting them at the other end. This vulgar acoustic experiment was like a revelation for him. He conceived right away the idea of applying it to the study of heart diseases. The day after, at the clinic of the Necker hospital, he took his medical notebook, rolled it and tied it up. . . . This was the first stethoscope.¹³

This narrative acts like a founding myth for medical auscultation, not unlike the myth of Pythagoras for Western harmony and the study of musical intervals.¹⁴ The narrative is echoed, with slight variations, in Laennec's own *Treatise on the Diseases of the Chest*. The inventor of the stethoscope writes,

In 1816, I was consulted by a young woman labouring under general symptoms of diseased heart, and in whose case percussion and the application of the hand were of little avail on account of the great degree of fatness. The other method just mentioned [i.e., immediate auscultation, without stethoscope] being rendered inadmissible by the age and sex of the patient, I happened to recollect a simple and well-known fact in acoustics, and fancied, at the same time, that it might be turned to some use on the present occasion. The fact I allude to is the augmented impression of sound when conveyed through certain solid bodies,—as when we hear the scratch of a pin at one end of a piece of wood [*une poutre*: “a beam,” in the French original], on applying our ear to the other. Immediately,

on this suggestion, I rolled a quire of paper into a kind of cylinder and applied one end of it to the region of the heart and the other to my ear, and was not a little surprised and pleased, to find that I could thereby perceive the action of the heart in a manner much more clear and distinct than I had ever been able to do by the immediate application of the ear.¹⁵

Auscultation does not care about the beam as such; it does not lend an ear to the sound *of* the beam, but it uses the beam in order to hear *through* it. In the progress of our phonocartography of architectural elements, the beam, therefore, is not simply one more building component added to the others. What it holds, supports, or scaffolds is the possibility of a new mode of listening, a new aural world. Laennec's beam becomes a structural constituent for a new architecture of hearing.

Auscultation involves much more than just the mere amplification of the sounds that a body can harbor. If we read Laennec's *Treatise* closely, expanding on Jonathan Sterne's pioneering work in *The Audible Past*, auscultation appears as essentially focused on the inner *spaces* of the resonating body.¹⁶ This is particularly obvious in passages like the following, where Laennec describes egophony; that is, the tremulating vocal resonance that occurs in cases of pleural effusion:

The sort of bleating so characteristic of aegophony seems, in most cases, immediately connected with the articulation of the words . . . : sometimes, however, it seems unconnected with the articulation, so that we can hear, at the same time, yet separately, the simple sound of the voice and the bleating silvery sound of aegophony; which last appears to be either nearer or more remote than the resonance of the simple voice.¹⁷

In the augmented French edition of the *Treatise* published in Brussels in 1828, another passage partly missing in the English translation emphasizes even more strongly the extraordinary sensitivity of auscultating practice to the spacing of sounds:

After one or two months' experience, the ear becomes accustomed to the sound it is in search of, and is able to discriminate it from all the others with which it may be combined, even when weaker than they are. [It happens to me every day . . . that I hear in the same point the heart-beat, the respiration, the various rattles, borborygmi in the intestines; I listen to each of these noises and study them successively, and I notice at the same time a muscular noise caused by the patient or myself; and though at the same time some of the students surrounding me walk or speak in undertones, I rarely have to ask for silence.]¹⁸

By isolating the practitioner's ear from its surroundings, mediate auscultation, as Sterne notes, "opened up a new kind of acoustic space for physicians."¹⁹ On the one hand, it participated in the

“construction of an individualized acoustic space around the listener”; that is, in the development of a fundamentally “private space” for the auscultator and his patient.²⁰ On the other hand, it turned each sound into “a chart of the space through which it moves.”²¹ That is, auscultation not only transformed the social space in which listening took place, but it also reasserted the power of the ear to reveal the structure of an invisible space by penetrating it.

What we could call the radiographing ability of listening, then, was greatly increased by the development, from 1829 onward, of binaural or differential stethoscopes, with a separate tube for each ear. As Sterne explains, “By connecting each ear with a slightly different sound source, the listener would get a three-dimensional sense of the auditory field: what is now called the *stereo image*.”²² As a mode of listening that not only penetrates into the material thickness of bodies but also *spaces* their constituent parts, auscultation was then able to become much more than a specialized hearing technique confined to the field of medicine. Not only did it pave the way, as Sterne shows, for various technical inventions, such as stereophonic telephony, but it became a general paradigm, from Nietzsche onward, for the questioning of idols or ideologies—in other words: for *sounding out* all kinds of bodies, structures, or architectures, including discourses.²³

In his preface to *The Twilight of the Idols*, Nietzsche thus speaks of “*sounding out idols*” (*Götzen aushorchen*). For the verb he uses, *aushorchen*, the brothers Grimm, in their *Deutsches Wörterbuch*, begun in 1838, give the following Latin equivalent: *auscultando explorare*. Even if Nietzsche has auscultation in mind, he seems to confuse various medical practices when he writes, “Posing questions with a *hammer* and, perhaps, hearing in reply that famous hollow sound that indicates bloated intestines—what a pleasure for someone with ears behind his ears, what a pleasure for me . . . ; in my presence, the very things that want to keep quiet are *made to speak out*.”²⁴

Nietzsche actually generalizes auscultation by including percussion in it.²⁵ But what really matters here, beyond the mixing up of auscultation and percussion, is Nietzsche’s increased emphasis on the *differential* nature of hearing. Auscultation becomes for him the name for a kind of listening attuned to difference: not only does the auscultating listener differentiate sounds according to their spatial location (not only do they appear to be “nearer or more remote,” as Laennec wrote), but the very possibility of this differentiating listening lies in the intervals and deferrals *between the ears*, since the auscultator’s hearing apparatus seems to include “ears behind his ears.”²⁶

How are we to understand such a statement?

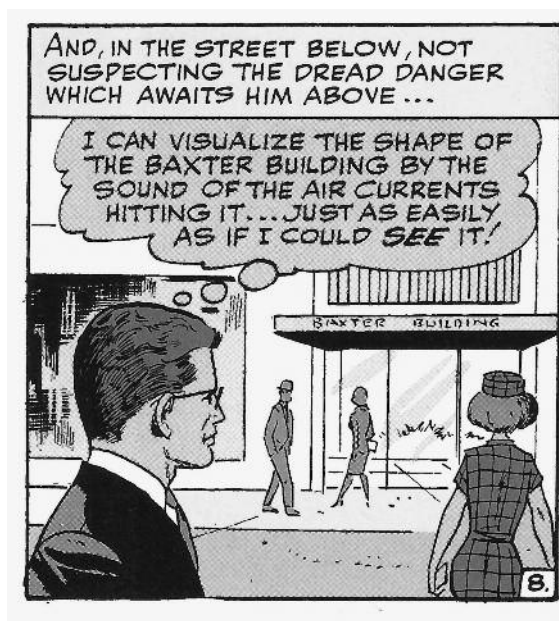


Even more so than in the practice of auscultation, listening most fully demonstrates its capacity for spatial differentiation

in the ability known as echolocation. Rare among human beings but naturally present in animal species such as bats, echolocation is “the location of objects by their echoes,” according to the definition given by Donald Griffin, the American zoologist who coined the term in 1944.²⁷ The echoes bouncing back from the objects or obstacles encountered reach one ear later than the other, so that these time differences, these slight deferrals, are translated into spatial distances, into a spacing of the environment.

Even if the invention of binaural or differential stethoscopes already “extend[ed] the stethoscopic principle to include the possibility of rudimentary echolocation,” only with the astonishing development of surveillance systems did echolocational techniques reach their acme.²⁸ In effect, before the era of radar and sonar, military devices literally expanded and prosthetically amplified the practice of echolocation, thus not only

“The Evil Menace of Electrol!”
Daredevil, no. 2
 (Marvel Comics, June 1964).

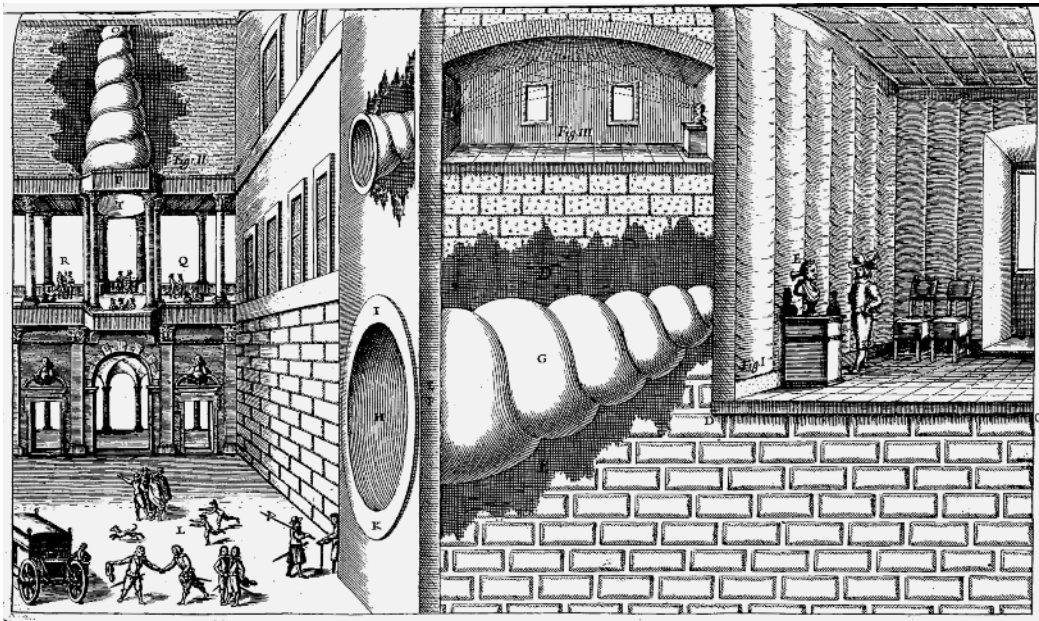


magnifying the differential distance between the ears but serializing, so to speak, the Nietzschean idea of “ears behind ears.”

Pop culture, too, testifies in its way to the spatially differentiating powers of echolocation. In the first issue of *Daredevil*, the superhero-to-be is seen exercising his newly acquired ability, a consequence of the radioactive accident he has suffered.²⁹ He does not seem to understand how it works: the reader has to wait for the fifth issue to get a vulgarized or simplified “explanation of Daredevil’s radar sense.”³⁰ But even before he gets to know the details of the mechanism of this bodily radar, the reader is told that Daredevil’s hypersensitive echolocation is properly a sense for, or of, architectural space. In front of the fictional Baxter Building (headquarters of the Fantastic Four), Daredevil comments, in the second issue, that he “can visualize the shape of the Baxter Building by the sound of the air currents hitting it . . . just as easily as if [he] could see it!”³¹ In

the third issue, we read the following thoughts in his mind: “estimating the time it takes an echo to bounce from the walls,” he says to himself, “it’s a huge room, roughly 32.5 feet in diameter!”³²

As the ability to construct or reconstruct architectural spaces according to the echoes that they produce, echolocation thus appears as corresponding, in an exactly symmetrical way, to what the German Jesuit scholar Athanasius Kircher called “echotectonics.” In the second volume of his *Musurgia universalis*, published in Rome in 1650, he dedicated chapter four of book nine to “magia echotectonica”; that is, to the art of building more or less echoic spaces. Kircher’s echotectonics includes not only theaters but buildings dedicated to surveillance, such as palaces equipped with acoustical tubes that allow the owner to overhear the conversations among his guests or servants. Or like the intriguing cave near Syracuse,



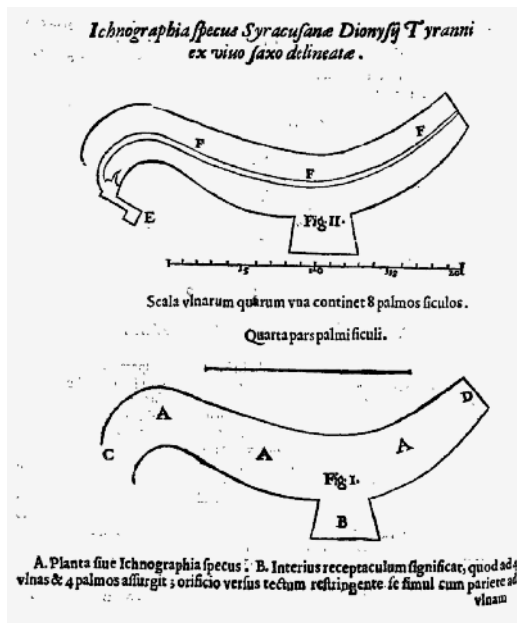
where the tyrant Dionysius is said to have put his prisoners so he could hear their rebellious or scheming exchanges. Kircher gives an ichnography, a ground-plan representation of the cave, and recalls that it is known as the Ear of Dionysius, a nickname given by the painter Caravaggio because of its earlike shape.³³

With this cave, commented upon by many authors, the symmetrical correspondence between echotectonics and echolocation—between an architecture for sounds and the sounding out of architecture—begins to appear more like a coimplication. For the Ear of Dionysius is a place where architecture and otology finally seem to coincide, infinitely exchanging their discourses, as Calvino suggests in his short story “A King Listens.” In the palace of Calvino’s paranoid king, as in the Syracusan tyrant’s ear-cave, the otological lexicon and the vocabulary of architecture overlap:

Vestibules, stairways, loggias, corridors of the palace have high, vaulted ceilings; every footstep, every click of a lock, every sneeze echoes, rebounds, is propagated horizontally along a suite of communicating rooms, halls, colonnades, service entries, and also vertically, through stairwells, cavities, skylights, conduits, flues, the shafts of dumbwaiters; and all the acoustical routes converge on the throne room. Into the great lake of silence where you are floating rivers of air empty, stirred by intermittent vibrations. Alert, intent, you intercept them and decipher them. The palace is all whorls, lobes: it is a great ear, whose anatomy and architecture trade names and functions: pavilions, ducts, shells, labyrinths. You are crouched at the bottom, in the innermost zone of the palace-ear, of your own ear; the palace is the ear of the king.³⁴

Opposite: Illustration of a palace equipped with surveillance devices. From Athanasius Kircher, *Musurgia universalis* (1650).

Right: Ground plan of the “Ear of Dionysius,” a cave in Syracuse. From Athanasius Kircher, *Musurgia universalis* (1650).



Where does this overlapping or coimplication between architecture and otology leave us?

Laennec’s auscultating beam made us think we do not simply hear things *in* space; we hear things *through* space, across space. Therefore, the sound of architecture is not, or not only, the sound of things, of building elements; rather it is—it is also—the sound of the distance or spatial difference between things; it is the sound of their spacing. Echolocation then took us one step farther, by folding back these spatial differences onto the ears themselves: even more than auscultation, echolocating techniques rely upon the distance between the two ears; they involve the differential deferrals of the interaural intervals.

But what happens, finally, when we consider the ear in the singular, without coupling it yet with another ear? The science of audition has demonstrated that our ability for acoustic

location—the sensitivity of our hearing to space—also uses so-called monaural cues.³⁵ These cues are given by the architectural structure of the ear itself, with its pinna, its ridges, its cavities. Ears can sound out and space things not only because they are always two, not only because they form a distant pair, but because an ear, as such, is already spaced; that is, spatially structured and differentiated.

Is this not what Nietzsche had in mind when he wrote that there are ears—caves, holes, hollow spaces—behind the ears? Following his intuition, we should affirm that the ear is the organ *of* and *for* difference.

Notes

1. The first draft of this paper was written for the “Sound of Architecture” symposium organized at Yale University by Kurt Forster and Joseph Clarke in October 2012. I am grateful to them for having sharpened my ear to this expression that they chose as a title.

2. Friedrich Nietzsche, *The Anti-Christ, Ecce Homo, Twilight of the Idols and Other Writings*, trans. Judith Norman (Cambridge, UK: Cambridge University Press, 2005), 155: “the very things that want to keep quiet are made to speak out.”

3. See Jonathan Lamb, “Modern Metamorphoses and Disgraceful Tales,” *Critical Inquiry* 28, no. 1 (2001): 133; and *The Secret Life of Things: Animals, Objects, and It-Narratives in Eighteenth-Century England*, ed. Mark Blackwell (Lewistown, PA: Bucknell University Press, 2007).

4. *Hegel’s Philosophy of Nature*, ed. and trans. M.J. Petry (London: George Allen and Unwin Ltd., 1970), 2:69 (sec. 300).

5. Adolf Loos, “Das Mysterium des Akustiks,” in *Trotzdem, 1900–1930* (Vienna: Georg Prachner Verlag, 1997), 116–17. Available in English translation as Adolf Loos, *On Architecture*, trans. Michael Mitchell (Riverside, CA: Ariadne Press, 2002), 108.

6. Arthur Schopenhauer, *Parerga and Paralipomena: A Collection of Philosophical Essays*, trans. T. Bailey Saunders (1893; New York: Cosimo Classics, 2007), 79. For the original German, see Arthur Schopenhauer, *Parerga und Paralipomena: Kleine philosophische Schriften*, vol. 2, ed. Julius Frauenstädt (Berlin: A.W. Hayn, 1862), 681: “Die allgemeine Toleranz gegen unnöthigen Lärm, z. B. gegen das so höchst ungezogene und gemeine Thürwerfen, ist geradezu ein Zeichen der allgemeinen Stumpfheit und Gedankenleere der Köpfe.”

7. Franz Kafka, “Great Noise,” in *The Metamorphosis, In the Penal Colony, and Other Stories*, trans. Joachim Neugroschel (New York: Scribner, 2000), 17.

8. Italo Calvino, *Invisible Cities*, trans. William Weaver (New York: Harcourt, 1974), 126.

9. Pierre Henry, *Variations pour une porte et un soupir*, 1963.

10. See Raymond Murray Schafer, *The Soundscape: Our Sonic Environment and the Tuning of the World* (1977; Rochester, VT: Destiny Books, 1994).

11. Schafer, 3.

12. Calvino, *Invisible Cities*, 49–50.

13. Henri Saintigngn, *Laennec: Sa vie et son oeuvre* (Paris: J.-B. Baillière et Fils, 1904), 91–92 (my translation): “Traversant un jour la cour du Louvre, il aperçut des enfants, qui, l’oreille collée aux deux extrémités de longues pièces de bois, se transmettaient le bruit de petits coups d’épingles frappés à l’extrémité opposée. Cette expérience vulgaire d’acoustique fut pour lui comme une révélation. Il conçut sur-le-champ la pensée de l’appliquer à l’étude des maladies du cœur. Dès le lendemain, à sa clinique de l’hôpital Necker, il prit le cahier de visite, le roula sur lui-même, et le ficela bien serré, tout en y ménageant un canal central, puis il le posa sur un cœur malade. Ce fut le premier stéthoscope.”

14. For a reading of the Pythagorean myth, see Peter Szendy, *Membres fantômes: Des corps musiciens* (Paris: Éditions de Minuit, 2002).

15. René Laennec, *Treatise on the Diseases of the Chest*, trans. John Forbes (New York: Samuel Wood and Sons, 1830), 4–5. For the original French, see R.T.H. Laennec, *De l’auscultation médiate ou Traité du diagnostic des maladies des poumons et du cœur, fondé principalement sur ce nouveau moyen d’exploration* (Paris: Chez J.-A. Brosson et J.-S. Chaudé, Libraires, 1819), 7–8.

16. Jonathan Sterne, *The Audible Past: Cultural Origins of Sound Reproduction* (Durham, NC: Duke University Press, 2003).

17. Laennec, *Treatise on the Diseases of the Chest*, 46. See also Laennec’s passage dedicated to the coarse rattling sounds caused by bronchial secretions: “The mucous rhonchus . . . appears always larger, and most usually

unequal, so as to convey the idea of a liquid into which some one is blowing, and thereby producing bubbles, of which some are of the size of a filbert and others only as large as a cherry-stone or hempseed. . . . [I]t sometimes seems that the point of lung beneath the stethoscope, is filled with bubbles that touch each other; and at other times, there seems to be only one here and there, while the intervening portion of lung yields the simple sound of respiration, or yields no sound at all" (57).

18. R.T.H. Laennec, *Traité de l'auscultation médiate et des maladies des poumons et du cœur*, nouvelle édition publiée par les soins du Dr. Charles-Jean-Baptiste Comet (Brussels: Librairie Médicale et Scientifique, 1828), 23. The sentences missing from the English translation are enclosed in square brackets. See also Laennec, *Treatise on the Diseases of the Chest*, 35.

19. Sterne, 115.

20. Sterne, 155.

21. Sterne, 125.

22. Sterne, 155.

23. Sterne, 156.

24. Nietzsche, 155.

25. Laennec writes in the introduction to his *Treatise*, "The use of this new method must not make us forget that of Auenbrugger [the inventor of percussion]; on the contrary, the latter acquires quite a fresh degree of value . . . and becomes applicable in many cases." Laennec, *Treatise on the Diseases of the Chest*, 9.

26. Since Nietzsche, other thinkers, like Martin Heidegger or Jacques Derrida, have taken up the idea of a philosophical auscultation as a way of being attuned to differences that are at the same time infinitesimal and wide-ranging in their consequences. See Peter Szendy, "L'oreille de Derrida: Écouter, ausculter, ponctuer," in *Derrida et la question de l'art: Déconstructions de l'esthétique*, ed. Adnen Jdey (Nantes: Cécile Defaut, 2011), 201–36.

27. Donald Griffin, *Echoes of Bats and Men* (New York: Anchor Books, 1959), 18.

28. Sterne, 156.

29. "The Origin of Daredevil," *Daredevil*, no. 1 (Marvel Comics, April 1964).

30. "The Mysterious Masked Matador!" *Daredevil*, no. 5 (Marvel Comics, December 1964).

31. "The Evil Menace of Electro!" *Daredevil*, no. 2 (Marvel Comics, June 1964).

32. "The Owl, Ominous Overlord of Crime!" *Daredevil*, no. 3 (Marvel Comics, August 1964).

33. On the Ear of Dionysius and its various commentators (including Jeremy Bentham), see Peter Szendy, *Surécoute: Esthétique de l'espionnage* (Paris: Éditions de Minuit, 2007).

34. Italo Calvino, "A King Listens," in *Under the Jaguar Sun*, trans. William Weaver (New York: Harcourt Brace, 1988), 38.

35. "Although we have two ears, a great deal of information about sound source location can be obtained by listening through just one ear. *Monaural* cues to sound source location arise because the incoming sound waves are modified by the head and upper body and, especially, by the *pinna*. These modifications depend on the *direction* of the sound source. If you look carefully at a pinna, you will see that it contains ridges and cavities. These structures modify the incoming sound by processes including *resonance* within the cavities. . . . In other words, the pinna imposes a sort of directional 'signature' on the spectrum of the sound that can be recognized by the auditory system and used as a cue to location." Christopher J. Plack, *The Sense of Hearing* (New York: Psychology Press, 2014), 168 (emphasis in original).