4

Hearing and Listening

> To listen is to enter that spatiality by which, *at the same time*, I am penetrated: for it opens up in me as well as around me, and from me as well as toward me: it opens me inside me as well as outside, and it is through such a double, quadruple, or sextuple opening that a 'self' can take place. To be listening is to be at the same time outside and inside, to be open *from* without and from within, hence from one to the other and from one in the other. (Nancy 2002: 33)

Many scholars have come to term our culture to be a visual-perceptual one. But in fact, the entire history of metaphysics is based on the primacy of sound (*phonè*), which, according to the ancient Greek, is the expression in humans of something that nature has imprinted on their soul/mind (Gr. *psykhé,* Lat. *anima*). The written letter as a signifier of the sound is specific to Western writing systems, and sound standing for the idea, has been the predominant chain of references from Socrates to Freud and Lacan. It therefore does not come as a surprise to find Western culture associated with the adjective *logo-phonocentrism* (Derrida 1967b). But spoken language, before the arrival of literacy and graphicacy, has been the dominant mode of communication. It is the paradigm of face-to-face communication, made possible by the very fact that we have ears. Lectures, the classical form of passing knowledge from one generation to the next, until this day, constitute the main mode of teaching high school and undergraduate classes at the university: they are based on speech and hearing. In fact, inattentive students are asked 'to listen' rather than to speak to their neighbor or occupy their time with something else.

In this chapter, I use the term 'hearing' when what we do is equivalent to understanding – as in 'I hear you' – and 'listening' to denote the act when we attentively orient to something or someone to figure out precisely because the sense of the said is not apparent, that is, as synonymous with 'to hearken'. When we do not hear, that is, if we do not understand, then we hear *something*, we hear a sound, without understanding what it is, where it comes from, what the source is, and so forth. This already points to the fact that our language is not sufficiently rich to

express the important differences that are covered over in the single and singular use of the verb 'to hear'. Thus, we hear with understanding that 'a motorcycle is approaching', but we hear a noise or sound in the dark precisely when we do not know what is producing it and where it comes from.

A Special Relation to Hearing

> It is not a matter of chance that we say, when we have not heard 'rightly', that we have not 'understood'. Hearing is constitutive for discourse. . . . Dasein hears because it understands. (Heidegger 1927/1977: 163)

Although humans would not be able to have (spoken) language without the sense of hearing: It is speaking that dominates research on knowing and learning. Thus, research reports on what students say rather than on what others hear. Yet, as the introductory quotation suggests, *hearing* is constitutive of discourse. We speak, because we hear; and we hear – e.g., a *motorcycle* approaching – because we already understand.

Deficit: Perspectives

During my first fifth grade – in Germany, a *Gymnasium* (high school or grammar school) – I lived in a boarding home because, at the time, there was only one bus that connected my village in the Rhön Mountains to the nearby (small) city where this kind of school existed.[1] One day, my mother visited me in the boarding home. We are standing in front of my locker in the hallway when she all of a sudden shook me. When I turned around, I understood her to ask me whether I did not hear her. She took me to the otorhinolaryngologist, who suggested that I had a painless middle ear infection (*Otitis media*), did not hear, and would have been completely deaf within a week. My teachers had not noted anything. Apparently I had compensated my disappearing auditory capacities by learning how to read lips. The teachers apparently thought that I was a dumb country boy because I did not react when they were addressing me from behind. I received treatment and forgot about it. I had not been aware of having lost my hearing.

Years later, I regularly went to see classical movies at Concordia University (Montreal, Canada). In some passages, I could not understand what was being said. At first I thought it was a problem with the soundtrack. But all of a sudden I realized that I could clearly understand Humphrey Bogart when he was facing the camera but I could not understand him when he was looking away from the audience. Again, I realized that I had lost – or perhaps never regained during childhood – part of my hearing but compensated for it by means of lip reading. I then found

[1] It may sound incredible, but it was only at that the time, the beginning of the 1960s, that indoor toilets and tractors for farming arrived in the remote villages such as mine.

out that this was also true in ordinary conversations, for example, while teaching. Any time students were facing me, I had no trouble understanding (hearing); but I had trouble when I could not see their faces.

I largely forgot about what some might call a disability until recently. In a fortunate unfortunate instance, I experienced the difference between hearing and not hearing. I had lain down for a nap. When I turned from one side to the other, I all of a sudden heard the ticking of a clock that I had not been aware of before. Later, when I turned back, the ticking had disappeared. I became interested. I turned my head on one side so that the ear was completely on the pillow: the ticking disappeared. I turned my head on the other side: I clearly heard the ticking. I immediately realized at that moment that with one ear, I was living in a silent world. There were things under certain conditions that completely escaped me, but that were accessible under different conditions. I lived in two worlds simultaneously, providing me with different affordances and constraints. The experience also teaches me the difference between the two experiences, the one with the twin silos and the one with the two auditory worlds. With the twin silos and visual perception (chapter 2), the preceding world is forgotten and available only through intellectual effort. Whereas with the twin silo experience, I had truly lost the preceding world, the one that existed for me before the discovery, I can relive the experience of the two auditory worlds whenever I desire. The world without the twin silos is but a memory, subject to fallibility as are all memories. This gives me an additional layer of understanding: In the world without the ticking clock, I have nothing to indicate to me that this world is different from the other one. There is no indication that I am 'disabled'. It is only in the comparison with the *other* that I notice the difference.

Cross-Modality

In the experience of an apparent gradual shift from hearing with the ears to lip reading, we observe an instance of cross-modality. In communicative exchanges with others, the eyes begin to do what the ears can no longer do. From the fact that this change was unnoticeable until its effect, at some later point, becomes drastically apparent shows us that there is an underlying oneness of the organism to whom it does not matter where the information comes from.[2] The person actually

[2] The experience of losing a capacity without noticing it is not so infrequent. It happened to me in another sense as well: vision. I noticed that something was wrong when, accompanying my younger brother to a German *Bundesliga* soccer game for which he had received tickets as a birthday present: I only saw colored splotches moving around the field but I never saw a ball. I returned home to tell my parents about it. They who took me to the ophthalmologist, who determined that I was shortsighted and needed glasses. None of my teachers had noticed that something was wrong and that I had trouble seeing what was written on the chalkboard. Even I was not conscious that something was 'wrong' and that I was 'disabled' to a certain extent, which needed spectacles to be fixed so that I could see normally again. Here, too, the change had occurred slowly and unnoticeably so that I had not become conscious of my condition. The shortsightedness became salient only when, in a special situation, the condition no longer allowed following the specific events.

does not distinguish between what is *actually* heard and what is 'heard' by different means. It is like scientists who represent visually information that they have received from outer space but which is not normally perceivable by the eye. Thus, they may represent in color the infrared or ultraviolet radiation that they do not normally see and produce images of galaxies that pull together all the information we obtain from all the forms of radiation that these emit.

But we also observe that the two maps – hearing and 'seeing' sound – do not cover each other completely. First, when people speak behind my back, or when I do not see their face, I may not know at all that someone is speaking to me, in the worst case, or do not hear and understand what the speakers are saying, in a less serious case. As the case of the ticking clock shows, I would not even know that there is a sound.

I have become attuned to problems or issues with the sound track on videotapes or television broadcasts. For example, more so than the people surrounding me I am aware of the slightest slippage between video track and audio track. The words I see and whatever I can hear with the remaining auditory capabilities is out of synchrony. When I am confronted with such a situation, it is like listening to a garbled conversation or more, like being part of a trans-Atlantic telephone conversation where one hears a reverberation of voices, a voice and its echo overlapping with what follows.

Another interesting phenomenon that comes with lip reading rather than hearing with the ears appears in viewing dubbed movies because whatever sound is perceived no longer corresponds with what the face reveals. Moreover, I have become sensitive to the relationship not only between voice heard and the movements of the lips of the speakers but to the relation of voice with all the other movements that speakers make. That is, the voice gives away aspects of the person, and a decalage or rather dehiscence occurs in the sensory world between the visual and the auditory modalities.

New Opportunities for Hearing

I had an interesting experience with classical music, which not only shows the cross-modality of hearing and other sensations but also, perhaps, opened up new possibilities for me to appreciate this kind of music. I grew up listening mostly to the popular music of the time. In my home, classical music was not really appreciated unless it was related to operetta, a genre often defined as 'light opera', where the adjective 'light' pertains both to the music as well as to the subject matter. After leaving home, I became interested in classical music, developing a taste that began with some lighter pieces and genres – Vivaldi's *Le quattro stagioni*, Beethoven piano sonatas, or a number of etudes by Frederic Chopin – and, over the course of a few years, developed a taste for all classical music (but opera) up to Gustav Mahler. However, I could not stand dodecaphonic music and much of what the 20th century had produced. It remained like this for many years, until, in 1995, I was invited to a concert that also featured *Les Amériques* composed by Edgar Varese.

At the time, I am sitting there in the last row of the long and narrow concert hall (the called *Berliner Sinfonie-Orchester*), the music begins quietly with a melody that could have been written by Debussy but then takes over and becomes – in its rhythmic changes and pounding drums – more like Stravinsky's *Le sacre du printemps*. All of a sudden, I feel transported into a different world. It is as if I am walking among giant boulders strewn over a landscape towering above me. I wind my way among them in association with the music. I allow my body to be taken by the music, resonating with the fierce dissonances, complex polyphonies produced by the percussion instruments. Each crescendo mounts another giant boulder towering over me and among which I walk as the music unfolds. At the moment, the music is entirely physical as the violent sounds entrain my entire body into an experience not unlike that I have when listening to the *Le sacre du printemps*: wild, raw, originary, primal. The experience at the time is one of a soundscape that overlaps with a landscape that I can feel with my body. In fact, the experience has both transported me into this soundscape and has been that of a landscape – the transport into and the nature of the sound being but two dimensions of the same non-self-same experience.

Clearly, the experience has been as much physical as it has been an auditory one. I left the concert hall with a strange sense of transformation. Not only had I enjoyed this experience but also I began to look for other music of the same kind. It turns out that the transformation extended to other pieces and composers. *Les Amériques* had changed *how* I heard and listened to music, opening up for me all the genres that had been inaccessible for me up to that point in time. Importantly, it was in listening to something heretofore inaccessible and disliked that not only this piece became accessible and liked but a whole genre, and with it, other genres of 20th century music (e.g., electronic music by K. Stockhausen and I. Xenakis, minimalist music, or dodecaphonic pieces). This experience, therefore forces us to reconsider how we think about change and learning, which require concepts that capture the change as such rather than as a result of external forces. The same Varese piece was accessible and inaccessible at the same time, shifting from inaccessibility to accessibility in the course of hearing and experiencing it. We may also say that the experience was syncopic, having been part of my preceding world when I could not appreciate 20th century classical music and my subsequent world, where it has become my preferred type of classical music.

Hearing and Listening in Transcribing

In the course of my research career, I have transcribed hundreds of hours of audio- and videotapes. Time and again I have come to be confronted with puzzles and interesting questions, especially when the normal modes of transcribing, based on understanding hearing, is confronted with trouble. At this point, when we no longer hear words but sounds, what is special about the normal mode of (understanding) hearing comes to the fore as we grapple with finding in the sound the intended word. In the following, I use as my object of exploration a particular instant from the videotape of which a co-worker made a transcription that somehow

did not fit to the rhythm in the speech I was hearing. The troublesome instant becomes an occasion for an experiment in hearing, as I attentively *listen to* find out what there is on the tape. I employ and thereby exemplify the experimental first-person method, which consists in varying some parameter to understand what the invariants are in our perceptual experience.

Understanding Hearing

Readers doing video- or audio-based research and who transcribe (have transcribed) themselves, particularly tapes that were recorded in less than optimal conditions – e.g., quiet room with only two participants present taking their turns at a time without overlapping – will be familiar with the phenomenon of missing words. Although transcribers hear that a person is speaking, they cannot make out *what* the speaker is actually saying. It turns out that another person might hear perfectly well what is being said. Even more interestingly, when transcribers who have trouble understanding are told what was said or what can be heard, they may actually hear precisely the suggested word(s). That is, the transcribers did not hear at all or heard another word or words and yet, when told, do in fact hear (i.e., with understanding).

The first lesson we can take from this is that we may frequently not hear the precise words that speakers are using but, because we (already) know what they are talking about, fill in whatever we do not hear.[3] Moreover, when we are familiar with a situation, we may actually hear what others do not understand precisely because we can anticipate approximately what a person might be saying, which assists us in hearing what is actually being said. Thus, in one research project that a student and I conducted together on physicists' reading of graphs from an undergraduate course in biology, he had tremendous difficulties hearing what the participants on the tap were saying. His transcriptions were full of question marks, each of which, by convention, marks approximately one missing word. Yet I had not trouble hearing and repairing the missing 30% of the transcription.[4] As a physicist, and having used the same graphs in research with biologists, I had developed a sense for what they were talking about. As a physicist, I am with other physicist from 'beforehand with the things that the said is about' (Heidegger 1927/1977: 164). In a similar manner, I conducted collaborative research in a fish hatchery, but actually had spent more time at the site than any one of my collaborators. Knowing what the fish culturists and workers normally talk about as part of their everyday work routines turned out to be beneficial in hearing what they were saying in recordings that my collaborators could not decipher.

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[3] Filling in may also be at work in my own experience of 'hearing' by reading the lips. The process is also at work in the case of the blind spot, which we do not notice until we conduct a special experiment with an object that falls within the angle covered by the spot (for such a test, see Wikipedia on 'Blind spot').

[4] I use headphones and in the case of digitized tapes, listen in slower and faster play modes, or listen to it in the context of different software packages.

When we hear a human voice, the normal mode that goes with it is that we hear words. This is so because acoustic perception is grounded in hearing in the multiple senses of the word: hearing the sound as word and hearing as understanding. We do not hear sounds that we *interpret* as voices and as words that speakers spill forth. 'Even when speaking is unclear or the language is foreign, we initially hear *unintelligible* words, and not a multiplicity of tone data' (Heidegger 1927/1977: 164). That is, we do not 'construct' concepts while hearing someone else speak because 'sense was everywhere present' (Merleau-Ponty 1945: 210).

What does it mean to hear or, in its more attentional mode, to listen to someone else or something? It means, in fact, to open up to what is coming toward us and that we do not know what it will be. Hearing implies a form of resonance between the sound waves that the vocal cords and other speech modulating parts of another's body produce that subsequently makes resound the eardrums of the listener. The process of speaking and listening, therefore, is an entrainment of one (listener) by the other, much like two clocks on the wall can force each other into a common rhythm (as long as they are close enough together). But entrainment cannot occur when the two sounding bodies are too far apart so that resonance cannot occur. The speaker, therefore, to have any hope for being understood, has to be tuned to the listener, who, to understand, has to be tuned to the speaker. Resonance shows us that there is a mutual affection without which communication by sound would not be possible at all.

Troubled Hearing

Difficulties hearing what someone says on a recording may occur even when the transcriber has been present during the talk and even though the transcriber is familiar with the audience and with the speaker and his work. Leanna Boyer, who was a research assistant and later graduate student of mine, participated in two simultaneous ethnographic studies of a fish hatchery and a scientific laboratory (of which I also was a member). On the tape, one of the laboratory members presents some interim results of research with coho salmon that had been sourced in the fish hatchery. At one point, she transcribed a piece of talk as

> It's a very subtle curve and there's the varied temperature and you can see it's higher here, so I am pretty sure about a temperature effect that seems to be what what's mostly manipulating this.

Playing the tape allows us to hear the said, which is unproblematic and was unproblematic to the audience, as the remainder of the videotape shows. It is thought itself that the listener receives from the speech – much like Merleau-Ponty and Vygotskij described it – unless there is a problematic issue. For me, when I wanted to ascertain the said to subject it to analysis, one part of this transcription became an issue because something appeared to be incorrect. To have a correct transcription of the words, I had to *listen*, allowing an investigation of the very listening that exhibits its nature here.

I am interested here in the underlined part of the sentence. At the time when working on an article in which this section of the transcribed is to be included, I listen to the tape. I can hear the speaker say ‘temperature’; but there is something not quite right. There appears to be something missing following the articulation of ‘effect’ and before ‘that’, though it is at the threshold of the hearable. I also have a sense, though without being able to put my finger onto it, that there appears to be a trajectory in the intonation that is inconsistent with the word ‘effect’. But if I anticipate hearing the word ‘effect’, then it becomes salient, i.e., I hear the sound as such. The word ‘effect’ also is consistent with the sense of the utterance, which is about temperature as a variable that has an effect on the frequency spectrum of light absorption in the eyes of coho salmon. Because of this contradiction between the words and the intonation, I decide to make it the object of an empirical, first-person investigation. I really have to listen, and make this *listening* the topic of investigation, because ‘the one who “cannot hear” and “has to feel”, can perhaps very well, and for this reason, listen’ (Heidegger 1927/1977: 164).

When the soundtrack is played at half the normal rate, it becomes apparent that preceding the word ‘temperature’ there is more than ‘a’, but in fact something that we hear as a hesitation, often transcribed as ‘uh’. There is also a clear sense that the voice does not stop in ‘t’ of ‘effect’ but that something else is following. There is a rhythm to the speech that would be interrupted if there where to be an empty space in the sound pattern between what Leanna heard as ‘effect’ and the subsequent ‘that’. We learn from this that hearing does not only involve some translation from sound into words but also something like a kinetic melody that allows us to hear and fill in when there are interferences.

I enter the soundtrack into PRAAT, a software package linguists interested in phonetics use to analyze voice.[5] This software package allows me to display the waveform (upper panel), speech intensity (solid line), and pitch (dotted line) (Fig. 4.1). I can also select different parts of the speech displayed and play nothing but it. The first thing I note is that there is not only an ‘a’ but another sound, which I transcribe as ‘uh’ (i–ii) that follows the ‘a’. We see in the representation (Fig. 4.1) that the sound does not return to the baseline, which means that there is a transition from ‘a’ to ‘uh’. We might want to transcribe this as ‘a͡ʉh’. If I now bracket what lies between the vertical lines ii and v, then I can hear what Leanna has heard, that is, ‘temperature effect’ (line 1). But *listening* allows me to understand that there is something else between the verticals v and vi. In order to find out, I experiment by offering myself possible words that might fit into this slot. One is ‘here’, which would produce the sentence ‘I am pretty sure about a temperature effect here’, which is a reasonable and intelligible solution. Both effects, in fact, tell us something about parsing. The part up to vertical ii may be heard as one sound, as an extended ‘a’ that we might want to denote by ‘a͡a’. But, as the speech intensity and waveform show, there is a dip that separates the first and second parts of the sound. The part between v and vi played alone lies somewhere between a drawn out ‘or’ or ‘er’. If we now bracket the part between verticals iv and vi, then we can clearly hear ‘factor’, where the second part fades away, as denoted by the falling intensity

[5] It is a cross-platform piece of software and can be downloaded for free from the website www.praat.org.

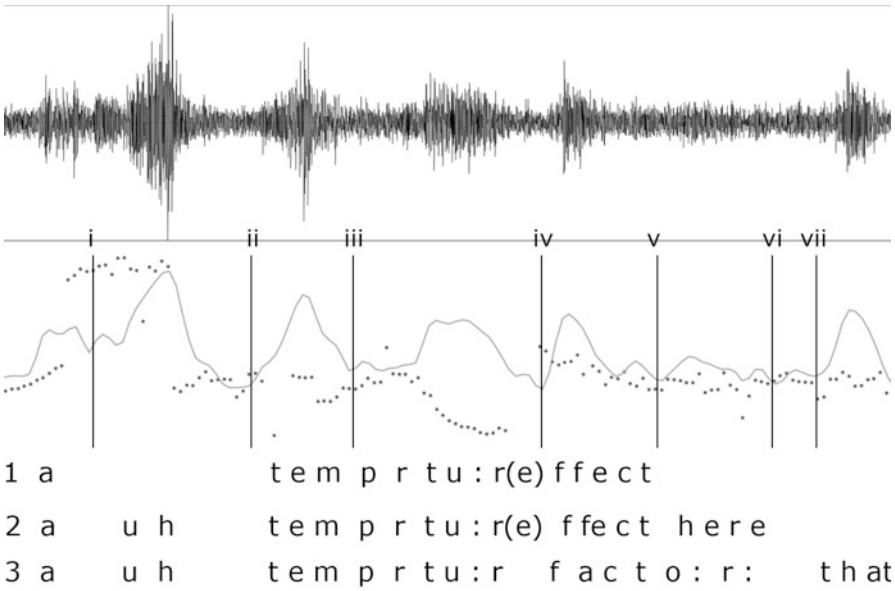

Fig. 4.1 An experiment in transcribing shows that what we understand to be said depends on where the ear parses and to what the ear is sensitive.

curve. When we listen only to the part between ii and iv, then we clearly hear the word temperature.

We now are in a position to analyze how hearing or not hearing the part between v and vi can affect what we hear in the sounds before. When it is not heard, then a reasonable hearing comes together in 'temperature effect'. This is reasonable because upon testing, the sliding transition between 'r' and 'f' can easily lead to the impression of the presence of an 'e'. A first possible solution to the added sound lies in the adverb 'here', which makes for a reasonable hearing of the sound before that is precisely the same as without the 'here'. But when the soundtrack is listened to with the parsing occurring at iv, then we can clearly hear the words 'temperature' and 'factor'. Conceptually, temperature factor is more appropriate than temperature 'effect' in the light of what is following: a clause that specifies the foregoing as 'manipulating' the phenomenon under discussion. Effects are the results of causes, not the causes themselves. Factors, when they are independent variables such as in this study, *are* causes.

I note above that there is something other in the rhythm I hear by listening to the tape than what Leanna's transcription provides. To find out, I use the software to mark the rhythm associated with the syllables and differences in loudness that we can hear and see (Fig. 4.2). If the marked place were without a word, there would be a missing beat, also marked by means of a point in transcript 4.1.

Transcript 4.1

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a  u:h: temperatureffect (0.42) that seems tobe what
|   |     |       |    |     .     |     |     |   |
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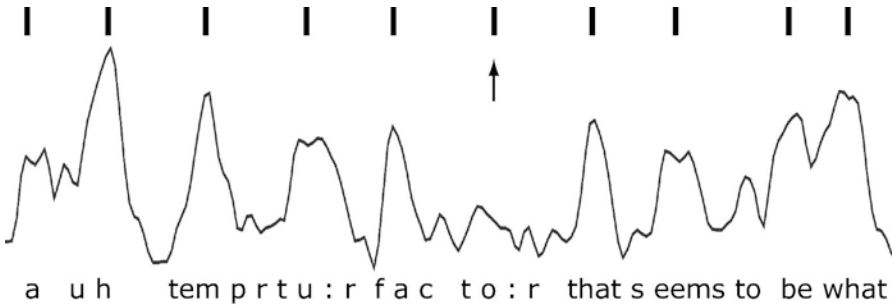

Fig. 4.2 The rhythm would be different if there were not a part of speech at the marked instant.

On the other hand, the rhythm is sustained when we hear the tape differently. Because I am sure there is something, I listen attentively to the voice around the place of interest until I get into its rhythm. I am saying the phrase together with the speaker as he talks himself along in his presentation. I am getting myself into resonance with him until we speak in unison. It may actually be better to express this in this way: I am allowing myself to be affected through contagion, that is, contact and contiguity, but also contingency, as the metric of the rhythm does not follow mathematical precision. In fact, rhythm is perceptible as rhythm only against the non-rhythmic. Like figure and ground, rhythm is perceivable as rhythmic only against that which it is not. Based on the rhythm that is achieved, particularly the drawing out and delay of the sound that is audible in the place marked by an upward arrow (Fig. 4.2), I first attempt to fill the empty beat by placing 'here' between the words 'effect' and 'that' in Leanna's transcript. Upon further experimentation, I come to the conclusion that it is more *sensible* to hear the word 'factor', where the last syllable is a bit drawn out.

Transcript 4.2

```
a  u:h: temperature  fac  to:r  that seems tobe what
|   |     |       |    |     |     |     |     |   |
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In this experiment, I am listening (carefully) and thereby precisely not hearing the sense but looking for something else, here, the precise (nature of the) word that would transcribe the sound on the tape. I listen and have to listen because the relation between sound and sense that normally exists is not present in this case, pushing my hearing to its limit, listening for what there is to bring it into the realm of sense. That is, this episode shows how 'listening is listening to something other than sense in its signifying sense' (Nancy 2002: 62). For example, in this case I am listening to find the rhythm, even marking it in objective manner using a software package. No longer is it the thought of the speaker I hear, but I am listening for the rhythmic pulsation of his speech. But this change from understanding hearing to auscultative listening is precisely a crossing of the boundary from the understood to that which is not yet coded: 'Perhaps we never *listen* to anything but the non-coded, what is not yet framed in a system of signifying references, and we never *hear* anything but the already coded, which we decode' (Nancy 2002: 69–70).

Timbre

> Timbre is thus the first correlative of listening, and it is through it that we can even better approach what diverges here from a simple phenomenology. (Nancy 2002: 77)

Using the software package also makes me attend to another dimension of listening. While listening to the tape, I recognize the voice of the person presenting. I would have recognized the voice even if it had been played without my knowing who will be speaking. That is, there is something characteristic about the voice that allows me to hear *who* is speaking.[6] Yet the same software package represents particular aspects of the voice independent of who is speaking – including pitch (intonation), speech intensity (loudness), speech rate, and rhythm. These parameters, therefore, because they could be the parameters of anybody, cannot be what make this voice singular so that I would have recognized who spoke. This is what makes computer-generated voices, which are precisely the same under any circumstance, sound non-human. I even recognize and remember the other speakers, even though I have forgotten who else was present in the meeting. Upon reflection, we know that the same is the case in music, where we recognize the instrument that plays even when all instruments play the same melody from the same sheet of music. That is, apart from the melody (pitch, pitch contour, intonation), rhythm, intensity, and rate of play, there is something else that distinguishes the instrument and yet is unrepresented and, in the human voice, is irrepresentable: timbre. In speaking of timbre, we focus on that aspect of speech that remains after decomposition into all possible factors that we can think of – if indeed it were possible to consider timbre independent of all the other moments of speech.

But if timbre cannot be represented – in the manner my software package represents pitch, speech intensity, and other parameters of speech – and yet constitutes a form of communication – I do recognize the voice as the voice of *this* rather than another person – then it constitutes the communication of the incommunicable. This is so 'provided it is understood that the incommunicable is nothing other, in a perfectly logical manner, than communication itself, that by which a subject becomes an echo – of self, of the other, it's all one – it's all one in the plural' (Nancy 2002: 78–79). Yet when we think of musical instruments, there is something that all oboes share. There is, therefore, an aspect that we might refer to as timbre, but which does not exhaust timbre, for it is precisely the non-repeatable that allows us to identify the singular individual – much like concert musicians can distinguish one Stradivarius violin from another, and, especially, can hear the difference between a Stradivarius and some other high quality violin. That is, timbre is not a single thing, it is not a mere composition of the objective sound parameters – pitch, spectral envelope, pitch contour, change in spectral envelope, frequency modulation, amplitude modulation, prefix, and suffix – and therefore exceeds any determination of the sound of a voice or instrument by means of harmonics. Not surprisingly, noise, precisely what is irrepresentable, is an essential part of timbre.

[6] We recognize a computer generated voice – I can make my Macintosh computers read this text and they all sound *exactly* the same – which is non-human precisely because it is indifferent to the context and always the same.

'Timbre is par excellence the unity of a diversity that its unity does not reabsorb' (ibid: 79). Timbre, in the German language, is expressed in terms of color: *Klangfarbe*, which has become an English word. In direct translation, the term would be 'the color of sound'. In fact, it is not only onto the metaphor of color that timbre opens but also onto the metaphor of other perceptible registers: 'touch (texture, roundness, coarseness), taste (bitter, sweet), even evocations of smells. In other words, timbre resounds with and in the totality of perceptual registers. In this resonance, the mutual *mimesis* of senses, if there is one, does not distinguish itself from the already evoked *methexis*: participation, contagion (contact), contamination, metonymic contiguity rather than metaphoric transference' (ibid: 80).[7] Again, we find a cross-modality whereby the characteristics of the experiences related to one sense are likened, and share similarities with, the experiences of another senses. More so, in a footnote appended to the preceding quotation, the philosopher expands the implications that we can draw from the consideration of timbre: 'More generally, we should examine the contagious references of timbre to the registers of physical sounds (liquid, flow, rustling, crumpling, tearing), to that of animal voices (howling, growling, chirping, mooing), to those of materials (brassy, wooden), and finally to all those registers that solicits the description of listening to instruments or voices (what plucks or slides, what strikes, what vibrates) and even the spectacles of the bodies in the postures of instrumentalists or singers (plucking, sliding, swelling out, releasing, striking, touching' (ibid: 80–81).

Timbre poses us with another puzzle, partially exhibited in and answered by the quotations. I note above that timbre is the most singular aspect that allows me to *re*cognize the voice of our team member presenting at the meeting in the fish hatchery. Although I have forgotten the details of this meeting, I have not forgotten the voices, which I an attribute to the different people I have met there while doing my research. But if I recognize the 'owners' of the voices – because of the timbre, this aspect being the most proper defining the individual apart from other individuals, and, therefore, suggestive of a self-identity of the person – there is something that is awakened again *within me* that justifies the denotation of the event as recognition. If so, then this most singular attribute of the speaker is also an attribute (of my memory). I practically understand, through and because of personal experience that 'timbre, style, and signature are the same obliterating division of the proper. They make any event possible, necessary, and unfindable' (Derrida 1972: xiii). Timbre, as style and signature, constitutes therefore the very structure of expropriation. It shows that self-sameness and identity are but figments of metaphysics, because any form of contact also means contagion, contamination, contiguity, and, therefore, otherness.

We can conduct first-person experiments with our own voices. At present, I use my laptop computer to record my voice, reading a paragraph from a book on my desktop. You may actually do so prior to continuing. Record yourself reading from a text; then listen to yourself. Is this the voice that you hear when you speak? Even before hearing my voice, I know that it will be a voice that I know from other re-

[7] *Méthexis,* participation, is Plato's word for the contribution of the real in the constitution of the ideal. It is precisely because of the interlacement that *méthexis* denotes that the ideal has any pertinence and applicability for the real (e.g., Husserl 1969/1977).

cordings; but it is a voice that I do not normally hear in this manner. It has a timbre unlike all the other voices I know – yet I do not hear this timbre while I am reading a paragraph from the quoted Derrida text. The timbre of my voice – that which is most particular about my voice and allows others to know that I am speaking (on the phone) rather than someone else – *is inaccessible to me* while I am speaking! I remember from other occasions many years ago that even those aspects that are so distinctive about a voice that has first learned another language, its accent, is inaudible on the part of the speaker – who might, under certain circumstances, attempt to consciously make the accent disappear. That is, the very phenomenon that allows others to recognize my voice when they hear it on the phone or in some other situation where they cannot see who is speaking, is *inaccessible* to me – unless I seek assistance to access my voice through the mediation of a recording device. But this access is a delayed one, and, therefore, one related to representation. It does not make my voice present to myself.

I continue my explorations of my voice. I play the soundtrack of the read passage through the PRAAT software package that allows me to change the pitch, that is, the lowest main frequency of the voice. I add 50 Hertz. I can clearly recognize the same word being said and the program shows that in fact the mean pitch for the word 'tympanon' has changed by that value. But the voice quality has changed, even though we might have expected something to occur that resembles a musical instrument changing a melody by parts or even a whole octave. But this is not the case here. The aspect has changed even though I can hear the same raspiness in the second part of the utterance. When I look at the formants[8] of my voice for the same word 'tympanon', that is, the next five major frequencies, I note that these have remained precisely the same. What has changed, therefore, is the relation between the base frequency (i.e., the pitch) and all the other frequencies (i.e., formants) that contribute to making the timbre. That is, timbre, too, has changed.

Conclusion

In this chapter, I exemplify the use of first-person methods for the analysis of hearing. We may do so through a close analysis of what is involved in the experience of our hearing. This allows us to work out what any particular instance of it tells us about the invariants; or we may conduct experiments where hearing is subjected to variations, such as when we play a tape fast or slow or when we change the pitch. An important insight we gain is that our language insufficiently distinguishes between different modalities of hearing, that is, between *just hearing* sound (as if it were noise) or voice, *hearing understandingly* (when we access a thought), and *attentively listening to*. The analysis of hearing our own voice shows that precisely the aspect that makes us unique also is an aspect that we do not have access to without some mediation, and, therefore, points us to the inherent non-self-identity

[8] Formants are the major higher-order frequencies that a computer program uses to constitute a voice. Thus, pitch (also F_0) is the lowest and most dominant. The next higher dominant frequency would be F_1, and so on.

of all existence – ek-sistence, that is, standing out. Timbre in particular teaches us about expropriation or the problem of the proper.

The phenomenon of quite different perceptual capacities in the two ears allows us to explore issues that are frequently not available otherwise. Thus, for example, we tend to think about 'disability' by making between person comparisons, making statements about what one person cannot do that others can do. The phenomenon teaches us that the difference does not originate between individuals but that it is characteristic of the person who is non-identical with itself. Between differences are possible precisely because there are within differences, which are required for a phenomenon to manifest itself in different ways. Between-differences are nothing but comparisons of manifestations rather than of things – persons – themselves. The non-self-identity of the one is further underscored in the phenomenon of cross-modality, such as when lip reading 'compensates' for the loss of auditory capacities: what we 'hear' is the result of figure | ground differentiations that are possible only because the ground is not identical with itself.