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# Other Paths to Sonic Cartographies: "Mapa Sonoro CWB" and Its Untethered Soundwalks

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The sound maps that will be dealt with in this chapter can be described as web-based platforms, often collaborative, that gather, organize, and make available field recordings, serving as a repository for this type of phonographic record of ambient sounds. Its most common interface brings a contiguous image of the land surface, which can be navigated through the use of zoom and dragging. On it, pin icons simultaneously indicate the place where the field recording was made and lead to its audio file, which can be played and heard by using the interface. This configuration has held some fascination with audiences and artists at the beginning of this century. As I will show, these platforms usually result from generative processes of experimentation and investigation in the artistic field.

For the first part of this chapter, I will explore what developers say sound maps are and what sound maps, in fact, can be. Furthermore, and forming a critical dialogue with previous discussions on the matter, I will attempt to understand what purposes they serve and which ones they do not. Consequently, I will give special attention to how two different traditions—mapping and field recording—are articulated within this digital artifact. This will lead to a better understanding, in the second part, of which contributions and critiques the work of artist Lilian Nakao Nakahodo, in developing the CWB Sound Map, can bring to this new form of cartographic praxis. In this chapter, I adopt a post-representational approach to cartography—cartography is to create maps, and maps are practices—in which a set of unfolding spatial practices, "a constitutive production between inscription, individual and world," becomes the center of our investigation.[1]

## Conceptual aspects regarding a new practice

So-called sound maps have become established as a phenomenon within the Web 2.0 context.[2] Their emergence, in large part, is due to new technologies and protocols of use and collaboration that characterize this period in the internet's development.[3] On the critical flip side, for Gascia Ouzounian, "sound maps have fundamentally altered

perspectives on sound as it evolves in relation to space and place, our connection to sound in its environmental and spatial forms, and the many 'resonances'—social, cultural, historical, and aesthetic—of these relationships."[4] Nonetheless, and as with every new phenomenon, sound maps also have been the object of some criticism. Detailing sound maps can be an interesting way to shed light on their fundamental aspects since an overall understanding regarding this "platform" is still under dispute. Some critiques, for instance, seem to be based on somewhat imprecise ideas about the object under analysis. This is the case for Steph Ceraso in his article "The Sight of Sound: Mapping Audio": "These maps, then, are snap shots of sound. Thus, in the process of creating more dynamic representations of the places they map, sound cartographers are also transforming sound into something static, something that we can repeatedly experience. This seems far removed from the embodied experience of encountering sound in its original environment."[5]

Although related to it, a recording is not the territory in which it was made. Like maps, recordings operate under selection criteria defined by their creators, who act under certain circumstances. Field recordists are always being called upon to make decisions based on contingencies that arise, whether during practice in the field or concerning the criteria selected by the creators of the sound-map platforms. Field recordings have a beginning and an end, and sound itself—explicit sound, audible to humans[6]—can never be static. The inscription of the sound—implicit sound, which is stored (in 0s and 1s), distributed, and understood only by machines[7]—may appear to be static, resting in the (digital) file sound archive, until it is reproduced and reaches human ears again in the form of sound waves. But it still will be a memory, a trace of the environment in which it was captured, not that environment itself.

A map is a map, and a field recording is a field recording. They emerged as such before the phenomenon of digitalization, and they changed when they became digitalized.[8] But it was not the case for the sound map as it is being understood here, which has only become possible in the context of digitalization. A sound map is a hybrid that integrates the map and the field recording. Much work is yet to be done on these intersections, and the existing criticism and unfulfilled expectations about what sound maps could do—yet do not—seem to be based on a misconception regarding what sound maps actually are. Also, sound maps seem not to deliver what they promised because they have always presented themselves as what they are *not*, although eventually they could be. Let me provide more detail on this. Sound maps are not precisely maps but digital sound archives. They are also not sound archives as we know them (i.e., the British Library Sound Archive[9]) but a new breed offering access to their collection in a particular and unprecedented way. Libraries, public archives, museums, and galleries host collections but have particular characteristics about what they keep, how they keep it, and what in the collection is available to the public or not. In this vein, what has become conventionally called a sound map lies closer to these collections, although we can also consider that every map is a synthesis of accumulated data available to its users.

Also, although it occupies a place in space, a sound map does not require a building in which to store its collection and offer access to it. Also, although it occupies a place

in space, a sound map does not require a building in which to store its collection and offer access to it. This happens remotely. It is no wonder that Edu Comelles (a well-known field-recording artist) places sound maps on the same level as netlabels, as both are possible platforms for the distribution of phonography and soundscapism projects.[10] While netlabels present field recordings in catalogs, similarly to the traditional music industry, the experience with field recordings via a sound map is quite different and peculiar. I argue that this is due mainly to the map's visual aspect, which has an essential function in the sound map perceived as an archive. In this regard, what almost all creators of sound maps do is offer access to audio files that comprise the field-recordings database following this criterion: an association to the location in which the recording was made. This peculiarity elevates the sound map from being a mere "hard drive" or digital sound archive.

The map we see when we access a sound map serves mainly for the indexation of files in a database and not necessarily for the indexation of data on a territory. Indeed, it is necessary to remember that not every field recording on a sound map needs to be part of the sound-mapping of a particular territory. It can be the result of a fortuitous incursion by its author through the practice of field recording or stimulated by initiatives developed by each platform, such as workshops for beginners or students.[11] In this case, the cartographic image of a sound map that places few restrictions on participation displays the mapping of places occupied by the people who captured the sounds conveyed in those files much more than a mapping of the territory itself, which would be a more systematic activity. But this does not diminish the fact that sound maps can be an efficient resource to be used in actual mapping processes.

Nevertheless, this does not seem to be enough for some researchers. Jacqueline Waldock and Barry Truax highlight that sound maps do not offer many more elements, other than sounds, for relationships and senses to be constituted. Waldock argues: "Some soundmaps use a tag system allowing the user to input keywords, however, this system rarely produces an opinion."[12] Similarly, Truax points out that "lacking any coherent temporal perspective, and usually lacking any interpretative analysis, the listener is left trying to imagine what has been recorded and what significance it has."[13] Such expectations regarding sound maps are related to the understanding of them as maps, something that sound maps rarely are. Maps are not just an image of the territory but data on the territory added to that image. Media theorist Sybille Krämer explains that the map does not represent the territory but "epistemic things" about it.[14] More specifically, the map reveals spatial relationships between elements in the territory and gives them visibility, once they are not available to the naked eye in the territory itself.

Most creators of sound maps will say that, among the main goals of their projects, is stimulating the public to develop new attitudes toward how they listen to the environment in which they live. It is what artists from the group Escoitar.org, from Galicia (Spain), emphasized in their declaration that preceded the end of their pioneering project:

> Over time we understood that the value of archiving did not lie in listening-through-the-map, but in something more complex and committed. The key was not to put sound at the service of the map, but rather put the map at the service

> of the listening experience, to appeal to our perception in order to create a critical hearing, product of the intersection between knowledge and the aesthetics.[15]

Considering this perspective, it is less about evaluating, questioning, and interpreting a territory through field recordings on a sound map and more about using the sound map to stimulate people into developing a more critical listening to the environments where they live. Although valid, the critiques by Waldock and Truax may be related to the expectations that sound maps are actual maps, which does not consider that the aerial image of the territory exerts other important functions in the composition of this hybrid.

The hybridity of these online digital platforms also can generate other misperceptions, this time connected to issues inherent to field recordings themselves. These issues are independent of sound maps but become more complicated with them. The platforms end up revealing a tension not yet solved between different conceptions about what field recording is and does. This is apparent, for instance, in Waldock's statement: "For those approaching sound maps from a purely acoustical perspective, the relational aspect of the exchange [between sound and person, person to emotion, and sound to effect] may appear inferior to the physical make-up of the sound."[16] In an interview given for the study I conducted on sound maps, researcher and field recordist Rafael de Oliveira offers what may be an explanation for this understanding of the recording as something that does not carry, in itself, traces of these relationships that are established during the sound recording in the field: "For a long time, photographs were not considered art, because they were taken directly from reality. Art had to be something that proposed an abstract discussion. And I think phonography is somehow attached to that idea. The ones who make phonographies still don't see themselves as creators."[17] Field recordings, like maps, cannot be this impersonal. If there is a human being behind the creation, their choices from the world before them are essential to understanding recordings and maps as the result of creative processes. Returning to Krämer, there is a fundamental consideration on maps that should be discussed: it is not possible to transmit something three-dimensional in two dimensions without distortion. That is the cartographic paradox, which is inescapable. Distortion is a condition of existence inherent to the map, which cannot describe something without deforming some of the territory's singularities. What will be preserved at the expense of other attributes is a matter of choice, and only by observing the context of production and use of the map is it possible to analyze its performance and limits.[18] We should extend this consideration to the production of field recordings.

Another common critique has to do with the limited number of categories available for the indexation of submitted contributions, which could compromise the understanding of relational aspects for the listener.[19] Perhaps the experience of the German artist Udo Noll may offer more information to explore this question. He developed the Radio Aporee platform,[20] which houses one of the most well-established sound maps currently active,[21] a paradigmatic case for understanding the phenomenon of sound mapping. Noll previously developed artistic projects involving the creation of categories for data gathered from multiple sources (texts, images, sounds, and objects) to be used in the production of self-organizing maps. An example of this

is the work *H|U|M|B|O|T*, presented in the exhibit *net_condition*, between 1999 and 2000, at the ZKM Karlsruhe, Germany.[22] It came from a compilation of data extracted from five years' worth of journals kept by Prussian geographer, naturalist, and explorer Alexander von Humboldt, during his trips through Central and South America, two centuries ago. Philip Pocock, an artist who was part of the creative group along with Noll, detailed that a map was made from emotions researched in Humboldt's scientific travelogue: "the texts were read and marked up by 23 gender study grad students, marked for descriptors that convey emotion in the reader."[23]

But, if Noll was familiar with this type of experimentation, with systems of "fluid" categories that included emotional markers, GPS metadata, and key-work annotation, why did he not do something similar with the sound map of the Radio Aporee platform? When describing the upload process for Radio Aporee during a lecture at ZKM Karlsruhe fifteen years after the exhibition, he explained:

> You have some text to fill in, [like] recording dates. No categories, I decided against that after the experience of dealing with thousands of categories in the former projects, which didn't give much more insights, let's say … But that's a thing to discuss. It may change, in the future. It depends on … [You have to fill in] some licence information, like public domain or Creative Commons, and so on. It's a very simple interface, as I found out that people hate to fill [out] forms. And if you make a really elaborated form with fifty topics to fill in order to upload something, you know—which, of course, would make possible to compare things better, and to have a lot of metadata—they just don't do it.[24]

Beyond asking ourselves what is lost by narrowing the data, it is also important to know what is gained. In this case, it is participation, collaboration, and engagement. Also, this engagement does not happen only in "listening through the map" but fundamentally in the practice of field recording. If someone is about to upload an audio file to the sound map, they are probably already engaged in field recording. The practice of field recording, in turn, is capable of engaging a listening process in the environment that is different from listening with no interest.

I have mentioned the map's role in relation to the sound map (as an archive) in organizing and simplifying access to digital audio files in the database and the sound map's role (as a platform) in stimulating the practice of field recording and, hitherto, listening. It is also important to discuss the uploaded field recording's relation with the map when both are integrated into the sound-map hybrid. I will start with a problem addressed by Cláudia Holanda and colleagues,[25] for whom the Cartesian representation of the map offers limitations to "the experiential approach to listening for which many soundmaps strive."[26] "For its spatial authority, the map as a platform for placing sounds in space fails to capture the temporal and narrative characteristics of sound recordings."[27] There is a slight inaccuracy in this argument, which may be more noticeable now after we have discussed sound maps as digital archives. With sound maps, it is not a matter of "placing sounds in space" but finding an audio file in a remote digital archive and playing it back. Having pointed this out, we can

reverse the terms of that sentence: the temporal (and sometimes narrative—why not?) characteristics of sound recordings have the power to disrupt the alleged mathematical order and the supposedly immutable image of the world that maps may present to us. This traditional representation has produced the illusion of an observer who places themselves above the territory, in a position of neutrality. The territory's bird's-eye view typical of a map—the Apollonian perspective, as described by geographer Denis Cosgrove—has been taken as an expression of the modern man's centrality, notably Eurocentric in nature.[28]

Moreover, as set out by Angus Carlyle, through the experience of web-based sound maps "the drifting eye-ball can find itself a body, the slippery, icy gaze can be roughened by friction, the high can be brought low, relations can be established between stuff and people and animals and weather—the God's Eye can be misted by the buffalo's breath."[29] Unlike Ceraso, who articulates a hierarchy between the experience of listening to field recordings via sound maps and the experience of being in the environments where the recordings were made,[30] Carlyle attempts to understand the sound map's internal logic as a hybrid of two media from different traditions. He focuses on what happens when the visual regime is cut across by the sound regime of the field recording, in the scope of this new experience offered by these digital platforms. "It is harder for a sense of disembodiment to blithely persist when recordings themselves intrinsically account for a human presence."[31] Even the most transparent field recordings, in which creators erase, as much as possible, the traces of their presence and the machinery used, produce this cancelling effect of the absolute powers inherent to the verticalized point of view of the map, because they carry in an indelible way the marks of the horizontal life on the surface, reverberating the human scale of places.

What I propose now is to think about how experiences with sound maps in the Brazilian context can be aggregated to discussions on this new modality of cartography, since they present new elements that may dislocate some current understanding in the study of this phenomenon. For example, although Waldock sustains that there is something such as "the impersonal culture of the mapping methodology" and that a purely acoustical perspective downplays the relational aspect between listeners, sounds, and places, she also admits that those who are making recordings have the power to influence what is mapped and how: "The big question is who and what are they recording?"[32]

While Waldock is worried about understanding why, at the time of her research, most recordings from sound maps in the United Kingdom had male authors and what that could mean for those sonic cartographies, asking who is recording and what has been recorded, from a Brazilian perspective, may lead to a different set of problems. For example, why are the most prominent Brazilian collaborative sound maps created by women, such as Renata Roman's SP Sound Map and Lilian Nakahodo's Mapa Sonoro CWB? Alternatively, why is the geographical center of the locations of all Radio Aporee's field recordings placed somewhere in Turkey, a fundamental reference for understanding what is West and what is East? Furthermore, is there any place for Brazil in a world that is so divided? Moreover, why is the number of recordings made in South America so small compared to North America? Even in a global sound map such as Audiomapa—a Chilean platform focused on Latin American production—there are fewer recordings

made in Brazil than in countries such as Mexico and Colombia, which have much smaller geographical areas and population sizes. It is not the intent of this chapter to offer answers to all these questions, but they are important to show that, empirically, it is possible to find different horizons while facing similar research questions. These can point to new directions and what I will try to do next is observe and discuss the extent to which the work of Lilian Nakahodo and her Mapa Sonoro CWB could contribute to an understanding of sound maps and their uses as part of broader artistic processes.

## Mapa Sonoro CWB: Sound hunting and noisy listening modes

Mapa Sonoro CWB[33] is an online collaborative platform for storing, sharing, and listening to field recordings made in Curitiba (the International Civil Aviation Organization's airport code for the city is CWB). Overall, the Mapa Sonoro CWB is not so different from most existing sound maps. For some time, field recordings had been the raw material in Nakahodo's work. Nakahodo specialized in audio post-production for films, an area that led her to research broad varieties of sound that could make up a movie scene. Despite only having started in 2015, the aforementioned sound map was conceived by Nakahodo in 2011, when she submitted the project to an open call for the arts, promoted by a funding body in the state of Paraná. It was an opportune time, since the artist was developing an album in which she played, along with another pianist, sonatas and interludes for prepared piano composed by John Cage.[34] Nakahodo had also recently concluded an undergraduate degree in sound production at the Federal University of Paraná—where she already held a graduate degree in tourism. This process led her to several considerations that culminated in the idea for two projects. The first was the sound map. The second was a graduate degree at her alma mater. Both projects were approved, but her academic research proved to be faster than the open call's bureaucracy. When the financial resources for the Mapa Sonoro CWB were finally made available, Nakahodo had already confronted and questioned the foundation of the proposal she had developed. From a patrimonial point of view, in order to preserve the typical sounds of the city, the artist turned to the relationship of its inhabitants with their environment's sounds.

> During my master's, I realized that this idea of a picture of reality, preservation through capture, it was a little wobbly. That is why I ended up going to cartography. Then [the Mapa Sonoro CWB] ended up with that name of sound map, but actually, it is more of a cartography, and it ended up having … a much more affective focus. Then I began to think about … investigating how these sounds affected people, what that represented.[35]

Meanwhile, she turned to the study of cartography as map production and also as a philosophical method, the latter influenced by the work of Deleuze and Guattari.[36] Although these are two different conceptions (in regards to cartography), they may simultaneously guide the same practice. In philosophy, this idea may help to open up

new ways of thinking. Inspired by the idea of a map and botanics, Deleuze and Guattari found ways to question the modern notion of progress, putting into opposition "map" and "tracing."

Traditionally, progress is defined as a core set of principles that is directed toward a specific set of ends. In Deleuze and Guattari's approach, everything that happens between root and destination would be defined, restricted, fated, and closed. This closing is associated with the idea of the tree—root to leaves—a genetic axis leading to reproduction. This would produce a continuous tracing or line. In counterpoint, if progress was thought of as a map or rhizome (a horizontal type of root instead of vertical), instead of infinite reproduction we would have creation, production. "What distinguishes the map from the tracing is that it is entirely oriented toward an experimentation in contact with the real."[37] Deleuze and Guattari also point out that the map allows multiple entries, highlighting the non-linearity of reading (and creating) a map. Escaping linearity would be to escape historicity and hierarchy of meaning in relation to an other.

In the creation stage of the field-recordings database, Nakahodo decided to interview approximately thirty people who lived in Curitiba, in order to understand how the sound dimension of particular places (in the city) affected them. She sought to engage participants with diverse gender, location, and professional activity attributes. Almost half of the people who participated in this study had come from other places in the country to live in that city, which helped to bring in new perspectives to the mapping. It was a way of echoing the territory's polysemy, while also offering a notion of the socio-spatial context.

> There is this cool difference from when I started writing the project. It was going to be a very egocentric starting point. I was going to research, base myself on biographies. But it was going to be my perspective. Then I thought it would be more interesting to focus on the interviews and … look for a little more diversity. Of course, it has my filter, it can't [not have it]. We end up giving meaning to things … I wanted to go to an apparently unimportant place. I wanted to show the interviewee's point of listening.[38]

Embracing the apparent banalities that came up during the testimonies gathered meant stepping away from what the artist called an "exotic" or stereotypical understanding of what the characteristic sounds of the city would be. In the conversations, the sounds of the bi-articulated buses (practically a classic feature of Curitiba daily life) stopping in the tubular stations of the municipal public transport system were mentioned. There were also comments on the Rufous-bellied thrush birds singing before dawn (with some of the participants describing that they were an annoyance). Before this sonic cartographic process, Nakahodo had no idea that these birds' song could be associated with the experience of the city.

From this set of accounts of aural memories, experiences, and perspectives that she gathered in the interviews, Nakahodo went around the city with her microphone and recorder in hand in order to capture audio recordings that could live up to the stories

she had heard. On the one hand, that strategy allowed people who had no affinity with the practice of field recording to participate, sharing accounts of their listening practices. On the other hand, this imposed some limitations on the artist when the sounds recollected were of a "domestic" nature. "I was embarrassed to record inside [houses] … I think it's too personal. [It's] so I don't infringe on people's privacy," Nakahodo said.[39] For her, there was something extremely intimate that the recording could reveal about the domestic spaces of interviewees and this ethical stance guided her search for sounds. In light of what she considered to be exceedingly sensitive, the artist fell back. This set of field recordings produced in order to start the Mapa Sonoro CWB, therefore, is more about giving examples of reported sounds and coming closer to other people, which also reveals a gesture of recognition and preservation of certain limitations for the practice of cartography through phonography.

The field recordings and the subsequent editing of the tracks (to make them available online) were done by a small support team, with whom Nakahodo shared the responsibility of maintaining the sound-map platform. Furthermore, because of the project's financial backing, she was also able to conduct workshops in the outskirts of the city. Interestingly, these workshops were not part of the original plan. The open call's rules stated that, when submitting their projects, candidates should include a public outreach section. Nakahodo believed that promoting soundwalking to some of these "peripheral" neighborhoods would be an interesting experience. That decision proved to be quite fruitful mainly because, even with a considerable number of interviews, the gathered sonic material ended up being captured in downtown Curitiba and the neighborhoods surrounding it (see Figure 8.1). Through two soundwalking workshops, as the artist called them, the mapping could incorporate areas beyond the central zone of the city, which turned these activities into a decentering instrument for this cartography.

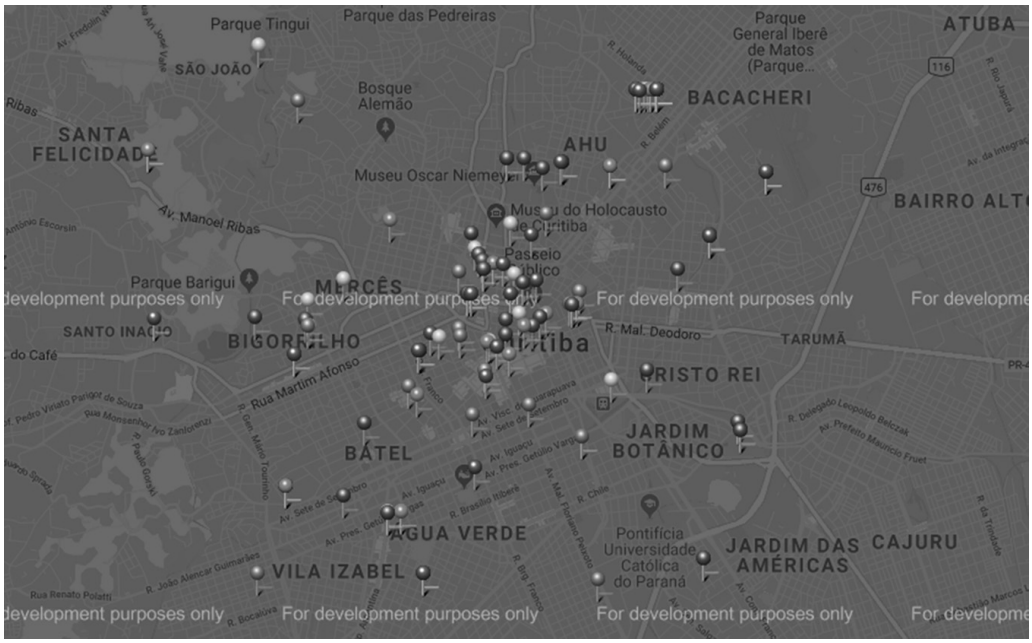


**Figure 8.1** Screenshot of the mash-up Google Maps developed by the Mapa Sonoro CWB project, displayed in March 2019.

> I hadn't gotten anyone from those two neighborhoods, so let's do a workshop there! It was important, the periphery. Funny: it's noisier. It's really funny, I found the periphery really different from downtown. Generally, I think people are more tolerant with sonic trespassing than the people here downtown. There are many more street vendors in cars—which is banned, actually. I think since things are a bit more out of control, they abuse it more and people incorporate it in their daily lives. But, overall, I think people are less territorial. Because sound, you know … it's a territorialization instrument and instrument of power, too.[40]

Another moment in which the artist gave up a particular control was when participants in the workshops chose the paths they would take around their neighborhoods, in part because they knew the area much better; however, the groups were also encouraged to "unknow" their everyday places. Before they went out into the streets, they were presented with situationist notions, such as psychogeography, being encouraged to veer away from their habits and give way to curiosities and desires they could not fulfill in the comings and goings of daily living. The focus was on letting themselves go with the flow, exploring the environment, and concentrating on auditory perception.

In addition, the participants had the experience of walking through these places mediated by the recorder's microphones, listening to everything through headphones as it was being captured. Nakahodo's goal was that people could feel changes in perspective regarding what was familiar to them. What interested her was that the hearing mediated by a portable audio recorder could operate as a fusion of two different types of listening, resulting in an amplification that could alter the participant's perceptive framework.

> There were some really spontaneous reactions … Someone starts singing, whistling, forgets they're being recorded. We did another workshop in another neighborhood and only seniors ended up going, so it was pretty interesting. In that one, there was a woman on crutches. She was a bit large, on crutches. Then there's a point in which we can only hear her breathing. Heavy breathing. And she also sings and stuff, whistles. And people come up to talk. "What are you doing?" I thought that was very cool. Allowing conversation was another thing we experimented with … Because the traditional walk, the traditional soundwalking, is supposed to be done in silence; the foreign ones that I saw. I found the ones we did more spontaneous. They worked better, allowing conversation, the exchange of ideas. Okay, it "spoils," so to speak, the recording. But you capture other things, right? … [They] tested sounds, went somewhere, provoked it. Provoked a dog, made tiny noises, tested the urban machinery. And, for me, it was such a nice day, it felt really like I was somewhere else. Because we do that, right? We walk aimlessly. This vacation state of mind … Vacation, for me, really, is a state of mind—being disconnected, lucid, tranquil.[41]

This section of the interview demonstrates how capturing "hi-fi" audio recordings was of less importance to the project than the discoveries about what these activities

could do for their participants. Nakahodo considered the soundwalking workshops conducted for the sound map so successful that she began investigating the potential of soundwalkings. The artist wanted to understand why that playful spirit had not come up in walks connected to other projects. One of the main factors that had contributed to disrupting those experiences was time. For instance, in describing one of the soundwalk workshops that took place in downtown Curitiba (the initially planned basis of the Mapa Sonoro CWB mapping process), Nakahodo describes: "We didn't have enough time, and that had an effect. We walked, I think, for about an hour and a half, two hours. I thought it was a little rushed. It was a little tense, which got in the way. It was different in the periphery."[42] In addition, the activity took place during rush hour. The group had to pick up the pace, trim the path that had been previously planned and, suddenly, they had returned to the hegemonic rhythm of the city for that time and place. The soundwalks appeared to have worked better for the artist when they were under a different rhythm, when a counter-flow was created that allowed an encounter with other things in the same places. A given amount of time was necessary to put that practice in motion, operating under a different cadence, based on friction and a resistance to daily flows. It is not about a mere sliding through urban space: there is friction, albeit subtle. Lack of time, therefore, hurts the performance of soundwalks. Cutting them short lessens their effects.

Another factor the artist considered problematic in other activities, in comparison to the soundwalking workshops at the periphery, was facing the city in silence. Once, she elaborated a path considering the walk as an instrument of musical perception of the environment. Thus, she organized the trajectory in such a way that it reached a certain dynamic, alternating places with activities that were sonically more or less intense.

> It was on a Saturday, and we were in an area that has live music in several bars. So, the path I drew was in a musical way. So, it began: it was part "A," part "B," part "C," and coda. Part "A" was an introduction, which was … a central area [of the city]. Part "B" was a contrast, but it was a transition between the urban area, which is more chaotic, and the part that was really silent, which was the neighborhood close to the museum. So that was really cool because the contrasts were really perceptible, the musicality.[43]

Along the way there was also something given back, to the environment: sounds and testimonies gathered from the mapping of Curitiba. The walk was peppered with sections of these interviews read by participants using a megaphone and field recordings played with small speakers, producing overlays. For the fulfillment of this itinerary, however, it was decided to do it silently. "I thought it was a bit tense because it was a group and it was silent … I was bothered by it," she stated.[44]

It is possible to analyze this uneasiness from the four models of aural experience that Nakahodo outlined in order to think about sonic cartography practices: the concert hall, the scenic viewpoint, the out-of-place place, and the paths.[45] The concert hall, while an "archetype of space-image" in her investigation, defines physically and

symbolically the positions of audience and stage. It is an environment built for listening, producing an aesthetic object from the artifice of directionality and distancing: there is someone who watches, keeping themselves at a distance from what is being watched. A ritual of contemplation is established that is distinguished from the second model, the scenic viewpoint, because this one occurs out-of-doors. The positions of subject and object are not designed only in brick and mortar, but in an elevation in the terrain to be contemplated itself. The admiration from this point organizes the space before the observer, producing the landscape. Listening, in this model, is perceived as privileged and broad, usually mediated by apparatuses, guiding our ways of perception. It evokes at the same time the grandiose nature of spaces and feeling of omnipotence in the face of the world because it presents itself as if it were entirely at our feet.

Sometimes implicitly, sometimes explicitly, Nakahodo relates these two models with silence as an attribute. In them, the spectator withdraws in order to contemplate what is there. This silence is a form of obliterating one's presence as if the person who appreciates it becomes disconnected from what rises as a work of art in front of them. Maybe the artist recognized aspects of the concert hall and the scenic viewpoint too much during the soundwalk conducted in silence. The soundwalking workshops in the periphery, the results of which pleased her more, would be closer to the aural experience model she called *paths*. "The one who dictates the speed, trajectory, and time of permanence during walks is the walker."[46] This does not happen without respecting some conditions previously established by Nakahodo who, afterwards, retracts from the process. Such conditions and clarifications, as well as those developed in the models of the concert hall and the scenic viewpoint, mediate the experience. But bodily engagement, individual choices, and the being there of every walker, particularly, become the center of her project. At this point, it is possible to realize that the sound map as an archive or as a "visual-audibility"[47] on the computer screen is very distant from that center, although it activates and enables all these processes.

There are aspects of the model that Nakahodo calls "an out-of-place place," elaborated by her as a means to better understand aural experiences, that are present both in the effusive soundwalking workshops and in the silent soundwalking: the displacement of objects for recognition as a work of art. When passages of a text are read, or field recordings are played throughout the route, sound is treated as an object of aesthetic appreciation. It is selected, kept, and then projected in a context that, although not a museum, gallery, or concert hall, still operates according to a performance remit and its ritualistic associations. Through this performance, the place is made unfamiliar and distinct layers that constitute it may be perceived simultaneously while other parts of its dimensions are displayed. But there is one side that remains automated: the gestures, the procedures, and the choices that end up sending the activity back to a field that becomes apparent even without the walls that one day it could not do without.

In the soundwalking workshops, the sounds are not unfamiliar because of their displacement but because of the displacement of listening. It is not the physical environment that changes, it is the same old neighborhood. What changes is the experience of listening to it mediated by situationist instructions and a recorder,

**Figure 8.2** Soundwalking workshop held in the peripheral district of Pinheirinho (2016). Photo by Adriano Elias.

which offers other parameters for the perception of the sonic dimension of the everyday environment. There is astonishment when facing this new audibility. That which was banal and had lost its appeal due to its triviality becomes strange and funny ("being amusing" seems more appropriate in the Brazilian context than "being strange"). This new audibility stimulates curiosity and incites new incursions, which are not only permitted but recommended, according to the rules of the game accepted by the group.

The walker becomes a mapper who is freer from the predictions imposed by daily life—freer, because mapping is a basic activity of our existence, a never-stop mapping.[48] Nevertheless, in the soundwalking workshop, it is not necessary to get to a predefined location. The prerogative to choose what is worthy of being recorded shapes the search, much more than it establishes objects to be gathered from the environment. Even if it were so, what one notices is that such objects become impregnated with the presence of the people who capture them: laughter, breathing sounds, steps, and conversations with acquaintances who walk by (see Figure 8.2). The environment being recorded is one in which the walker does not hide behind a so-called division between the observer and observed. The walkers produce themselves, the place, and the recording, simultaneously, along the way. There is an intimacy shared that is not between the person and the device against the environment, but a mutant amalgamation of the three.

Silent walks are frequent in the artistic field, especially *na gringa* (abroad). On the one hand, still in the 1970s, Hildegard Westerkamp conceived soundwalking as composition and performance. On the other, silence and meditation are themes of great importance for artists such as Pauline Oliveros and John Cage, whose influence is strongly felt in the practices discussed here. Within this context, elements of Eastern culture often are brought in as a way of dislocating Western artistic practices regarding sound. As already mentioned, however, the place of Brazil in this division between Western and Eastern cultures is not very precise, if indeed it exists at all.

Amid these reflections, perhaps Nakahodo's work with the Mapa Sonoro CWB allows us to see that uproar, racket, and playfulness can be larger expressions of being in this corner of the world. The giggling, unruly, and heedless insubordination to the so-called modern ways of aesthetic appreciation may have an essential salience for the Brazilian affective sonic topography. If the country's urban peripheries are indeed less affected by these ways, as we can assume they are, is the problem of the idealized division between subject and object an actual problem in these places? These are some questions that are raised from a more careful observation of the creative process of the Mapa Sonoro CWB, a sound map that points out new paths, in the territory itself, to noisy listening modes that end up giving a specific movement to the sonic cartography.

## Conclusion

When we observe the creative processes of sound-map makers, instead of holding ourselves to the platforms only, we understand that the restlessness that moves each artist is very distinct and directly linked to what they consider to be actual problems and their possible solutions. The sound maps appear to enter into each one's trajectory at entirely different points, emerging as a result of the most diverse concerns that take them by surprise and lead them to the practice of sonic cartography. Their creative processes do not stop at the sound maps, but it is important to highlight that the sound maps are fundamental pieces in these processes.

The SP SoundMap,[49] developed by Renata Roman in São Paulo, is a sound-mapping initiative that prompted the generation of field recordings suitable for integrating other projects. Roman edited contemporary poetry and soundscapes produced for the SP SoundMap to create the radio show *Paisagens e Poéticas* (Landscapes and Poetics), broadcast on the Mobile Radio project (curated by Sarah Washington and Knut Auferman), during the thirtieth Art Biennial of São Paulo. If we take the paradigmatic case of Radio Aporee, we can see that, for some time, the sound map was the platform's single project. This was so until the archive became so rich that Udo Noll created an app for the creation of mobile sound pieces for public spaces from the recordings stored in the database as well as a radio that plays items from the collection. This "radio" uses an algorithm that takes into account the listeners' location in the world to search for field recordings made closer to them, in order to produce a responsive playlist. Noll began calling this set of projects "platforms." "The platform character of Radio Aporee is quite important to mention because it provides tools and techniques to use."[50]

What makes Radio Aporee a particularly flexible platform, growing and enduring, is that the "web" is one of the primary materials that Noll's artwork is made from. It is about listening but mostly about coding and connecting spaces through digital media, picking up resonances. The technological structures of other sound maps are much more susceptible to crumbling from the constant quakes of the internet's dynamics. Since 2018, Google Maps' API usage is no longer free, which has led some platforms to have their maps watermarked with the message "For development purposes only." Two years prior, the Escoitar.org sound map anticipated this end, after having sought support from their users:

> Today, after several attempts to seek support that would make the maintenance of this tool sustainable, and not willing to let it wander inert and sterile like a digital corpse, we have decided to return its sounds to life, to their transient essence … Each time you listen to one of the over 1200 recordings that once were part of Escoitar.org, this will be deleted from the database. It will disappear as the sound it is. It will be again more than just a file, it will be an event.[51]

Even Radio Aporee has a reboot plan. Therefore, it is necessary to think of sound maps also as transient places. Nakahodo furthered the Mapa Sonoro CWB project as a booklet with a CD within,[52] for which she selected the most poetic tracks and organized them in a sequence that evoked a walk through the city. In a way, it is a return to a certain linearity; however, in this context of media obsolescence, what is important to highlight is that one of the greatest qualities of her work explores possible ways of doing sonic cartographies without sound maps or even field recordings. This may be particularly important in the periphery of capitalism. Mapa Sonoro CWB's development offers several elements that help us to understand how listening processes can rely on recordings but also can overtake them.

In order to think about the philosophical basis of contemporary cartography, Dodge and colleagues[53] highlight that the constitutive dimensions of map theories could be divided between representational and post-representational approaches. To assume the map as representation, in general terms, is to commit oneself to a search for general explanations, with a principle of order and rationality, basing oneself on a set of antagonistic dualities that rule the knowledge about the world—like map and territory. If mind and body are thought of as a unity, however, this leads to the idea that knowledge is embodied and, thus, maps are acknowledged in their more hybrid and subjective qualities, in which it is harder to differentiate observer and observed categorically. Consequently, Nakahodo's soundwalking workshops contribute to understanding sound maps as post-representational cartography, having the digital platform as the trigger of broader processes. The collection of field recordings that integrated the Mapa Sonoro CWB may be understood not only as a stable representation of the sounds and places of Curitiba, but also as a moving result of cartographic practices, transforming the very context of that which they form a part and looping back into the sonic cartographic, helping to open up other paths for this new practice.

# Notes

1 Martin Dodge, Rob Kitchin, and Chris Perkins, "Thinking About Maps," in *Rethinking Maps: New Frontiers in Cartographic Theory*, ed. Martin Dodge, Rob Kitchin, and Chris Perkins (London: Routledge, 2009), 21.

2 Wen Lin, "The Hearing, the Mapping and the Web: Investigating Emerging Online Sound Mapping Practices," *Landscape Urban Plan* 142 (October 2015): 187.

3 Most sound maps are *mashups*, original projects that combine third-party services through application programming interfaces (APIs), allowing the participation of any internet user and, therefore, being subjected to constant updates.

4 Gascia Ouzounian, "Acoustic Mapping: Notes from the Interface," in *The Acoustic City*, ed. Matthew Gandy and B.J. Nilsen (Berlin: Jovis Verlag, 2014), 172.

5 Steph Ceraso, "The Sight of Sound: Mapping Audio," Hastac.org, October 5, 2010, https://www.hastac.org/blogs/stephceraso/2010/10/05/sight-sound-mapping-audio.

6 For Wolfgang Ernst, musical notation is related to the order of the archive (human symbolic registration system), whereas the phonographic recording is related to the order of the anarchive (machinic symbolic registration system), including noise, the a-rhythmic, amplitudes, frequencies, and everything that cannot be recorded within the symbolic order of musical writing. "The phonograph registers the physically real frequency"; "the register of the real encompasses the sonic." This *real*, which is subjected to the register of audio recording, crossing the limits of the human symbolic, Ernst calls *the sonic*. When the sonic is captured by machines, it becomes something else. In the scope of the archive, *sonicity* would be the implicit sound, whereas "explicit sound is just a thin slice of a wider spectrum which is audible to humans." The sonic (ambient sound) is different from the sonic memory (the past captured in recording, audible to human ears), which in turn is different from sonicity (the sonic archive of machinic nature). The sonic memory brings the sounds of the past to human ears, while the sonicity is the implicit sound, which is stored, distributed, and understood only by machines. Wolfgang Ernst, "History or Resonance?: Tecno-Sonic Tempor(e)alities," *Journal of Visual Culture* 14, no. 1 (2015): 100, 104.

7 Ibid.

8 In *Medium, Messenger, Transmission*, Krämer refers to the phenomenon as "digitalization," taking the map as a case test of her study. Georgina Born refers to "digitisation" when investigating audio-recording technologies. See Sybille Krämer, *Medium, Messenger, Transmission: An Approach to Media Philosophy* (Amsterdam: Amsterdam University Press, 2015), 206; Georgina Born, "Afterword: Recording—From Reproduction to Representation to Remediation," in *The Cambridge Companion to Recorded Music*, ed. Nicholas Cook, Eric Clarke, Daniel Leech-Wilkinson, and John Rink (Cambridge: Cambridge University Press, 2009), 302.

9 See British Library, "British Library Sounds," n.d., https://sounds.bl.uk.

10 Edu Comelles Allué, "Mapas sonoros, netlabels y culturas emergentes: Una aproximación sobre la fonografía y el paisaje sonoro en la era digital," *Arte y políticas de identidad* 7 (2012): 187–208.

11 This is the case with the Belfast Sound Map ("BELFAST SOUND MAP," 2019, http://www.belfastsoundmap.org), for example.

12 Jacqueline Waldock, "Soundmapping: Critiques and Reflections on This New Publicly Engaging Medium," *Journal of Sonic Studies* 1 (2011), https://www.researchcatalogue.net/view/214583/214584.

13 Barry Truax, "Sound, Listening and Place: The Aesthetic Dilemma," *Organised Sound* 17, no. 3 (Special Issue 2014): 195.
14 Krämer, *Medium, Messenger, Transmission*, 201.
15 See Escoitar.org, "Escoitar.org ))) 2006–2016," http://www.escoitar.org.
16 Waldock, "Soundmapping."
17 Rafael de Oliveira, "Um xis com um compositor de paisagens sonoras," interview by Thaís A. Aragão, Escuta Nova Onda, January 5, 2018, https://escutanovaonda.com/2018/01/05/um-xis-com-um-compositor-de-paisagens-sonoras.
18 Krämer, *Medium, Messenger, Transmission*, 197.
19 Waldock, "Soundmapping."
20 See Aporee, "Home," n.d., https://aporee.org.
21 See Aporee, "Maps," n.d., https://aporee.org/maps.
22 *H|U|M|B|O|T* is credited to Daniel Burckhardt, Roberto Cabot, Jürgen Enge, Gruppo A12, Udo Noll, Philip Pocock, Wolfgang Staehle, Florian Wenz, Birgit Wien, and others. See Humbot.org, "H|U|M|B|O|T— 'net_condition,' ZKM Karlsruhe, 1999–2000, " n.d., http://www.humbot.org/static/new/netcondition.html.
23 This clarification appears in Philip Pocock's comment on a web post that was included in a printscreen published in Annie Abrahams's book, *From Estranger to E-Stranger* (Morrisville, NC: Lulu.com, 2014), 73.
24 Udo Noll, "Radio Aporee: Surfing the Gray Line—Acoustic Topographics," lecture: "My City, My Sounds" [video] (53:16) (Karlsruhe, Germany: ZKM Institute for Music and Acoustics), December 14, 2014, https://zkm.de/en/media/video/udo-noll-radio-aporee-surfing-the-gray-line-acoustic-topographics.
25 Cláudia Holanda, Pedro Rebelo, and André Paz, "Soundmaps as iDocs? Modes of Interactivity for Storytelling with Sound," *Leonardo Music Journal* 26 (2016): 80–82.
26 Mapmakers and researchers eventually used the terms "sound map" and "soundmap" interchangeably.
27 Holanda , Rebelo, and Paz, "Soundmaps as iDocs?," 80.
28 Bernadette Baker, "Isso é tudo? As limitações do Global/Local, PISA e o dilema da pesquisa sobre currículo transnacional," *Currículo sem Fronteiras* 12, no. 3 (2012): 209. Denis Cosgrove, *Geography and Vision: Seeing, Imagining and Representing the World* (London: I.B. Tauris, 2008).
29 Angus Carlyle, "The God's Eye and the Buffalo's Breath: Seeing and Hearing Web-Based Sound Maps," paper presented at the *Invisible Places—Sounding Cities, Sound, Urbanism and Sense of Place Conference*, Viseu, Portugal, July 18–20, 2014, 1.
30 Ceraso, "The Sight of Sound."
31 Carlyle, "God's Eye and the Buffalo's Breath," 10.
32 Waldock, "Soundmapping."
33 See Mapa Sonoro CWB, "Bem vindx ao Mapa Sonoro de Curitiba," n.d., http://www.mapasonoro.com.br.
34 Lilian Nakahodo and Grace Torres were the first Brazilian pianists to record this work live, resulting in the album *Preparado em Curitiba: John Cage—Sonatas e Interlúdios para Piano* (no label, 2012).
35 Lilian Nakao Nakahodo, interviewed with Thaís A. Aragão, Curitiba, May 2017.
36 Gilles Deleuze and Felix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia* (Minneapolis: University of Minnesota Press, 1987).
37 Ibid., 12.
38 Nakahodo, interview.

39 Ibid.
40 Ibid.
41 Ibid.
42 Ibid.
43 Ibid.
44 Ibid.
45 Lilian Nakao Nakahodo, "Cartografias sonoras: Um estudo sobre a produção de lugares a partir de práticas sonoras contemporâneas," master's thesis (Universidade Federal do Paraná, 2014), 51.
46 "Quem dita a velocidade, a trajetória e o tempo de permanência nos caminhos é o caminhante." Nakahodo, "Cartografias sonoras," 72.
47 Here I am borrowing and developing the term "visual audio" proposed by photographer John Stanmeyer. In 2015, Stanmeyer was reflecting on the combination of sound with still photography. According to Stanmeyer, audio recordings, in this "visual-audio" construct, would be of equal or possibly greater importance than the visuals. John Stanmeyer, "Becoming Binaural," The Photo Society, February 22, 2012, http://thephotosociety.org/becoming-binaural.
48 Tim Ingold would use the term "wayfinding," but in Nakahodo's workshop it is more like "waylosing." Tim Ingold, *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill* (London: Routledge, 2000).
49 See http://www.spsoundmap.com.
50 Noll, "Radio Aporee: Surfing the Gray Line."
51 Escoitar.org, "Escoitar.org ))) 2006–2016."
52 Lilian Nakao Nakahodo, *CWB: Uma cartografia afetiva de Curitiba* (Curitiba: Máquina de Escrever, 2016) [small booklet accompanied by a CD].
53 Dodge, Kitchin, and Perkins, "Thinking about Maps."

## Bibliography

Abrahams, Annie. *From Estranger to E-Stranger*. Morrisville, NC: Lulu.com, 2014.
Aporee. "Home." n.d. Accessed August 13, 2019. https://aporee.org.
Aporee. "Maps." n.d. Accessed August 13, 2019. https://aporee.org/maps/.
Baker, Bernadette. "Isso é tudo? As limitações do Global/Local, PISA e o dilema da pesquisa sobre currículo transnacional." *Currículo sem Fronteiras* 12, no. 3 (2012): 190–216.
Belfast Sound Map. "BELFAST SOUND MAP." 2019. Accessed August 13, 2019. http://www.belfastsoundmap.org.
Born, Georgina. "Afterword: Recording—From Reproduction to Representation to Remediation." In *The Cambridge Companion to Recorded Music*, edited by Nicholas Cook, Eric Clarke, Daniel Leech-Wilkinson, and John Rink, 286–304. Cambridge: Cambridge University Press, 2009.
British Library. "British Library Sounds." n.d. Accessed August 12, 2019. https://sounds.bl.uk.
Carlyle, Angus. "The God's Eye and the Buffalo's Breath: Seeing and Hearing Web-Based Sound Maps." Paper presented at the *Invisible Places—Sounding Cities, Sound, Urbanism and Sense of Place Conference*, Viseu, Portugal, July 18–20, 2014. Accessed March 10, 2019. http://invisibleplaces.org/2014/pdf/ip2014-carlyle.pdf.

Ceraso, Steph. "The Sight of Sound: Mapping Audio." Hastac.org. October 5, 2010. Accessed March 10, 2019. https://www.hastac.org/blogs/stephceraso/2010/10/05/sight-sound-mapping-audio.

Comelles Allué, Edu. "Mapas sonoros, netlabels y culturas emergentes: Una aproximación sobre la fonografía y el paisaje sonoro en la era digital." *Arte y políticas de identidad* 7 (2012): 187–208.

Cosgrove, Denis. *Geography and Vision: Seeing, Imagining and Representing the World*. London: I.B. Tauris, 2008.

Deleuze, Gilles, and Felix Guattari. *A Thousand Plateaus: Capitalism and Schizophrenia*. Minneapolis: University of Minnesota Press, 1987.

Dodge, Martin, Rob Kitchin, and Chris Perkins, eds. *Rethinking Maps: New Frontiers in Cartographic Theory*. London: Routledge, 2009.

Ernst, Wolfgang. "History or Resonance?: Tecno-Sonic Tempor(e)alities." *Journal of Visual Culture* 14, no. 1 (2015): 99–110. https://doi.org/10.1177/1470412915574249.

Escoitar.org. "Escoitar.org ))) 2006–2016." Accessed March 10, 2019. http://www.escoitar.org.

Holanda, Cláudia, Pedro Rebelo, and André Paz. "Soundmaps as iDocs? Modes of Interactivity for Storytelling with Sound." *Leonardo Music Journal* 26 (2016): 80–82. https://doi.org/10.1162/LMJ_a_00980.

Humbot.org. "H|U|M|B|O|T – 'net_condition.' ZKM Karlsruhe 1999–2000." n.d. Accessed March 10, 2019. http://www.humbot.org/static/new/netcondition.html.

Ingold, Tim. *The Perception of the Environment: Essays on Livelihood, Dwelling and Skill*. London: Routledge, 2000.

Krämer, Sybille. *Medium, Messenger, Transmission: An Approach to Media Philosophy*. Amsterdam: Amsterdam University Press, 2015.

Lin, Wen. "The Hearing, the Mapping and the Web: Investigating Emerging Online Sound Mapping Practices." *Landscape Urban Plan* 142 (October 2015): 187–197. https://doi.org/10.1016/j.landurbplan.2015.08.007.

Mapa Sonoro CWB. "Bem vindx ao Mapa Sonoro de Curitiba." n.d. Accessed August 13, 2019. http://www.mapasonoro.com.br.

Nakahodo, Lilian Nakao. "Cartografias sonoras: Um estudo sobre a produção de lugares a partir de práticas sonoras contemporâneas." Master's thesis. Universidade Federal do Paraná, 2014.

Nakahodo, Lilian Nakao. *CWB: Uma cartografia afetiva de Curitiba*. Curitiba: Máquina de Escrever, 2016.

Noll, Udo. "Radio Aporee: Surfing the Gray Line—Acoustic Topographics." Lecture: "My City, My Sounds" [video] (53:16). Karlsruhe, Germany: ZKM Institute for Music and Acoustics. December 14, 2014. https://zkm.de/en/media/video/udo-noll-radio-aporee-surfing-the-gray-line-acoustic-topographics.

Oliveira, Rafael de. "Um xis com um compositor de paisagens sonoras." Interview by Thaís A. Aragão. Escuta Nova Onda. January 5, 2018. Accessed March 10, 2019. https://escutanovaonda.com/2018/01/05/um-xis-com-um-compositor-de-paisagens-sonoras.

Ouzounian, Gascia. "Acoustic Mapping: Notes from the Interface." In *The Acoustic City*, edited by Matthew Gandy and B.J. Nilsen, 164–173. Berlin: Jovis Verlag, 2014.

Stanmeyer, John. "Becoming Binaural." The Photo Society. February 22, 2012. Accessed July 16, 2019. http://thephotosociety.org/becoming-binaural.

Truax, Barry. "Sound, Listening and Place: The Aesthetic Dilemma." *Organised Sound* 17 (2014): 193–201. https://doi.org/10.1017/S1355771811000380.

Waldock, Jacqueline. "Soundmapping: Critiques and Reflections on This New Publicly Engaging Medium." *Journal of Sonic Studies* 1 (2011). Accessed March 10, 2019. https://www.researchcatalogue.net/view/214583/214584.

# Making It Heard

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Rui Chaves
and
Fernando Iazzetta

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