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# Sonic Proximities: Locating Oneself and the Others Within a “Migratory Journey”

XIMENA ALARCÓN<sup>1</sup>

## Abstract

The INTIMAL App© is a mobile application that synchronously senses people’s walking rhythms in distant locations and then rhythmically sonifies these with the user’s chosen audio frequencies. Taken altogether, the perception of breathing and walking rhythms across space and time creates an embodied telepresence. At the level of content, the app has provided first-hand narrative accounts about the migration experiences of Colombian women living in Europe. These stories are meant to elicit a response from the listener, allowing for a path to be built out of new relationships that emerge between voices and sound frequencies. In the context of the Covid-19 pandemic, this article reflects on the social and environmental “sonic proximities” that emerged out of the listening experiences using the INTIMAL mobile app with ten women based in Bath, United Kingdom. I suggest that the embodied and interactive simplicity of the app stimulates connections that support the gradual transformation of environmental and social distance, thereby providing a sense of individual and collective agency.

## Listening to A Migratory Journey: Sonic Migrations

I am a sound-listening artist exploring the “in-between” sonic space in the context of human migration. I have called these explorations “sonic migrations”; they consist of listening to voice, language, sonic environments, dreams, and the experience of underground commuting. During the last ten years, I have accessed this in-betweenness with others through telematic, improvisatory sonic performance and Pauline Oliveros’s Deep Listening® practice, which allows for sensing and listening to place and presence while exploring alternative forms of human connection.<sup>3</sup> I

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<sup>3</sup> For more on deep listening practices, see Pauline Oliveros, *Deep Listening: A Composer’s Sound Practice* (New York: iUniverse Books), 2005.

have learned about the simplicity and complexity of such connections through telematic improvisation. I have witnessed how our listening and soundings across distance—mediated through networking technologies—inform the qualities of our encounters and position how we listen to ourselves and others.<sup>4</sup>

While I have been using streaming software and standard audio devices, I have also been in search of my own technological interface to access this sonic in-betweenness. Here, an “interface” is understood as the space to meet the other, others, and ourselves, as well as being “the membrane of interaction between human and technology.”<sup>5</sup> I especially regard it as a membrane that helps us to cross geographical and cultural borders, allowing for the transformation of rigid limits within our differences.

In this sense, sonic migrations offer an embodied experience of dislocation and isolation, both of which create social disconnection from what once was familiar. The creation of the INTIMAL System, as a networked system for relational and shared listening, emerged from the context of migration, dislocation, and a specific political conflict. Two years later, the subsequent INTIMAL App finds itself situated within the pandemic lockdown, providing a counterpart to the experience of migration.

## The INTIMAL System

I wanted to expand people’s sonic experience by using body movement to facilitate collective improvisation across distant locations in the context of human migration. In 2017, I began asking questions about the role of the body as an interface that keeps memory of place through the development of the INTIMAL project (Interfaces for Relational Listening), an embodied, physical, and virtual interactive system for relational listening in telematic sonic performance that brought together the inter-relationships of bodily movement, voice, language, oral archives, and memory of place. These relationships helped me to explore a sense of place in our physical surroundings and a sense of presence in local and distant locations.

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<sup>4</sup> For examples of previous work with sound across distance, see Ximena Alarcón, “Networked Migrations: Listening to and Performing the In-between Space,” *Liminalities: A Journal of Performance Studies* 10, no. 1 (May 2014): 2–21, <http://liminalities.net/10-1/networked-migrations.pdf>; Ximena Alarcón, “On Dis-location: Listening and Re-composing with Others,” *Reflections on Process in Sound* 5 (2017): 24–37, <http://urn.nb.no/URN:NBN:no-61896>.

<sup>5</sup> Ge Wang, *Artful Design: Technology in Search of the Sublime* (Stanford, CA: Stanford University Press, 2018), 206.

The concept of the INTIMAL system derived from research into the listening experiences of nine migrant women. These women were originally from Colombia, but had migrated to Oslo, Barcelona, and London.<sup>6</sup> This aspect of research incorporated Deep Listening practices and improvisation exercises, including listening to an oral archive with other women’s testimonies of migration and conflict provided by the organization Diaspora Women. These elements led to the expression of improvisatory “migratory journeys” across four spheres of migratory memory: body memory, social body, native land, and host land.<sup>7</sup>

I used methods from embodied music cognition, such as recording in a motion-capture lab with infrared markers and sensors, to observe possibilities for developing interfaces for relational listening in these migratory journeys.<sup>8</sup> Trying to understand the complexity of embodied experience and biodata, I proposed two body movements of everyday life for interactivity in the project: *walking* to sense place and *breathing* to feel presence.<sup>9</sup>

Through a collaboration with the support of MA and PhD students and research assistants, I led the artistic and technological implementation of three software systems: MEMENTO, RESPIRO, and TRANSMISSION.<sup>10</sup> MEMENTO explored the semantic relations of the oral archive using text mining. Using the mobile phone as a sensor, the relationships among the voices were activated by each walking step of the improvisational performers in each city. In RESPIRO, data from their breath was transmitted telematically and sonified locally. With TRANSMISSION, the improvisers’ voices and the sonification of their breathing data were mixed and transmitted to online audiences.

The system was tested out by holding a telematic sound performance in the cities of Oslo, Barcelona, and London with the nine women who, as previously mentioned, had migrated to these cities. How breathing sensors effect, connect, and permeate different aspects of the embodied

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<sup>6</sup> For an early conceptual design of the project, see Alarcón, “Conceptual Design for INTIMAL: A Physical/Virtual Embodied System for Relational Listening,” *Journal of Somaesthetics* 4, no. 2 (2019): 6–24, <https://doi.org/10.5278/ojs.jos.v4i2.2393>.

<sup>7</sup> For understanding the rationale of the four spheres of migratory memory, see Alarcón et al., “From Collecting an Archive to Artistic Practice in the INTIMAL Project: Lessons Learned from Listening to a Colombian Migrant Women’s Oral History Archive,” *Acervo* 32, no. 3 (2019): 48–63, <https://revista.an.gov.br/index.php/revistaacervo/article/view/1308>.

<sup>8</sup> For information on embodied music cognition methods, see Alexander Refsum Jensenius et al., “Sonifying the Shape of Human Body Motion Using Motiongrams,” *Empirical Musicology Review* 8, no. 2 (2013): 73–83, <http://dx.doi.org/10.18061/emr.v8i2.3926>.

<sup>9</sup> For a rationale on the relationship between walking and breathing, see Alarcón et al., “INTIMAL: Walking to Feel Place, Breathing to Feel Presence,” in *Proceedings of the International Conference on New Interfaces for Musical Expression*, 246–249 (Federal University of Rio Grande do Sul: Porto Alegre, Brazil, 2019), <http://doi.org/10.5281/zenodo.3672944>.

<sup>10</sup> For details on the artistic and technological implementations of this software, see Alarcón et al., “Sensing Place and Presence in an INTIMAL Long-Distance Improvisation,” *Journal of Network Music and Arts* 1, no. 1 (2019), <https://commons.library.stonybrook.edu/jonma/vol1/iss1/3>.

emotional experience in telematics was fascinating. This led me to suggest that sonified breathing becomes a bridge “for feeling emotional presence both in co-located and telematic interactions.”<sup>11</sup> A further result from these listening groups was the formation of an INTIMAL collective composed of Latin-American migrant women in Europe who, through listening to the migratory experiences of themselves and others, are fostering individual agency and collective transformation in their host and native lands.<sup>12</sup>

### A Networked Listening Environment: The INTIMAL App©

Based on the findings and experience with the INTIMAL project, I created the INTIMAL App between 2020 and 2021. INTIMAL is a mobile phone application that invites people to listen to their own “migratory journeys” as they walk through their surroundings; the app helps them to sense place and sense presence alone and with others across distant locations. The INTIMAL App senses users’ walking rhythms synchronously across different locations. These are then sonified and perceived as breathing—an embodied telepresence. Within the journey, the app also reveals excerpts of stories of migration. Listeners can respond by recording their own voices, which can then be heard by others who are walking. This allows for building a path out of words and memories as new relationships emerge out of voices and sound frequencies.<sup>13</sup> The INTIMAL App is the result of a need to synthesize and demonstrate the findings and original designs of the INTIMAL System in a technology that can be accessible and tested by many people. This time I am taking the experience of embodied dislocation, social disconnection, and isolation during the pandemic lockdown, as counterpart to the experience of migration.

To replace the use of breathing sensors, I decided to explore the possibilities of interrelating walking and breathing in a way that could be handled by the mobile phone. I video-recorded my own walking rhythms and, by calculating the number of steps that I take while I inhale and when I exhale, I noticed how my breathing corresponded with my steps. I imagined the possible sonification of that experience through a distinctive signal that follows one’s breathing cycle. As I imagined it, the signal should be distinctive enough to be identified in both urban and rural settings;

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<sup>11</sup> Alarcón and Alexander Refsum Jensenius, “Ellos no están entendiendo nada” [“They are not understanding anything”]: Embodied Remembering as Complex Narrative in a Telematic Sonic Improvisation,” in *Proceedings of RE:SOUND 2019* (Aalborg, Denmark), 213, <http://dx.doi.org/10.14236/ewic/RESOUND19.32>.

<sup>12</sup> Along with Ana María Alarcón-Jimenez and Liliana Rodríguez, I wrote on the process of forming the INTIMAL collective in “INTIMAL: Relational Listening That Unknowingly Prepared us for the Covid-19 Pandemic,” *Routed Magazine* 15, June 23, 2021, <https://www.routedmagazine.com/intimal-relational-listening-covid>.

<sup>13</sup> Editor’s note: The choice to refer to “sound frequencies” rather than “sonic frequencies” reflects the complexities of these terms and their variability within Deep Listening practice, in which verbs become nouns, nouns become adjectives. There is a general redefining of words in this culture in which terms may be expressed differently from their commonplace form.

it should be heard through headphones amid many surrounding sounds, including the sound of my inner voice when thinking. With the help of Ricardo Graça, a graduate of the Bath Spa University (BSU) Creative Computing program, I was able to transform this idea into a working prototype. This version enabled us to listen to the tones we generated by walking across distant locations. Our individual rhythms seemed to influence each other by slowing down the rhythm of the one who was going faster. This fascinating finding led me to further explorations with the app. I received funding from The Studio to expand the technical and artistic implementation of the app in the context of the pandemic lockdown; this part of the implementation allowed for testing out the app with ten women from different cultural backgrounds residing in Bath, UK. I worked in collaboration with the service designer Dr. Liliana Rodriguez to receive feedback on the app prototype: first, from local professionals working in creative technologies, and second, from potential users. Also, I worked with the programmer Kieran Harte to refine and implement further interactive sound functions.

### **Tele-copresence: Understanding Sonic Proximities**

My artistic intention was to bring together women from different backgrounds in the experience of a migratory journey that could be explored locally and at a distance. After performing individual and group tests across distant locations, another test was planned for the experience of “tele-copresence,” that is, being in the same physical location but interacting at a distance.

From my previous INTIMAL research, I used short fragments from four spoken-word stories told by women from the INTIMAL collective, as part of their migratory journeys. To stir memories in others, I wanted to bring the minimum possible time for speech up to fifteen seconds in length. These fragments were then placed in a playlist and corresponded with each of the four cardinal directions: north, south, east, and west. Multiple narratives could be associated with these directions as the person using the app changed the direction of their walk. In those transitions, for instance, between north and east, the stories ended up overlapping, creating a mixed narrative in a crossfade. If prompted, the listener could record her own story or free response. This response became part of the list for that cardinal direction. When new stories emerged, the others faded out as an indication of being heard while simultaneously allowing for a renewal of the stories in the present context.

The stories served as a prompt to stimulate further sharing of stories by the women in Bath. As their paths were traced through stories and directions of the walk, they connected with stories of motherhood, nature, migration, and dislocation. Here are some examples of responses from three of the women participating in the telematic and tele-copresence experiences:

It was amazing to listen to their stories. Because I share a lot of th[ose] stories (lack of a mother, being an immigrant, asking for international exchange, not having children), I really immersed deeply and felt connected.

The one about the woman's mother being replaced by a mountain really resonated with me—her loss and her fear and the fact that she felt lost and could not find her way when the fog came down.

It was very nice to walk and hear the story that you like and then let that story guide your direction. It makes you feel mindful of your steps, too, because you have to walk kind of slowly and mindfully, actually, to listen to the story.

Another participant described how responding to the stories by recording her own voice required additional “time” due to how intimate and emotional the experience became. She said:

The feeling of emotion when I am listening to another woman's story amplifies a story within me . . . sometimes I realize that there is an emotional story that is captured from her story to my own story, but I can't articulate or know what exactly that is yet until I have to take my time, continue to walk a bit, [and] come to the story again until I can articulate it.

Listening to the voices of other women who were walking at the same time helped encourage the participants to articulate and thus record their own voice. In conversation with another participant, one woman reflected on the tele-copresence experience in such terms.<sup>14</sup> She described how:

I start hearing your voice and your story, and I wasn't quite sure of how to use it, so it was really helpful to hear your interpretation, sort of your response to one of the stories. Ah, I see I can do just that. It doesn't have to be super complicated.

I further explored the sound signal that indicates telepresence and its variations for a relationship between walking (to sense place) and breathing (to feel presence and tele-presence) by using sine waves. In my desire to keep the breathing experience as a bridge for tele-presence, I imagined the sound of a breathing cycle that can respond to walking. I experimented with the number of steps. I divided the process into a number of steps that brought the signal up when breathing in, a number of steps that meant a pause in breathing, and a number of steps that meant breathing out. Several tests brought the current rhythm to a sequence of steps in a “4-3-7” rhythm.

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<sup>14</sup> Ximena Alarcón, INTIMAL App©, Vimeo, May 25, 2021, <https://vimeo.com/554809254>.

I noticed how the signal behaved differently when in a calm, open park area compared to being in a noisy street. This created a different resonance with the environments. Éline Radigue inspired me with her reflection on electronic phenomena for which “the very nature of these types of sounds demands another approach to listening in order to better understand or hear what they awake on us.”<sup>15</sup> Studying further the nature of frequencies and bringing them to a safe level for people with hearing conditions, I decided to offer the option in the app for people to “tune” within a range of 174 Hz, 396 Hz, and 528 Hz.<sup>16</sup> Once the reference frequency has been selected, people can “turn to tune” using body movements, combining this sonic experience with the search for coordinates.

Further, I imagined a sonic drone made by people walking collectively through shared rhythms and personal tuning in virtual rooms where they could “meet” in-between physical and virtual sonic spaces. Radigue’s reflections also inspired me in terms of their material possibility and sonic metaphors for collective encounters made through harmonic and rhythmical exploration: “Continuous sound is necessary to promote the development of partials without interrupting them—like with the richness of grand voices carried during the duration of a breath.”<sup>17</sup>

In the test I noticed a fascination that most of the women had with the sound frequencies. Before starting the migratory journey, the INTIMAL App asks each user, “In which frequency are you vibrating today?” I asked the participants if the choice of the signal was influenced by emotional reasons, the memory of that tone in another context, or a resonance with the environment. For instance, one identified 396 Hz as “the frequency of love,” while another chose the 174 Hz frequency because of how it made her “feel calm and linked to the environment.” The memory of the tone in another context brought embodied realizations. Someone identified the tone as being like “breathing” or “an entity of its own,” while another connected it with her own nervous system. The signal was additionally described as feeling like a presence inside the body—“I could hear my insides!”—and also like walking with a metal detector. Here are a few more quotations from the research participants that illustrate the embodied quality of the sound frequencies:

When the tone stopped, I felt more connected to the sounds around me (such as birdsong).

I felt more aware of my environment this time, not only sounds but textures and colors.

For the collective experience, if a person chose the same frequency as another person, the app automatically assigns a +1 or -1 to that frequency. For instance, if a participant chose 396 Hz, the

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<sup>15</sup> Julia Eckart and Éline Radigue, *Intermediary spaces = Espaces intermédiaires* (Brussels: Umland Editions, 2020), 42.

<sup>16</sup> Thanks to the advice from biomedical acoustic engineer Dr. Anna Barney and thanks to the consultancy from composer Dr. Ron Herrema.

<sup>17</sup> Julia Eckart and Éline Radigue, *Intermediary spaces = Espaces intermédiaires* (Brussels: Umland Editions, 2020), 42.



other person will be given 395 Hz or 397 Hz. This produces a rhythmical beat which indicates that they are close in resonance. I liked how this fact of the chosen tones defied geolocation and social divisions and expands on ideas about proximity to the realm of vibrations. The research participants reflected on the closeness they felt to others through hearing “their frequencies”:

With the shared experience I felt that it was interesting feeling connected through technology (as we all are all the time) but sensing it through hearing in an uncommon way.

It felt fuller in a way. Hearing their frequencies was like being in the company of others.

I left my house and crossed the road. As I walked, I could hear the frequencies and rhythms of the other people vibrating and harmonizing with my own. I crossed another road and walked through a car park onto the green. There was a birdsong, but it was muffled by the sounds in my headphones. As I approached the little harbor, I turned on the stories and moved my phone so I could listen and not lose them. I looked at the water and the boats for a little while, then turned and made my way home, wishing I could hear my frequency more loudly, mixing with that of the others.

For me, the signal became both a presence and an interface that holds in-betweenness for presence: a link with the inner self, the sonic environment of the place, and to others connected through distance. Based on the combinations made between stories and signals, the idea of what a migratory journey could be was further expanded. After completing their experience with the app, I asked the research participants what they considered to be a “migratory journey.” Here are several of the participants’ anonymous responses to the question:

A journey that changed in direction, enabled time to pause, but despite twists and turns, ultimately ended where it started.

It was like looking for myself and finding myself again in a different context again and again, as if I had many opportunities to meet the other me.

With this experience, I was able to feel mindful and aware of all of my body’s movement. Moving with the rhythm of the frequency, the rhythm of my environment, and my own rhythm.

### **Further Steps: A Shared and Networked Listening Environment**

The INTIMAL App allows for the emergence of a social understanding of migration that transcends the mainstream understanding of the migrant experience as the “other.” When using the

INTIMAL App, time and space expanded as participants undertook an experience that combined breathing, walking, listening to pre-recorded voices and newly recorded fragments, all while allowing their own voices to emerge. It was a tele-presence improvisation with different layers of distance. The addition of the individualized signal became an interface that holds in-betweenness for presence while the stories, through both tacit and overt sonic links, served to potentially bring people and environments closer to each other, not only in terms of location, but also to the self and others in the midst of rapid, global transformations of society and the environment.

I have suggested that the INTIMAL App becomes an interface for relational listening that expands people’s listening experience along with their understanding of migration. I infer that this technological listening tool, embedded in an artistic improvisatory experience of an embodied “migratory journey,” helps to raise awareness of how close we really are, how deep our connections to the self and others can be, and how a networked listening environment can spark inner, social, and environmental transformations offering us a sense of agency.

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## Appendix

Links to the videos of the performances mentioned in this essay:

[INTIMAL: A Long-distance Improvisation](#) [video excerpt]

[INTIMAL: A Long-distance Improvisation](#) [original transmission in YouTube, sound only]

[INTIMAL: A Long-distance Improvisation](#) [audio-only excerpt]

[INTIMAL Documentary](#)

[INTIMAL App©](#)

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