FROM COLLECTING AN ARCHIVE TO ARTISTIC PRACTICE IN THE INTIMAL PROJECT
LESSONS LEARNED FROM LISTENING TO A COLOMBIAN MIGRANT WOMEN'S ORAL HISTORY ARCHIVE

Da criação de um arquivo à prática artística no projeto Intimal
Lições aprendidas da escuta do arquivo de história oral de mulheres migrantes colombianas

De la creación de un archivo a la práctica artística en el proyecto Intimal
Lecciones aprendidas de la escucha de un archivo de historia oral de mujeres migrantes colombianas

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ABSTRACT

This paper describes a multidisciplinary encounter with oral testimony archives and their incorporation in the artistic research project INTIMAL. It explores ways in which to creatively listen to stories which might be emotionally challenging, and to create and sustain empathy with these disembodied voices, which contain a shared history as fissures of sixty years of violence.

Keywords: listening; oral archives; retrieval; Colombian conflict.

RESUMO

O artigo explora um encontro multidisciplinar com arquivos de testemunhos orais, e como estes são incorporados à pesquisa artística do projeto INTIMAL. Interrogamo-nos sobre como escutar criativamente histórias que podem ser emocionalmente desafiadoras de se ouvir, e como criar empatia em relação a essas vozes descarnadas que carregam consigo, como fissuras, uma história de sessenta anos de violência.

Palavras-chave: escuta; arquivos orais; preservação; conflito colombiano.

RESUMEN

Este artículo explora un encuentro multidisciplinario con un archivo sonoro de testimonios y cómo estos se incorporan en el proyecto de investigación artística INTIMAL. Preguntamos cómo escuchar creativamente historias que pueden ser emocionalmente difíciles de escuchar, y cómo crear empatía con estas voces que, como fisuras, guardan historia de sesenta años de violencia.

Palabras clave: escucha; archivos orales; búsqueda de datos; conflicto colombiano.

INTRODUCTION

INTIMAL is an art research project intended to develop an interactive, physical-virtual 'embodied' system for relational listening which encompasses body movement, oral archives, voice and language, and memory of place, in the context of migration. It hopes to provide an artistic platform to open up paths for healing after experiences of loss and dislocation caused by migration and the experience of conflict. Broadly, the research informing the project interrogates the role of the body as an interface with one's memory of place, asking (1) how co-located and telematic technologies can expand a relational dialogue which responds directly to the embodied experience of migration; and (2) how an oral archive can be integrated into this process of remembering, as a catalyst for emerging relations between the stories that it contains and the life story of people who listen to it.

In this paper, we focus on the second question and leave aside the non-verbal embodied experience for now. In the context of the oral archives, we explore *how to creatively listen to stories which might be emotionally challenging to hear* and *how to create empathy with these people's voices, which the listener cannot see*, and which embed a shared history as fissures of sixty years of violence.

As a case study, this INTIMAL project incorporates the listening experiences of nine Colombian migrant women living in the cities of Oslo, Barcelona and London, in their interaction with an oral archive of testimonies of migration and the Colombian conflict collected by the Commission of Truth, Memory and Reconciliation of Colombian Women in Diaspora.

BACKGROUND

Sound archives: cultural memory and sonic retrieval

Recognising the importance of sound archives as containers and triggers of cultural memory and seeking to expand the listening experience related to sound archives, Alarcón and Lane (2015) brought together twenty artists and humanities researchers to create the Sound Matters Framework. This framework reflected on the applications of speech and field recordings in personal and public collections, and the processes which these artists and researchers used for interrogation (retrieval) and relational playback. Their study revealed the ways in which they were challenging traditional processes of "data" interrogation, and the need for systems to help in this listening process and cultivate certain sensibilities with regard to the material it generated. The interviews included reflections on the ethics of using found spoken-word material, the impact of the space within which the material was recorded,[1] and the use of algorithmic tools to exert a certain degree of control over archives in a public library.[2]

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1   Artist Clay Gold highlighted issues of ethics when the sound material with spoken word is found, and noticed how the space is influencing the emotion of the voice that is recorded.

2   In his work *Let Freedom Ring*, Ron Herrema uses algorithmic tools to exert control over his sonic material, which

Strategies for working with speech recordings differ from those for working with field recordings; here, the artwork or research starts at the moment in which the recording is made as it includes the acoustics of the space in which the recording happens, and it is framed by the intention of the recordist.[3] Once the archive is created (or found), artists and researchers struggle with "the generalised surveillance culture, and the degree of cultural and technological mediations that the material can have".[4] Projects such as *The Travelling Archive*, by the artists Sukanta Majumdar and Moushumi Bhowmik, challenge traditional perspectives on archive retrieval by installing an archive in different places around the world, then finding people to listen to and comment upon scattered memories.[5]

Regarding sonic information retrieval, significant research has been carried out in recent decades to inform the development of technologies allowing any user to find (or retrieve) from a given database, corpus, catalogue or archive a particular document via a request (or query) (Baeza-Yates & Robeiro-Neto, 2011). Music databases, in turn, gave rise to the "Music Information Retrieval" research community (Casey et al., 2008). One particular objective of this community was to develop tools for retrieving music based on queries expressed through music notation or even by singing a melody in the song being sought ("query by humming"), performing a rhythmic pattern or tracing a melodic gesture in the air. Along with music, content-based multimedia information retrieval provides new paradigms and methods for searching the myriad variety of media all over the world (Lew et al., 2006). A few research projects have even applied this information-retrieval paradigm to field recordings and oral archives (Font et al., 2018), which are used widely in sound art, social sciences and humanities research.

Thus, reflections on sound archives made by contributors to the Sound Matters Framework project, as well as the state-of-the-art technologies for sonic information retrieval, prompted the INTIMAL art research project to incorporate oral archives into its interactive system.

COLLECTING THE ARCHIVE

The Commission of Truth, Memory and Reconciliation of Colombian Women in Diaspora, a grassroots organisation operating in Barcelona and London,[6] realised the importance of

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combined voice recordings from the 2000 US Republican National Convention (culled from the Vincent Voice Library at Michigan State University) with recordings from telephone answering machines. Taken from stories published on the Sound Matters Framework blog. Available at: <https://soundmattersframework.wordpress.com/category/speech-stories/>. Accessed on: 21 nov. 2018.

3   Taken from stories published on the Sound Matters Framework blog. Available at: <https://soundmattersframework.wordpress.com/category/speech-stories/>. Accessed on: 21 nov. 2018.

4   Holly Ingleton, a scholar of cultural theory; quote taken from stories published on the Sound Matters Framework blog. Available at: <https://soundmattersframework.wordpress.com/2015/05/29/archival-interventions-holly-ingleton/>. Accessed on: 21 nov. 2018.

5   Taken from stories published on the Sound Matters Framework blog. Available at: <https://soundmattersframework.wordpress.com/2015/06/22/unfolding-space-the-travelling-archive-sukanta-majumdar/>. Accessed on: 21 nov. 2018.

6   Today, the commission's organisation is called Diaspora Women. Available at: <https://www.mujerdiaspora.com/>. Accessed on: 27 nov. 2018.

collecting the testimonies of Colombian women living in the diaspora, as part of the country's historical memory; furthermore, this effort would break the silence about what happened during the armed conflict in Colombia. The initial effort arose during the Colombian peace negotiations between 2012 and 2016. Using participatory feminist action research (a psychosocial methodology), the commission invited women to have a dialogue amongst themselves to facilitate their healing. The creation of oral and written records of the women's testimonies responded to four specific objectives: (1) to create a sound file of each woman's account which gathered not only the history but also the sonic environment that surrounded her during the recording, so that the experience of telling the story (and listening back to it) would not be painful but instead remind the woman of the present moment and place where she is; (2) to return the sound file to the woman who was its source so that she felt some aspect of control over her story; and feel calm and secure so that their audios can be heard by other people; (3) to facilitate the collective analysis of the archives by commission members to identify patterns in the stories and develop skills and strategies which could be used by the women to process what they had experienced; (4) to create a material that can be transferred to children and second or third generations who do not know the story of what happened to the woman who gives her story.

With this in mind, the commission created a methodology called "active memory" which involves listening actively to testimonies of Colombian women in diaspora and creating a dialogue with other women around the experienced events which leads to a collective reflection. The "active memory" focuses on a sensory work, involving memory and taste, and the testimonies of each woman are gathered over meals chosen by each of them to prompt good memories in tandem with bad. This environment, and the other women's company, help to generate trust, pleasurable sensations, and positive associations. The woman's input into the situational setup for recording her testimony allows her to avoid the sense of a judicial declaration or therapy session and promotes connections between her and her listeners.

Apart from the preservation of historical memory, the commission seeks to promote academic research on the testimonies of Colombian women about the Colombian conflict and migration.

The commission collaborated with the INTIMAL research by supplying twenty archives to be used in the INTIMAL project. While the approach of the commission in its collection of these archives and the questions which prompted the testimonies are different from what motivates the INTIMAL project, both initiatives seek insight into the Colombian conflict and its impact upon women. The criteria for the selection the archives were as follows: a balance struck between the number of testimonies from each respective city (Barcelona and London) and a preference for stories which might relate to the INTIMAL touchpoint of *how the body acts as an interface which retains a memory of place*. In such exploratory research, however, especially involving concepts of "embodiment", it is hard to know in which aspects we might focus when working with this rich and unfamiliar sound material. For instance, should we focus on the voice's expressivity? On what these voices are saying? On both aspects at once,

or in relation to one another? Following Gallagher (2013) we assume that "nothing about human experience remains untouched by human embodiment, from the basic perceptual and emotional processes". Thus, a listening process of the voices from the archive should consider both semantic and prosodic features of the testimonies.

LISTENING AND ANNOTATIONS FOR THE INTIMAL SYSTEM

Selection: listening to styles, voices and kinds of migrations

Out of the twenty testimonies we received from the commission, we selected nine to process and use in the INTIMAL system. We privileged a diversity of women's voices according to different regional Colombian accents, different ages, and different individual and social experiences throughout the conflict and during the migration. Another important aspect of our selection process was the technical quality and durations of the original recordings (which were between one and two hours each). We noticed that when the testimonies were recorded in a quiet, private environment in the company of a few people, we could focus more successfully on the voice being recorded, including the woman's semantic content and emotional nuance.

For the INTIMAL project, we ended up with the stories of the "experienced migrants" – those who had decided their life path and place to live, and were in a more stable position to tell their stories. This through-line supplied coherence and connections among the narrative styles and contents, in the interests of establishing co-relations by sharing fragments of these stories with other women. Ultimately, we discovered that *less is more* – we derived the most value from oral testimonial material which best accommodated *relational listening*. That is, two or three testimonies containing rich emotional and personal experiences, evenly parsed into significant fragments, could be listened to in sequence as a set of content-based and expressive relations.

Data Curation

Transcription and annotation methodology

The transcription process of the oral archives started with "Speechmatics" which is an online speech-recognition service.[7] The software transcribes the sound file (uploaded in .wav format) in the selected language (Spanish), then offers the finished transcription as a text file, a .json file and an html "print" version. The .json file supplies each transcribed word with a timestamp, which facilitates future speech retrieval for the artistic purposes of INTIMAL. After downloading the .json file, we used the Speechmatics API to immediately delete this material from their service. We undertook a file-format conversion process (from

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7   Available at: <https://www.speechmatics.com/>. Accessed on: 23 nov. 2018.

.json to .csv) using a three-step open-source solution.[8] A simple Perl one-liner (one line of code)[9] removed double quotes from the .csv file. The .csv file was then imported into Elan software (Brugman, 2009) to edit the automatically transcribed testimonial files. We used the same software for subsequent labelling and annotation.

We found that the automated transcription software was often unable to differentiate between speakers and could not cope with mispronounced or unintelligible words which were the result of garbled or muffled speech, jargon, or idiosyncrasies of dialect. It also struggled with heavy background noise. Thus, manual editing and correction represented an essential step in the audio-file processing. This task was developed by a data curator, who was in charge of listening, correcting the automatic transcription, and annotating each testimony. The complex format of the narrative of the testimonies, and the curator's emotional reactions were particularly challenging aspects of manual editing. The archive listening process, after all, involves complete and repetitive engagement with each testimony, an exciting and demanding emotional process which demands a good amount of time, especially when the content of the testimonies is linked to the collective memory of the listener. For example, testimonies involving physical violence, torture, sexual violence, or witnessing death directly confront us as annotators of these archives, as we can only work from our own backgrounds,[10] as "important filters through which one perceives the world and, more particularly, the topic being studied" (Behar, 1996, p. 13). Based on this listening experience with the archives and on the annotation process, we strove to keep the cruder aspects of the stories, the explicitly dramatic events, and the cathartic moments which occurred during the recording of the testimony, out of the annotation and instead prioritised the narrative that happened immediately before or after these stories.

Confidentiality issues

Due to the sensitive content of the testimonies, the entire file storage, management, listening and annotation process was performed in a secure and closed environment.[11] To ensure the anonymity of the speaker, we performed an additional annotation process to mark names, places or dates containing sensitive or personal information. We also created a separate vocabulary to mark potentially sensitive fragments within the testimonies. The annotation and curation process taught us the importance of the recording process of

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8   (1) Java script Node.js (<https://nodejs.org/en/download/>); (2) package manager for Javascript nps; and (3) node module json2csv (<https://www.npmjs.com/package/json2csv>).

9   This one line of code uses the Perl interpreter to remove all double quote characters from the specified filename (perl –pi –e `s/"//g` filename).

10 In this project, the main researcher is Colombian, and the research assistant is Mexican. The former is very close to the political context of Colombia, and the latter is more distant from it but close enough to find links there with her own collective memory of Colombia and its conflict.

11 The project INTIMAL established a collaboration agreement with the Commission of Women for its use of the archives which involved respecting the anonymity of the recordings and the risks around public disclosure of this information. This agreement accorded with accepted ethics and data management practice in Norwegian and European human research contexts.

the commission's testimonies, the need of having a relatively quiet environment to record them in the interests of facilitating the reuse of this material, as well as its storage and later engagement with it.

Listening for meaning and feeling

Semantic annotations

Annotating involves placing a frame around the "sound story" via the deliberate selection of fragments of discourse. It is an exercise of power which activates our own ethics, narrative themes, emotions and sensibilities as we make decisions about what others will encounter when using the INTIMAL system. We present the common semantic spaces or themes of these testimonies as "migratory journeys" and labelled and selected fragments of these journeys for inclusion in the INTIMAL system using the "tiers" and "controlled vocabulary" tools provided by Elan software; each tier represents a sphere of migratory memory, and each controlled vocabulary covers the categories into which each sphere is subdivided (Figure 1).
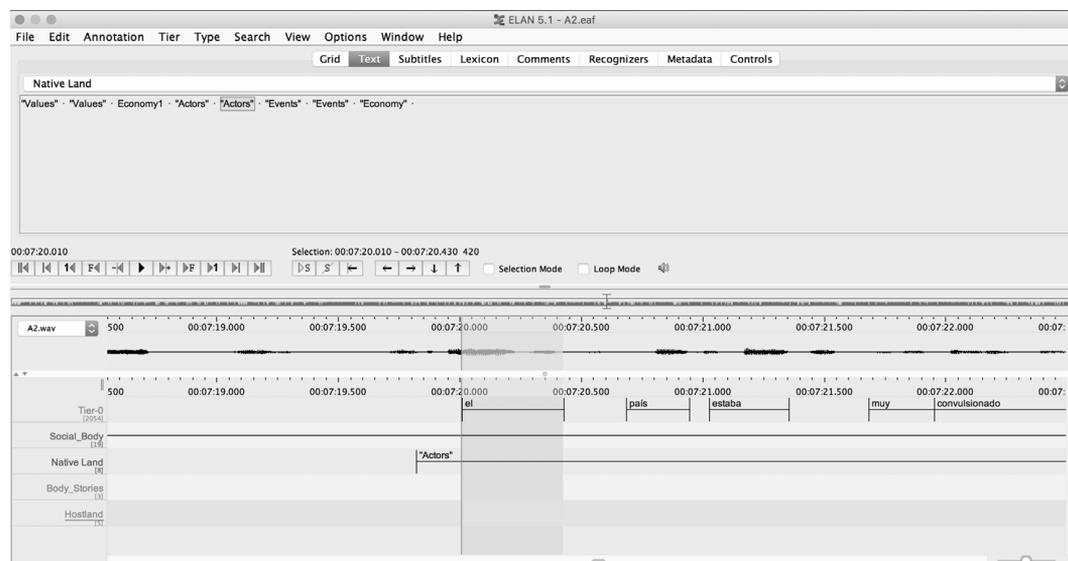
This exercise produces a structure through which the annotator must consolidate her ontologies, we called our consolidation the "four spheres" of migratory memory.[12] For each INTIMAL tier, then, a controlled vocabulary can be created. These spheres engaged themes

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12 These spheres of migratory memory are considered scalable, because we consider an ontology to be a shared, agreed upon and detailed model of a certain problem domain (Gruber, 1993). In information science, an ontology encompasses a representation, as well as the formal naming and definition of the categories, properties and relations between the concepts, and within domains. Thus, different listeners to the archive could produce different representations of the content to which they are listening, in future annotations of the same material.

as *places* where the shared memory, in the testimonies, usually arrives in the testimony in question.

After listening to many testimonies, we realised that, when talking about their stories, women were always moving between *here* (the host land) and *there* (the native land) while confronting questions about the context of Colombian conflict. Their complex narratives were divided into cultural, ideological and personal concepts within the migratory memory spheres. As we built up a controlled vocabulary via testimony attributes, we were able to categorise fragments which were difficult.

Given the INTIMAL project's focus on embodiment, we began with story fragments which referred specifically to physical experiences, feelings and sensations, and the first sphere of migratory memory, *Body Stories*, soon emerged as an intimate physical space involving body/mind. Here we included all mentions of the body, grouped into a handful of categories: (a) *body events* involving the narrator's own body (or life cycle), (b) *illnesses* (complaints, pains, sickness in the narrator's body), (c) *selfcare* (activities or opinions), (d) *mind* (any event involving mental health in its broadest sense), (e) *sexuality* (any event involving sexuality, pleasure, sexual decisions, sexual identity or sexual abuse), and (f) *sensations and feelings* (descriptions of emotions, which usually involved somatic expressions).

The second sphere of migratory memory related to the narrator's relationships with others, which metaphorically created a *Social Body* and covered the dimensions of shared time and identity, including social and family links. The fragments grouped in this sphere mention relationships with (a) *blood family* (mother, father, siblings), (b) *friends and colleagues*, (c) *created family* (partner, children), including key stages of life such as *childhood* and *adolescence*, and (d) the *values* attached to, interrogated by or derived from these relationships.

The third sphere of migratory memory was *Native Land* (Colombia, in this case*)*, which broadly represented the historical shared dimension of a specific migrant community. Informed by the causes which motivated or forced someone to migrate, the categories which emerged were as follows: (a) *conflict events* (political or armed conflicts), (b) *conflict actors* (those involved in political or armed conflict), (c) *economy* (employment and the general financial system), (d) *education* (opportunities to learn and teach), (e) *land* (relationships with nature and the surrounding environment, including any sentient beings, urban and/ or rural spaces, or land property), and (f) *values* (for example, issues of corruption, solidarity, political convictions and so on).

The fourth sphere of memory, which was tacitly expressed in some cases, was *Host Lands*: a migration dimension encompassing stories about the narrator's present land of residence or other foreign territories which had been part of her migration. Categories belonging to *Host Land*s mirror those of *Native Land* and thereby enable a broader understanding of conflict in contemporary societies – the categories, again, are (a) *conflict events*, (b) *conflict actors*, (c) *economy*, (d) *education*, (e) *land* and (f) *values*. Thus, we understand conflict as a contemporary context which also question host land's societies from a migrant women's perspective (Figure 2).
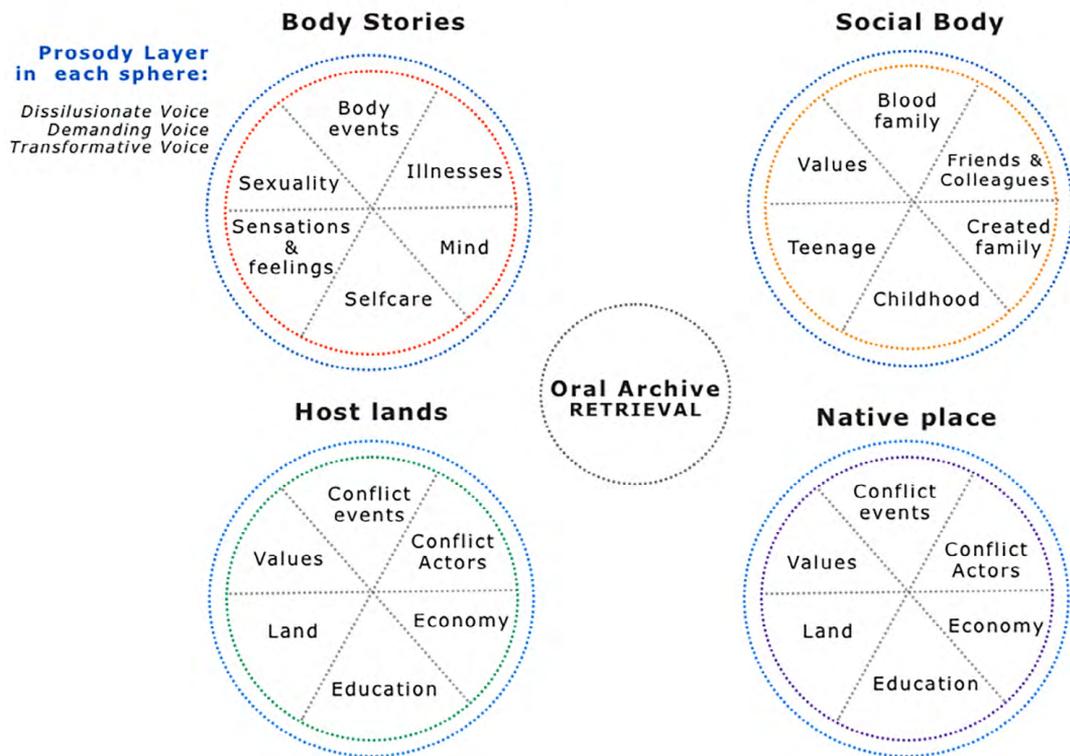
Ontology: four spheres of migratory memory

Body Stories

Prosody Layer in each sphere:

Dissilusionate Voice
Demanding Voice
Transformative Voice

Body events

Sexuality

Illnesses

Sensations & feelings

Mind

Selfcare

Social Body

Blood family

Values

Friends & Colleagues

Teenage

Created family

Childhood

Oral Archive RETRIEVAL

Host lands

Conflict events

Conflict Actors

Values

Land

Economy

Education

Native place

Conflict events

Conflict Actors

Values

Land

Economy

Education

Figure 2 – The INTIMAL ontology: four spheres of migratory memory

Our ontology categories allowed us to divide and parse a complex narrative into small fragments which were not necessarily covered by all testimonies but opened enough to be expanded in this and other projects that collect migrants' memories. These categorisation criteria also relate to Semantic Web and technologies associated to it (Semantic Web Technologies), which rely heavily on ontologies. This alignment helped in the building of the INTIMAL system, which explores relationality between different fragments of stories, and in the use of sonic retrieval tools.

Prosodic content

In addition to the semantic content conveyed by the words themselves, the voices in the audio archives expressed a large range of emotion. Theoretical frameworks have modelled emotions as numerical quantities defined along two or three axes related mainly to valence and arousal (Russell, 1980; Thayer, 1989). A more detailed representation is the Geneva Emotional Music Scales (GEMS), where emotional states are decomposed into a taxonomy of three "superfactors", nine categories and 25 labels (Zentner et al., 2008). We found that the dimensions and categories proposed in the literature did not apply adequately to the context of the present investigation and developed our own profiles for our prosodic material. We

distinguished three types of voice: (1) the demanding voice (usually agitated and loud when making a statement or asking a question); (2) the disillusioned voice (usually sad without finished statements); and (3) the transformative voice (usually a measured and relaxed voice with silences for breathing).

We also attempted to characterise each type of voice with respect to two prosodic features measured in the audio recordings. The first feature is the dynamic curve, which tracks the temporal evolution of the amplitude of the voice. It is obtained by computing the root mean square average of the audio waveform in 50-millisecond time windows moving along the waveform, with a 25-millisecond step between each successive position. The second feature is the pitch curve, which tracks the temporal evolution of the pitch height. It is obtained by computing the autocorrelation function on the audio waveform for a 46-millisecond time window with a 10-millisecond step at the main peak in the frequency range of 100 to 600 Hz. Because computational estimation of pitch height often fails to choose the correct octave register, further mechanisms stabilise the pitch curve and correct these octave errors.
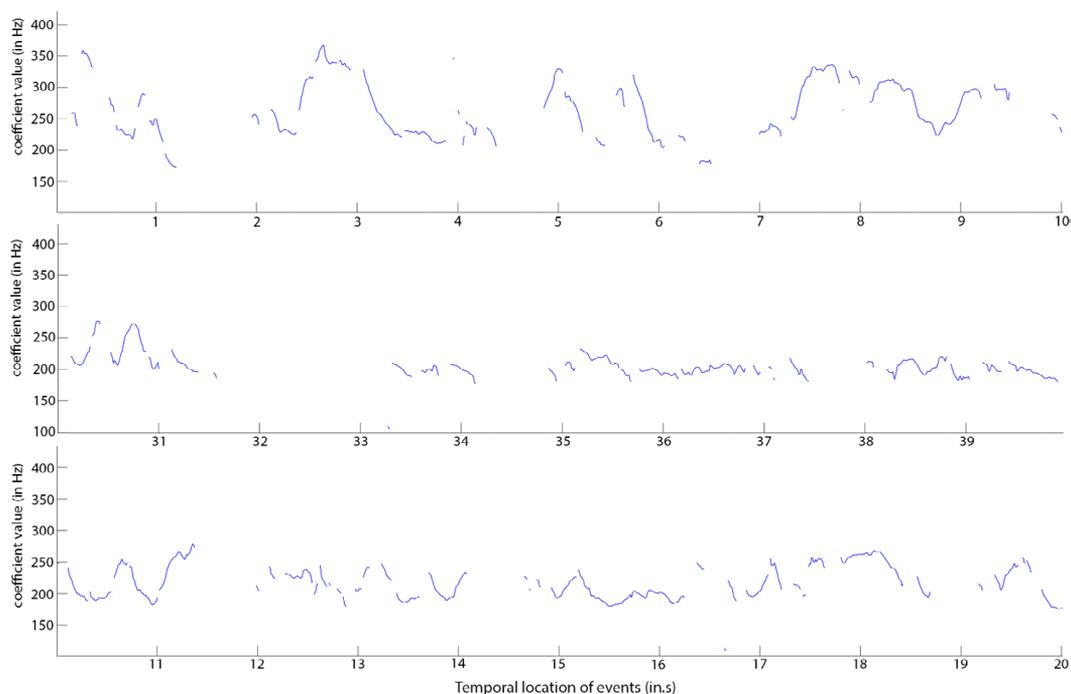

Figure 3 – **Pitch curves for three examples of voice recordings: a demanding voice (top), a disillusioned voice (middle) and a transformative voice (bottom)**

After studying these prosodic features in various recordings in the collection, we were able to characterise the three voice types with respect to pitch curve in particular (Figure 3):

- The demanding voice is characterised by relatively large and frequent changes of register, with frequent ascending and descending lines. In addition, some speakers present periods of relatively constant pitch at a high register.

- The disillusioned voice is characterised by the constant use of the same pitch height in a relatively low register, across whole sentences with relatively minor inflexions towards slightly lower or higher pitch heights. Descending pitch lines are also quite frequent for this voice.
- The transformative voice is also characterised by a relatively stable pitch height, but certain speakers also oscillate between two relatively close pitch heights. Unlike the disillusioned voice, there are very few descending lines.

These findings led us to imagine applications to use for the interactive triggering of speech from this oral archive in a way which could integrate semantic and prosodic features into a holistic listening experience in the INTIMAL system of voices speaking on subjective experiences regarding conflict and migration. The listening experiments with other Colombian women described below helped us further explore these possibilities.

CREATIVE LISTENING

The INTIMAL project's artistic intention is to create an encounter between an existing oral archive and other women listeners which offers them space to express their own migratory journeys as they listen to the voices in the archive, in the interests of establishing relations between these stories and their own stories. The project invited nine Colombian women to engage in fieldwork by practicing Pauline Oliveros's "Deep Listening" (Oliveros, 2005), focusing on their own migrations and the oral archive. Deep Listening is a practice and philosophy which invites us to expand our capabilities around listening across time and space by cultivating a sense of inclusivity and a non-judgmental attitude towards the sounds. The practice involves sonic meditation (listening, but also improvised sounding and body movements) in order to listen to ourselves and to others, the surroundings, our bodies (Gold, 2008) and our unconscious dreams (Ione, 2012), through journaling and other creative techniques. INTIMAL's goal is for this artistic platform to open paths for healing processes involving the narratives with which participants engage.

After their fieldwork with the Deep Listening process, the nine Colombian migrant women, who resided in Oslo, London and Barcelona, took part in two listening experiments which were recorded in a "Motion Capture Lab" using the methods of "Embodied Music Cognition" (Jensenius, 2018).[13] Divided into groups of three, they were invited to "resonate" with the others' stories. First, they expressed their own "migratory journeys" by improvising using body movements and voices in tandem with a graphic score which included the four spheres of migratory memory previously derived from the archive. Second, they listened to fragments of the archive and reacted to these by improvising freely with body movements,

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13 Their movement was recorded using infrared markers, EMGs (electromiograms), breathing sensors and microphones which recorded their voices and physical sounds (for example, steps).

voices and spoken words; while they listened to the archive, they wore earbuds and positioned themselves back to back (Figure 4). In this case, the fragments of the archive included excerpts from three testimonies, with silences of 40 seconds between them to allow paused listening. These fragments were organised according to the four spheres of migratory memory discussed above, and the participants listened to a total of 22 minutes of the archival material. The order of the fragments was intended to offer a balanced set of voices, themes and emotions, in consideration of the listener.
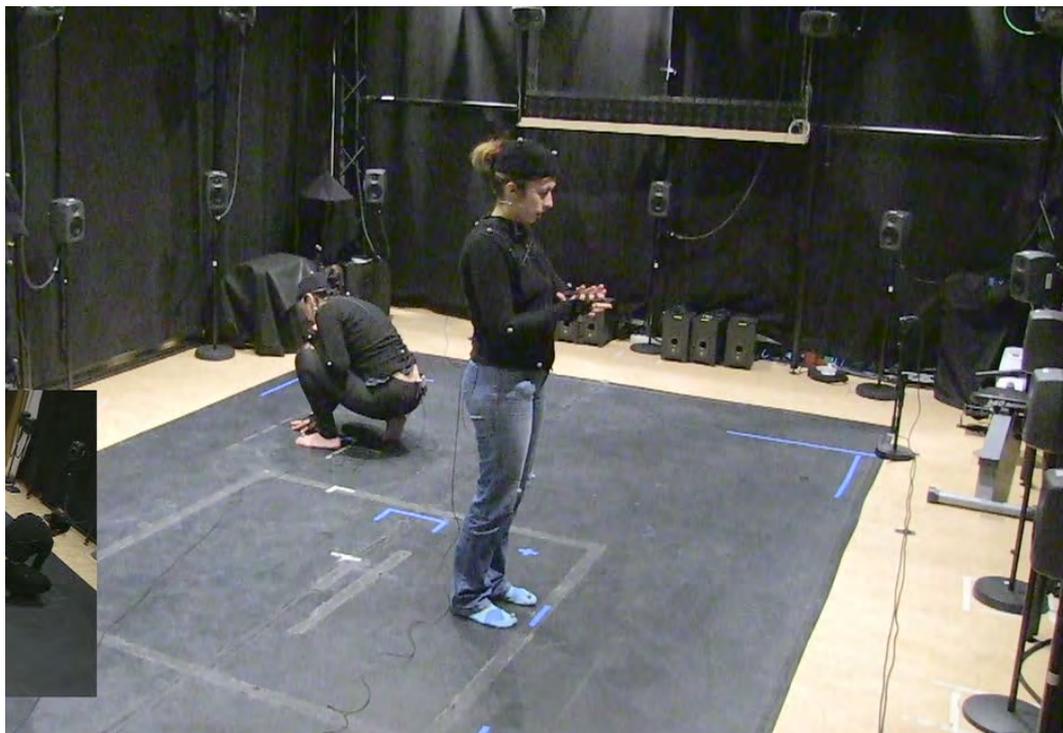
As part of their response to the archive, the women translated, performed or amplified the stories and silences they heard via their own empathetic words and gestures:

> We knew that was a fragment, that surely [...] the story is more complex, and we don't know when it starts and when it ends. You also have depurated it, as you mentioned to us, I was expecting something, even if it was very emotional, and you imagine many things and the impotence of being here and listening to it, and asking ourselves, well, what should we do with it, how can I hug her [...] an empathy, the compassion in a Buddhist sense (SV).
> I thanked these silent moments – with some [fragments] they seemed short, with others long, but I think that was subjective too, depending on the degree of empathy but also on "lift-off judgment", like letting it go out without judging it (VO).

"Lift-off judgment", as proposed by Ione (2012), works in Deep Listening practice as a powerful reminder of how strongly judgment is embedded in our body-mind and expressed via our body movements, voices and verbal expressions.

Regarding the Colombian conflict, the emotional but disembodied voices forced the INTIMAL listeners to imagine completing the story:

> I liked that – listening here in Europe to those testimonies is politically very powerful, and I am grateful. Yes, it is very important. I felt like a political responsibility. Responding to them, I didn't know how to respond – [she] was speaking, but now I have to speak to her, I have to speak, I have to tell her [...] like to be present (VO).

They also engaged as though in conversation with the archives: "And then there was a moment where I had a character that was like the enemy, the opposition, and I didn't want to be that character [...] then I ended in a dialogue between the character and myself, being one of them, because I think their liberation is my liberation, and their healing is my healing" (CL).

When one is listening to spoken words recounting memories of place and conflict, one can feel the need to create movement triggered by the narrative, sometimes wanted to move strongly, as in the case of a story involving a machete which connects a listener with stories associated to a machete, making her imagining holding this object and moving her body as if she was working the land with it.[14]

In other case, listening to voices of people who listeners do not know introduces a powerful sense of strangeness which hampers movement: "I also noticed that it was difficult to create movement with the voices of people we don't know – that we could feel and understand up to a point, but I think it is something corporal, as though they were ghosts, a body of them that we don't know where they are" (SV).

The exercise of sharing these testimonies through creative listening and physical improvisation turned out to be a very powerful means of balancing the responses among the listeners as the stories connected and disconnected, reminding them to be in the present and leading to expressions of catharsis and togetherness: "Because I was going into this madness – And how can I get out of here? – so having someone [to share the listening experience with] being more on the land, on the ground, it was good. So I think even if we didn't interact, just seeing them there, feeling the present is enough" (MO). Thus, listening to stories with content of conflict and violence, seems to be a different experience when listening collectively, and thus the tools and creative strategies to be developed in INTIMAL need to consider collective listening.

The nine women shared the relevance of listening to fragments where the "crude" aspects of the story are not heard directly but via a shared memory, or by "completing the

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14 As an example of the movement when listening to the story of the machete and other stories, see <https://vimeo.com/304189572>. Accessed on: 1 jul. 2019.

story in the mind" (LC). After listening to the twenty-two minutes of sound and silence the three groups engaged in free movement and breathing, sharing a sense of belonging to those stories, and collective memory regarding the Colombian conflict, which they could acknowledge amongst themselves, and express freely emotions associated to it together.

INTEGRATION IN THE INTIMAL INTERACTIVE SYSTEM

The INTIMAL technological system for *relational listening* continues to be in development and it has been tested as part of a telematic sonic improvisation among the cities of Oslo, London and Barcelona on May 7, 2019.[15] Using machine learning, that is, a series of learning algorithms which establish rules for the searching of this content,[16] the system worked establishing co-relations among the fragments of the stories in the archive. The system used the improvisers' walking as a form of navigating the archive, using a mobile phone as a sensor for their steps, according to the conceptual design of INTIMAL (Alarcón, 2019). Improvisers' voice and spoken-word responses can be heard as new layers of memory triggered by the archive. Although technological and implementation details are out of the scope of this paper, we infer that in a future, the emotional content of the fragments, categorised as demanding, disillusioned and transformative voices, may be activated by the listeners body movement or vocal expression, to help the system trigger an emotionally balanced set of stories for the listener. Likewise, keywords expressed by the women, as well as references to places, may inform the system's navigation of the archive using speech recognition.

THE LESSONS

In this paper, we described the process of working with an oral archive, from its collection to the creative practice it enabled, to be incorporated as part of the INTIMAL interactive system. We reflected on the lessons learned and the challenges encountered. These lessons included the importance of creating a local archive in the first place, when one has identified an opportunity to do so, in this case, the peace process of Colombia and the transition to a historical era of post-conflict. The original intention of the collection might not encompass the future creative applications of the archive, but they are extremely compelling and activate the ethics and sensitivity and impact of these recorded stories of conflict and migration, as well as the narrative styles and technicalities involved in their retrieval. The project also demonstrated the importance of the curatorial process, which ideally starts at the moment of recording and which involves aspects such as confidentiality, the quality of the recording, and the potential vulnerability of future listeners to these recordings. Lastly,

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15 Available at: <https://intimal.net/stream>. Accessed on: 14 jun. 2019.

16 For an introduction to Machile Learning see <https://www.internetsociety.org/wp-content/uploads/2017/08/ISOC-AI-Policy-Paper_2017-04-27_0.pdf>. Accessed on: 1 jul. 2019.

we saw how important it was to pay attention to semantic and prosodic content as part of a speech retrieval strategy which accounts for the emotions of the voices in the archive.

The research developed a new scalable ontology for working on archives of migration derived from conflict, and it proposed spheres of migratory memory, to navigate through the archive by interactive means. These frameworks can be used in conjunction with machine learning for speech retrieval even in other contexts of conflict and migration; they can also guide and structure the initial collection of testimonies. The ontology and controlled vocabulary created for this project will be shared by means of an existing "Ontology Library". The powerful engagement accompanying a technologically mediated process of Deep Listening to archives arises from the creation and deconstruction of these narratives, the power of listening in the distance, and the shared catharsis of moving and interacting with others to rework a collective memory in the present. Within the improvisation exercise, new memories create a set of relations between the listeners and the archive which position the latter not only as a space to search for specific content, but as a point of departure and a catalyst for renewing one's own memories.

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