Sound Works:

Prototyping a Digital Audio Repository for Sound Poetics in Mexico

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Abstract

Sound Works: Prototyping a Digital Audio Repository for Sound Poetics in Mexico

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This dissertation reflects on the prototyping process carried out for creating and developing the PoéticaSonora's digital audio repository, focused on storing, editorializing and disseminating works of sound art and poetry readings produced or recorded in Mexico since 1960. While describing the theoretical, technical, and methodological implications at stake in the design, deployment, and refactoring of the PoéticaSonora prototype (PSP), this dissertation speculates on how experimentation and a hands-on approach to sound recordings are essential for advancing fieldwork-based research in the humanities, particularly literary criticism. The notions of voice, inscription, and instrumentality, discussed in depth throughout this work, are essential for constructing a sound-oriented approach to poetry and sound art with the aid of digital tools such as the ones offered by the PSP.

After a brief panorama reviewing the many artistic scenes and genres that are present in the PSP, the Introduction frames the project's importance for both gathering and discerning artistic tendencies in Mexico that have not been properly analyzed by text-oriented approaches to literary criticism. Chapter 1 proposes a decolonial approach on how to establish a duly horizontal dialogue around digital audio repositories in Canada and Mexico. It also delineates the necessary conditions met by PoéticaSonora to design a workflow respecting the features of artistic communities, cultural institutions, and private collectors who contribute to the PSP. After a close analysis to the prototype's data schema and its design, deployment, and refactoring phases, Chapter 2 discusses how the restraints of database management systems both affected and modified the theoretical and methodological approach followed by the PoéticaSonora team. Chapter 3 focuses on a case study of how women vocal artists in Mexico City use and share sample-looping techniques among each other, as an example of how fieldwork contributed to fix problems in the data schema discussed in Chapter 2, such as the distinction between individual artists and collectives, between singing and reciting voice, and in the use of instruments, apart from their own voices. The epilogue discusses the necessary steps to develop the PoéticaSonora

Beta version, as well as to host it in a definitive server with all the institutional, administrative, and political implications this will have on the project as a whole.

Acknowledgments

Professor and theorist Susana González Aktories was indispensable for the development of both my research project and my dissertation by giving me the opportunity to direct PoéticaSonora's cataloguing activities since 2016. In 2019 I became a research associate to the UNAM project "Materialidades de la voz: archivos, impresos y sonido," coordinated by González Aktories and María Ana Masera Cerutti (clave PAPIIT IG400519), in which PoéticaSonora now takes part.

I acknowledge the generous support of CISSC director David Howes and my graduate program directors, Erin Manning and Bina Freiwald, who always helped me in every possible way they found, as well as assistants Sharon Fitch, Skye Maule-O'Brien, Nasrin Himada, Ana Ramos, and Verónica Jacobo. My major-field co-supervisor José Antonio Giménez Micó and my minor-field advisors Ricardo Dal Farra and Hugh Hazelton trusted me with taking us all through unexpected quests for knowledge. Jason Camlot, Élika Ortega, and Canek Peláez offered insightful comments to the manuscript's final draft. Valeria Meza transcribed most of the interviews conducted for this project and participated in the interview with Hebe Rosell.

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Early versions of Chapter 1 were published in the academic journals *Intervenciones en estudios culturales* (edited by Laura Castiblanco and Eduardo Restrepo) and *Digital Studies/Le champ numérique* (edited by Kim Martin and Jason Boyd). Interchapter 1 was first published in *Pause Button*, Concordia University's online journal by the Milieux Institute for Arts, Culture and Technology, edited by Eileen Holowka. Finally, a shorter version of Chapter 3 will be published in the forthcoming book *Re-existencias sociales y educativas*, edited by Sonia Manrique and Vivian Velásquez at Uniminuto in Neiva, Colombia. Feedback provided by editors,

peer-reviewers, and proofreaders involved in such publications reinforced every aspect of this research project. Any mistake is, of course, my own.

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Dedication

Without the support of my co-supervisor Susana González Aktories, this dissertation would have never been finished. This is only a faint Trace of my infinite gratitude to her, a reliable guide even in the darkest and most confusing moments of my adult life.

In between Mexico City and Montreal, I thank past and current PoéticaSonora members, wishing this dissertation to be my heart-felt tribute to all the effort they have invested in this project. I particularly thank David Lum, without whose hard work the repository would have not materialized into such a solid project as quickly as it did.

There is one key informant whose conversations and materials were fundamental for my understanding of sound poetics in Mexico since the foundation of the Voz Viva collections—a recurrent topic throughout this dissertation. My deepest thanks to private collector and independent researcher Eduardo Ortiz, founder of one of the most visited and active digital audio repositories in Spanish, Voces que dejan huellas (https://www.cecilia.com.mx), who generously donated a good part of his immense literary audio collection to PoéticaSonora in MP3 and WAV formats for research and dissemination purposes. Voz Viva's importance for the history of art and technology in Mexico is still to be properly assessed, and this donation is an important step toward that goal.

Thank you so much to Las Poisons—brilliant, talented women who have shaped their professional careers alongside mine. I am so proud we are still friends after all these years.

This work is dedicated to all the women who have made PoéticaSonora possible, particularly our interviewees. I also dedicate it to my family, especially my mother Carmen, my sisters Valeria and Jimena, as well as my beloved life partner Alejandra.

Post Scriptum. While I was finishing this manuscript, amid the Covid-19 Great Lockdown, news about Sharon Fitch's passing away came to the Humanities Program. I wish to dedicate my dissertation to her memory, and I wish she could have seen it. Our program will never be the same without her.

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List of Abbreviations and Acronyms

AKA	Salvajes de Ciudad AKA (collective)
ARLO	Audio Recognition with Layered Optimization (software)
CCD	Centro de Cultura Digital
DAR	Digital audio repository
DBMS	Database management system
DH	Digital humanities
EDM	Electronic dance music
GUI	Graphical user interface
HTML	Hypertext markup language
INEGI	Instituto Nacional de Estadística y Geografía
ICT	Information and communication technologies
ISO	International Organization for Standardization
IPI	Impresos Populares Iberoamericanos (digital project)
JSON	JavaScript object notation (standard file format)
KFGC	Los Kikín Fonsecas y el Gringo Castro (collective)
LLEOM	Laboratorio de Literaturas Extendidas y Otras Materialidades
METS	Metadata Encoding and Transmission Standard
MODS	Metadata Object Description Schema
MP3	MPEG-3 (audio file format)
OA	Open access
PDF	Portable document format
PSP	PoéticaSonora prototype
SQL	Structured query language
UAM	Universidad Autónoma Metropolitana
UNAM	Universidad Nacional Autónoma de México
WAV	Waveform (audio file format)

Introduction:
Sleeping with Ghosts

Sound works in a variety of ways within our bodies, around them, across them. Its vibrating tendency, known as reverberation, is essential for its embodiment without the need of any visual contact, as well as for the emergence of sound amplification and repetition techniques, such as delay, echo (Doyle, 2005), and sample-looping (Baumgärtel, 2015). The representational work of sound, on its part, is of a distinct epistemological dimension, a reason why some critics have coined the term "acoustemology" to explain its field and range of influence (Ochoa Gautier, 2014). Listening is a sensorial practice that has growingly thrived in art and literature despite our configuration of the world has been largely shaped by ocular-centric interpretations, due to centuries of predominance of the visual arts—painting, sculpture, cinema, and more recently digital animation.

Sound works are still largely perceived in artistic and academic milieus as more "ungraspable" than visual ones, partly due to the unsettling questions they ask about our visually biased perceptions of society. This situation is more deeply rooted in Mexico, a nation with a relatively conservative artworld whose deep colonial heritage configures its contemporary standards. Moreover, most-war North American and European improvements in audio recording and playback technologies began to be used until the late 50's and early 60's, years after they were pretty well established in countries like Canada and the United Kingdom. In this respect, Mexico's audio heritage[1] dates back to roughly the same period as that of South American countries, such as Colombia and Brazil. Due to ocular-centric prevailing tendencies, most of Latin America's sound art and literary audio heritage is largely invisible (literally and metaphorically) both to large audiences and smaller circles of art and literary criticism, even though the first initiatives for their preservation and dissemination in Mexico are more than half a century old, and despite the theoretical bases for studying sound already spanning four decades (Ong, 1982; Gitelman, 1999; Sterne, 2003; Mills, 2012). Why is then sound still considered a

[1] As stated by a UNESCO report on the implications of proclaiming a World Day for Audiovisual Heritage, "The term 'audiovisual heritage' has a broad evocation, inclusive of all forms of moving image, recorded sound and broadcasting – together or separately – at its core, and extending to related documents and artefacts" (2006, p. 3). In turn, PoéticaSonora's focus on aurality has led us to define "audio heritage" as the ensemble of audio recording/playback technologies and recordings, sound inscription techniques, and listening methodologies that are involved in the acts of listening and (aurally) voicing at a specific time-space axis.

"new" field of study? As Carolyn Birdsall and Anthony Enns stated more than a decade ago, "It is no longer necessary to make the common claim that sound is underappreciated in theory and academic research. In recent years there has been a tremendous number of conferences, art exhibitions and books on sound technologies and auditory culture" (2008, p. 1). Literature on the subject has continued to grow, and nowadays research in German, Spanish, and French on sound studies, aurality, or audio culture is beginning to outweigh production in English (Goodman, Heys, & Ikonidau, 2019; Meister, 2018). Even within anglophone milieus, the predominance of foundational works like Walter J. Ong's *Orality and Literacy* (1982) has been profoundly questioned in recent years (Sterne, 2011), leading towards a decolonizing move within the so-called "aural turn" (Ochoa Gautier, 2014, p. 207), bearing witness to a shift in many researchers' interest from the oral, spoken dimension of sound to its aural or auditory aspect (and, in PoéticaSonora's case—the research project that will be used as a case study throughout this dissertation—to the notion of vocality as well, a much more encompassing concept than those of *voice* and *orality* separately).

Digital media have further fueled these debates, providing researchers with new tools to quest for the study and dissemination of a larger number of sound recordings than ever before, and presumably their preservation, too. The early history of audio and internet technologies share a lot of traits in common (Gitelman, 2006), so that a digital audio repository (DAR) is not unheard-of (*inaudito* in Spanish) in this highly mediatized academic Zeitgeist. The last two decades have seen the rise of important repositories in the already growing field of sound studies, yet most of them are aimed at anglophone audiences. However framed and ideological software and interfaces may be, they also make room for practices and techniques that can be associated with a decolonial turn in digital humanities, which should demand "for increased nonprofit and public research funding to explore alternatives to commercial information platforms" (Noble, 2018, p. 185). In this sense, prototyping open access repositories can provide with potential sites for questioning every kind of analytical category.

While constituting a praxis-based reflection on the neo-colonial configuration of digital knowledge in the Americas, this dissertation speculates on the prototyping process carried out for developing the PoéticaSonora DAR, an initiative by students and faculty members at Universidad Nacional Autónoma de México (UNAM), the largest Mexican public university, and Concordia University in Montreal, one of the few anglophone universities in the Canadian province of

Quebec. It seeks to editorialize and disseminate audio recordings produced in Mexico since 1960, an emblematic year for the birth of literary audio and sound art in the country (González Aktories, 2017a; Rocha Iturbide, 2012a, p. 377). By describing part of the project's planning, feedback, and problem-solving phases, I address some relevant topics at the intersection of (sound) art, literature, and technology, such as PoéticaSonora's viability, scope, reach, and audience; what it takes to promote a digital humanities (DH) initiative from/about Latin America in a predominantly anglophone academic environment; the coloniality of knowledge exercised by English language while coding a digital project whose content is mainly in Spanish; the reflective and speculative move stimulated by the accumulation and contextualization of sound recordings in a digital repository, and the instrumentalization of human voices by women vocal artists in Mexico City using loop pedals as a fundamental creative tool. In the big picture, this dissertation is a critical reflection on what it means to prototype in the humanities, especially in the field of literary criticism, as well as offering some useful lessons to other DH academic projects around the world on the topics of decoloniality, instrumentality, and vocality in the context of Latin American sound studies.

PoéticaSonora's activities officially began in summer 2016 with the First Meeting of Sound Poetry and Sound Art Archives in Mexico.[2] Since then, thirteen undergraduate and six graduate students have participated in the project, coming from three different universities—Concordia, Universidad Autónoma Metropolitana's (UAM) Iztapalapa campus, and UNAM's Mexico City and Morelia campuses, coordinated by Susana González Aktories.[3] The team's events and projects are divided in two main axes:

1) networking activities aimed at organizing activities about sound poetics in Mexico, such as conferences, performances, and exhibitions, known as the *Dissemination Axis*, and
2) the *Cataloguing Axis*, mainly focused on archival research, fieldwork, and training sessions in editorialization (a contextualizing practice of digital inscription) in order to develop the PoéticaSonora prototype (PSP) towards its Beta version.

While this dissertation mainly focuses on the second axis, as I was assigned to it at an early stage, both of them have been crucial for the project as a whole, demanding different

[2] See the event's program in the project's blog (PoéticaSonora, 2016a). For a sound collage/review produced by Centro de Cultura Digital's online radio station, listen to "Primer encuentro de archivos de poesía y arte sonoro" (Flores, 2016).
[3] See Annex A for a full list of participants per year.

abilities from each participant. Together, these axes show that methodology in a DH project is always an open process, dialectic if you will, where reality (i.e., the epistemic horizon we observed while conducting fieldwork and archival research) alters the model and, in turn, alters the theory on which such model is based. This dissertation constitutes a series of speculations and thick descriptions (Geertz, 1973) of this process in three distinct, complementing dimensions: theoretical (Chapter 1), technical (Chapter 2), and methodological (Chapter 3).

The work of PoéticaSonora coalesces into three main topics, namely voice, legibility, and listening (also referred to in this dissertation as aurality, or the aural). Every team members' research project intersects with one or more of these concepts, some of their areas of specialization being women writers in Mexico City's poetry slam scene (Isabel Alcántara Carbajal, M.A. in Mexican literature at UAM-Iztapalapa), women hip-hop and spoken word artists in the U.S-Mexico border (Adriana Dávila, M.A. in anthropology at UNAM-Morelia), and echo and reverberation in Mexican sound art and beyond (Cinthya García Leyva, Ph.D. in literature at UNAM-Mexico City). These topics also intersect with those of some collections included in the PSP initial data sample of 429 audio recordings. As a whole, we refer to these interconnections across topics as "poéticas sonoras," or sound poetics (González Aktories, 2019c)—an umbrella term through which we emphasize the use of vocal or voice-imitating techniques for the creation of sound-based artistic products (or "sound works") present in many different fields and artistic practices: literary audio, spoken word, poetry slams, hip-hop, sound art, radio art, electronic experimental and dance music, performance art, and indigenous poetries. This does not mean that PoéticaSonora is a repository for every existing expression that can be classified under these categories, but rather for those that in some way deal with notions of vocality, aurality, and inscription as essential components of its configuration.

The notion of "sound poetics" does not seek to frame or delimit all these trends and expressions into a single classification system. Rather, following Donna Haraway's considerations on Chela Sandoval and Katie King, it has been "consciously created by mechanisms inducing affinity" (1991, p. 156), an emotional attitude whose ultimate aim "is learning how to craft a poetic/political unity without relying on appropriation, incorporation, and taxonomic identification" (1991, p. 157). This unity by affinity rather than by identification—a concept carrying a profoundly colonial heritage (Fuss, 1995, p. 141)—is the core conceptual matter not only of this repository prototype, but also of the many auditory artistic practices in

Mexico that it seeks to document, from the second half of the twentieth century to nowadays.[4] More than an exercise of taxonomic systematization, PoéticaSonora intends to make productive associations by shared affinities among sound-oriented artists and writers, without their differences having to necessarily exclude each other and that, also by affinity, contribute to listen (and therefore knowing) extended forms of creative expression.

The prototyping process brought up many questions that we sought to answer while conducting fieldwork. How, for instance, are projects like PoéticaSonora useful for the circulation of these artists and their works? Despite the fact that Mexican cultural institutions, particularly UNAM and decentralized venues under its jurisdiction, have had a strong influence in the consolidation of aural-oriented artistic communities (González Aktories, 2019c), this has not necessarily resulted in their being more widely known by critics and public in general. Pierre Bourdieu's distinction between small-scale and large-scale fields of artistic production and consumption helps us understand how underground scenes with small audiences (generally composed by artists themselves and other mediators or gatekeepers who determine the game's rules) thrive despite not being part of the general public or for mass audiences (Bourdieu, 1996, p. 124). Not only have these artists made long-term symbolic stakes seeking to accumulate social capital out of their sound works; initiatives like those supported by UNAM, and even PoéticaSonora itself, have had a configurative role in their dissemination by offering mediating spaces and platforms for accessing their recordings, and hopefully preserving them as well.

PoéticaSonora was inspired by many different efforts in digital audio cataloguing and dissemination initiatives for art and literature, both in North and Latin America, as well as in Europe, particularly Germany. Apart from the well-documented cases of PennSound, UbuWeb, SpokenWeb, and Lyrikline, which have been object of several pieces of cutting-edge research in the last few years (Fong, 2015; Clement & McLaughlin, 2015; MacArthur, Zellou, & Miller, 2018; Hannigan, Meza, & Flamenco, 2017; Nardone, 2019; Lenz, 2000), little has been written in English about their Latin American counterparts, which were being founded during roughly the same period. The first literary audio DAR in Mexico was Eduardo Ortiz's Voces que dejan

[4] I draw the term "conceptual matter" from Jentery Sayers: "Like the archives we study, technologies are never neutral or transparent. They, too, are replete with hiccups and ambiguities. Yet these indeterminacies are active, not inert, in the making of things. They are features of a given system or infrastructure, and they are material as well. They are what […] I call *conceptual matter*, and […] they comprise the core of creative and critical responsibility: what may not be obvious or visible to some but demands reference and communication" (2017, p. 3).

huellas (https://www.cecilia.com.mx), starting in 1999 as his personal web site, followed by Blanca Orozco de Mateos' Palabra virtual (www.palabravirtual.com), active since 2002. Both sites register thousands of visitors each year, having become a very common destination for queries on literary audio in Spanish language. Both predate by several years the foundation of Fonoteca Nacional, a federally-funded cultural institution in charge of preserving all of the country's audio heritage. It may be due to its large and ambitious scope that literary audio and sound art are still underexplored in the Fonoteca catalogue, a reason why several successive directors of this center have collaborated with PoéticaSonora in event organization and archival research activities. In order to contextualize the importance of these privately run DARs, let us remember that UbuWeb was founded only three years before Cecilia.com.mx (González Aktories, 2017b; Ortiz, 2017), and that both sites initially shared an "artisanal" approach to data display and user interface, coded "by hand" using HTML 1.0 as opposed to using a template (Fong, 2015; Ortiz, 2017). These two facts should be enough to make us revisit the early history of DARs from a Pan-American perspective. What other projects in the hemisphere were being developed at the same time? Which of them can counter U.S.-oriented foundational narratives?

In order to fully grasp the scope and breadth of sound poetics as an encompassing concept for understanding PoéticaSonora's epistemic horizon, I will briefly describe some of the main critical and creative sources this dissertation has drawn from. The following art scenes and genres have been integrated as values of element `Género` (later dissolved into `Temas`)[5] in the process of editorializing a sample of 429 audio recordings donated by federally-funded cultural institutions Fonoteca Nacional, Laboratorio Arte Alameda (LAA), and Centro de Cultura Digital (CCD); private collector Eduardo Ortiz; artists Edmeé García, Rojo Córdova, and César Cortés Vega; collectives Batallones Femeninos, Salvajes de Ciudad AKA, and Los Kikín Fonsecas y El Gringo Castro, among many others. The operative frameworks that we call "genres" have overshadowed the discussion about sound works themselves, [6] let alone the colonial implications

[5] Throughout this dissertation, words and phrases in typewriter font refer to computer language functions, statements, and data elements.

[6] Consider the microgenre/macrogenre division suggested by Jason Camlot to classify early audio recordings in English from the late 19th and early 20th centuries. This move effectively distances his approach from text-oriented practices. However, more than microgeneric conventions (which can be adjectivized in a very detailed manner, e.g., Netflix's tag "independent dramedy featuring a strong female lead character"), what Camlot calls "audiotextual microgenres" and Erving Goffmann's "phonemic clauses" (Camlot, 2019, pp. 16, 18) seem to be affective or sensorial gestures stemming from the performance of a sound work and from its reception via an audio recording. On the growing popularity of the microgenre as an analytical category, see *The Microgenre: A Quick Look at Small Culture* (O'Donnell & Stevens, 2020).

behind this concept (Ochoa Gautier, 2014, pp. 66-67, 94-95). This is why, in the context of designing and deploying the PSP, their dissolution into more encompassing, perhaps more abstract ones made sense even if it was not the most "appropriate" thing to do from either the point of view of standard guidelines or boundless creativity. PoéticaSonora wishes to serve in these discussions as both a research platform and a case study in itself—it is an exercise of new associations among works and artists that may not have been considered part of the same "genres" or "trends." Therefore, it is also an attempt to readjust some analytic categories to avoid their becoming prescriptive rather than descriptive tools of inquiry. The aim is to relate works and trends in innovative, sometimes unexpected ways, as when Nancy Perloff compared sound poetry and avant-garde music from a musicologist's, not a literary critic's, perspective (Perloff, 2009).

This rearrangement of critical perspectives around the notion of genre is an illustrative example of an epistemic move that is commonly reported in this study: that of classifying without pigeonholing. While the list I am about to enumerate may be necessary in many ways to delineate the dissertation's field of action, it is important to notice that discussions on these scenes and genres largely depend on the context and the prototyping phase in turn. It does not mean it is the only possible horizon for researchers and students, even *within* PoéticaSonora standard itself. An important feature of prototyping was that its collective drive attracted many different stakeholders (artists, scholars, and students) whose investments, objectives, and expectations about the project diverged from each other's. As a result, it is impossible to apply just one theoretical, methodological, or disciplinary approach to the whole project. A completely different thesis could have been written based on exactly the same prototyping process had the main fields of study been, say, gender, mediation, and pedagogy, or if I had thoroughly analyzed the project's blog (Poeticasonora.mx) rather than the repository prototype (Poeticasonora.me). Indeed, PoéticaSonora members have different research questions and interests in mind, sometimes coming from very distant academic backgrounds. I therefore constantly recurred to fieldwork notes, read texts by other members (either the ones posted on our blog or published elsewhere), or asked around so that I would not oversimplify some topic or concept on which team members could be experts and who may have already formulated it better than I could ever have. I do not pretend to master any of the genres I am about to enumerate, nor to exhaustively discuss each of them in detail, but this account is necessary to explain the importance of several passages where they are mentioned in this dissertation.

Literary audio[7]

More than a decade ago, Peter Middleton noticed that "the practice of poetry has changed radically; in the past fifty years the live poetry performance has become integral to the writing and reading of poetry […]; social forms of poetry reception, the ways we collectively come to understand poems, have been transformed" (2005a, p. xv). These forms were also altered by successive improvements in sound recording technologies, which during that same period became increasingly accessible in developed nations. Both changes have resulted in a growing interest of poetry readings (and particularly their recordings) for the purpose of literary analysis and criticism (Middleton, 2005b).

As it has been said, the most relevant DARs in English language, like PennSound, Ubuweb, and SpokenWeb, are chiefly focused on disseminating information and low-quality versions of audio recordings, mostly documenting literary writers reading their own texts. Their contents have motivated groundbreaking scholarly research for several years now (Bernstein, 2009a; Camlot, 2012; Hannigan, 2015; Filreis, 2015; MacArthur, 2016a). In Mexico, the status of poetry readings and audio recordings as legitimate objects of study (Middleton, 1998; Middleton, 2005a; Camlot & Wershler, 2015) still offers growing opportunities for innovative research. PoéticaSonora founder Susana González Aktories has led the quest for outlining a theoretical-methodological locus of enunciation that allows to discern the aural dimension of Mexican literature (particularly poetry) from its textual counterpart; giving an account of contributions from cultural institutions, universities, artists, and collectors who have devoted themselves to preserving audio recordings in Mexico; and acknowledging the materiality of audio formats for the storage and transmission of literary recordings, among other topics (González Aktories, Meza, Medina, & Villanueva, 2017; González Aktories, 2017a; 2019a; 2019b; 2020).

The main documentary sources for the study of literary audio in Mexico are the Voz Viva collections, founded and promoted by Spanish exile writer Max Aub at UNAM in the 1960s. The best known of such collections is the iconic Voz Viva de México, but there is also Voz Viva de Latinoamérica, where non-Mexican authors were published, as well as the practically unknown Voz Viva Música Nueva and Voz Viva Testimonios Públicos. In recent years both the technical

[7] For a comprehensive list of scholars and artists working on this topic in English, see the Literary Audio Symposium program, organized by SpokenWeb in 2016: https://montreal.spokenweb.ca/events/literary-audio-symposium.

and social contexts of these collections have ceased to be almost a mystery when PoéticaSonora began their systematic research, but many questions about their provenance are still far from being fully answered (Ortiz, 2017; González Aktories, 2017a; González Aktories, 2017b). These contexts determine the results we will get from aural analyses to these collections, and the kind of questions we can formulate for further research. We know, for example, that every Voz Viva album has been recorded in a professional studio, and that in some cases they have been recorded in the same venues for extended periods of time. This fact allows us to have more certainty in terms of the recordings' provenance, versioning, audio quality standards, and postproduction manipulation and elimination of sounds. It also constitutes a substantial difference from PennSound or Ubuweb, whose recordings mostly come from readings at universities, cafés, and other public venues, usually in a medium to low-quality format, in which moments of interaction with the public are abundant. Thus, the Voz Viva collections would not be suitable for studying the paraphonotextual elements that have attracted so much interest in the English-speaking academy (Camlot & Wershler, 2015; Clement & McLaughlin, 2015; Filreis, 2015; Rettberg, 2015; Middleton, 1998; Middleton, 2005b). Rather, they would be ideal for analyzing the role of studio recording practices in the preservation of writers' voices as national audio heritage, a topic that only until recently has been explored in depth (González Aktories, 2017a).[8]

Other important collections, both institutional and independent, have also contributed to paving the way for literary audio dissemination and preservation in Mexico, such as Entre Voces by state-funded publishing company Fondo de Cultura Económica, Voz Viva re-issues by El Colegio Nacional, and the valuable work of some independent labels that occasionally released albums of literary writers in audio format, such as Gramex, Fonarte, and Pentagrama Ediciones. Access to them is spatially and temporally limited and that is actually one of the rationales of the PoéticaSonora project—granting wider access to them.

So far, the PSP includes two Voz Viva de México albums: *Huellas de luz* (2010) by Coral Bracho and *Celebración* (2016) by Elsa Cross. The importance of this collection demands that a specialized commission systematically integrates in the future more than 130 albums comprising its catalog, as well as its sibling collections. Thanks to a substantial donation of digital recordings from Eduardo Ortiz's private collection, which probably has the most complete collection of Voz

[8] On the creative affordances of recording studios, see "The Studio as Compositional Tool" (Eno, 1979). On the race/gender intersection across social interactions at a recording studio in the Global South, see *Sound of Africa! Making Zulu Music in a South African Studio*, especially chapter 2 (Meintjes, 2011, pp. 71-108).

Viva recordings—even surpassing UNAM itself (González Aktories, 2017b; Ortiz, 2017)—most of the Voz Viva recordings were available in WAV or MP3 formats for the Cataloguing Axis to work with, so that the PSP can potentially become the most complete and up-to-date online point of access to this collection, only after Cecilia.com.mx. In the Dissemination Axis, other PoéticaSonora members have played a role in the artistic exploration and creative preservation of this collection's audio heritage. For example, when Cinthya García Leyva was appointed the Max Aub chair in art and technology at UNAM, she commissioned an event series focused on revisiting and intervening Max Aub's archives in Mexico. One of the sessions was titled "Performance sonoro sobre viniles y cassettes de la colección Voz Viva de México," hosted at Fonoteca Nacional on August 15, 2019, with the participation of sound artists Leslie García, Taniel Morales, Concepción Huerta, T ERR A CO T A, and Luis Clériga. A review of the event by Miriam Torres for PoéticaSonora is underway and stands as an example of how our topics of interest are dealt with in both creative and reflective terms by different team members.

Poetry slams

Many authors agree that the first poetry slam in Mexico took place in 2005 (Pascaud, 2013; Khonde, 2013; Córdova, 2013; Rodríguez Aranda & Roldán Ortiz, 2013; González Aktories, 2019b). Since then, their popularity has been on the rise, involving venues such as Ex-Teresa Arte Actual, Casa del Lago, Museo del Chopo, and CCD, as well as stakeholders such as Fanny Pascaud, Katia Tirado, Edgar Khonde, Rojo Córdova, among many others. It was not until 2017, though, that a national-level grand slam was first organized thanks to the joint effort of most regional and local slam leagues in the country (Mendoza Gómez "Comikk MG", 2019a). This was the first attempt to create a national umbrella organization, something that has happened in the U.S. since the establishment of Poetry Slam, Inc. in 1997, and in Quebec since the year 2006 (García, 2012; Marceau, 2010). The young Mexican slam scene is an example of adaptation and appropriation of a foreign format into a Spanish-speaking context, of its multilingual origins in its early stages, and of the contrasts in rules and social interactions with its North American counterparts. Notwithstanding the two volumes of *eSLAMex* compiled by Rojo Córdova (one of them included in the PSP), there are still few critical approaches to this scene. PoéticaSonora intends to offer information and sound recordings that contribute to properly understand its socioliterary context and early history.

In 2016, PoéticaSonora's editorializing team (part of the Cataloguing Axis) classified almost all of the poetry slams organized by Rojo Córdova one year before at CCD. Taken as a whole, these slams offer a detailed account of the richness and diversity of musical and literary genres usually converging in this type of events in Mexico. At that moment, the team was closely attached to the tenets of *The PennSound Manifesto for Archiving Recorded Poetry*, so that each session's recording was divided into "singles" or individual files (Bernstein, 2009a, p. 969). We later learned this would compromise the originals' provenance, but the exercise helped us refine the editorialization process in terms of recommended practices for data transmission and storage. Our reflections on this experience are summed up in a "distant listening analysis" posted on our blog (Cabrera, Jimeno, Medina, & Meza, 2019).[9] Besides Córdovas's slams and anthologies, we have also included in the PSP a selection of early recordings by Edmeé García "Diosa Loca," as well as *Mujeres en su lengua*, a collection of women writers in Mexico City's poetry slam scene, compiled by artist and performer Cynthia Franco, member of the collective PoesíaYTrayecto, assisted by PoéticaSonora student member Isabel Alcántara Carbajal (Franco, 2019; Alcántara Carbajal, 2019).

Although they must comply with a series of strict rules (such as not using costumes, objects, or sound-generating instruments other than their own bodies), slam participants find the way to unleash their creativity. In the CCD slams, for example, there is a wide array of performatic styles drawing from declamation, reciting, improvisation, song, hip-hop, and spoken word. [10] We also find cases of indigenous poetry performance (both in their original languages and in Spanish translations) and regional folkloric poetic forms, such as *décima espinela* and *balona michoacana*. Thus, in one same slam session we can find pieces that lean either on the musical or on the meaning-oriented levels of vocal performance. There are other cases in which participants read their texts for the first time in front of an audience of this kind, a situation that

[9] See Annex B for an unabridged version in Spanish of this essay and for a discussion on how provenance is compromised through a literal application of another *PennSound Manifesto* tenet, "It must be singles."

[10] I understand *performance* in the way Diana Taylor does, as "vital acts of transfer, transmitting social knowledge, memory, and a sense of identity through reiterated, or what Richard Schechner has called 'twice-behaved behavior'" (2003, pp. 2-3). Strictly speaking, every poem read out loud is a performance, and is implicitly defined as such by many authors (Camlot, 2012; Hannigan, 2015; MacArthur, 2016a; Middleton, 1998). Taylor makes a distinction between the discursive dimension of performance (the one in which we live through our social, gender, and professional roles), corresponding to the adjective "performative," and its non-discursive dimension (where bodily oriented artistic events are usually located) which she refers to as "performatic" (Taylor, 2003, p. 6). Making this distinction is useful in the light of analyses like those on which this dissertation focuses.

can potentially serve as a case study on how performatic styles are stereotyped among young, scarcely known, or incipient poets and artists.

Under the light thrown on literary audio and traditional poetry readings by authors such as Jason Camlot (2012), Marit MacArthur (2016a), and González Aktories (2019a; 2019b), we can approach slam participants' performatic styles from a fundamentally aural perspective. According to poet and interdisciplinary artist Rocío Cerón, "había mucho de acción y casi teatral y escasa poesía [there was a lot of action and almost theatrical, yet scarcely poetry]" (2016b, pp. 126-127)[11] in early Mexican spoken word events, a claim she grounds on the fact that most participants in either traditional readings or slams shared the same solemn, antiquated drone and wonders where it came from, how it thrived, became institutionalized, and was transmitted to younger generations (Cerón, 2016a). Her point leads toward the existence of standardized performance styles unknowingly shared by young writers who may listen to and appropriate them in public events, as well as by already established or well-known literary celebrities. This reflection can be applied beyond its own span and we may talk about stereotypical defining forms of literary text performance in Spanish language, not just limited to poems. Authors like McArthur and Peter Middleton have traced the genealogies of a U.S. standard poetry performance style back to the adoption of Anglican practices of praying and reading religious texts out loud, the consolidation of training techniques for the public delivery of written texts, and a stark opposition to theater performance by writers reading their own texts (MacArthur, 2016a, p. 44; Middleton, 1998, p. 281). In Mexico, these practices may be related to declamation, a technique that still nowadays is taught in some elementary and secondary schools in the country.[12] The study of differences between Spanish and English language standard performatic styles can also be fruitful for future researchers and students.

Spoken word and hip-hop

As with slams, Mexican spoken word is a U.S. cultural import addressing the performatic dimension of literature—that is, it usually has its most manifest form on stage. This implies that

[11] Quotations and phrases in Spanish, French, and German are followed by a simple English translation in brackets. In the case of institution and collective names, pseudonyms, as well as collection, book, and art work titles, I only provide an English version if it is relevant for my argument or if it has already been translated before.

[12] In fact, Mexico's most popular poetry anthology since the mid-twentieth century is titled *Declamador sin maestro*, Spanish for *Declamation Without an Instructor*, a proof of this tendency to associate literary performance in general with specific rhetoric techniques.

the performatic styles of artists who adhere to this trend usually diverge from those commonly found in traditional poetry readings, and sometimes even in poetry slams (due to their use of instruments), more explicitly drawing elements from theater, performance art, and music.

While many spoken word artists participate in slams and other poetry-related events, it is worthwhile to notice a lack of consensus about what it means to practice spoken word in Mexico. For example, Rojo Córdova claims, "Spoken en México es lo mismo que decir eSLAM en México [spoken word in Mexico is the same as saying *eslam* [*sic*] in Mexico]" (2013, p. 15), given that the Mexican variant of spoken word was brought forth out of four different forerunners: hip-hop, performance poetry, *son jarocho*, and academic poetry (2013, p. 42). Córdova conflates slam and spoken word while ascribing them a four-source origin based on both popular and highbrow forms of poetry making. For Edmeé García, a.k.a. "Diosa Loca," on her part, spoken word is synonymous with what is known in Spanish as "poesía en voz alta," associating it with the more traditional formats of declamation and reading out loud (García, 2012). Thus, one of the greatest challenges for the PSP was to reach implicit "pacts" in the data schema elements that may cover such a long array of possible interpretations of a single concept, as well as to avoid a premature closing up of possibilities to find other ways of classifying what is defined in a certain way simply because no better name has been found for it. It may be that the accumulation of information and sound material, together with archival and fieldwork findings, will help us better understand these new definitions, as well as their benefits and limitations when applied to the case of Mexico.

Edmeé García has been particularly important in creating spaces of critical reflection around the history of spoken word in the country, particularly through her websites Diosaloca.mx and Spokenword.mx, where she has released interviews and performances by some of the most interesting artists in this category, such as "Josuelfo" and Victoria Cuacuas who are also part of the PSP, due to their participations in Córdova's 2015 CCD slams. There is a clear difference in the way these artists participate in a slam and how they perform their work at a different venue or under a different format. For example, Cuacuas always ventures into singing, and sometimes the meaning of a line or sentence is not clear enough due to this melismatic use of her voice. At the CCD slams she did not use the loop stations that drew García's attention and prompted an interview and performance session recorded and posted on Diosaloca.mx. However, the fact that her name appeared among the CCD slam participants certainly drove PoéticaSonora's to focus on

the Mexico City scene of women vocal artists using loop stations for vocal and instrumental purposes (a topic that is largely discussed in Chapter 3). The loose definitions of collectivity suggested by *Frágil* and the way the involved artists talked about it during interviews, as well as their use of some constraints and affordances found in loop stations for substantially modifying their voices, are indeed related to Édouard Glissant's concept of Relation, and to notions coming from Actor-Network Theory, both discussed at length in Chapters 1 and 2. Thus Chapter 3 is a necessary example of how theoretical and technical issues are reflected in the exercise of literary criticism at the forefront of current creative tendencies in the country.

Each collection we add to the repository has inevitably strong and weak points, particularly in relation to other collections. The presence of hip-hop singers in the CCD slams, for example, was a reminder of this genre's importance for the development of Mexico's sound poetics. In *eSLAMex*, on its part, there is a significant lack of women artists and writers, despite the fact that they are actively present in both the spoken word and hip-hop scenes of many cities, such as Ciudad Juárez, close to the US-Mexico border, where the notion of *feminicidio* [femicide] first became a political issue in Mexico. This lack of women in current anthologies motivated the invitation of external curators who could give a good account of this movement. That is how *Vivas nos queremos* took form, compiled by Suzanna Molina, a.k.a. "Obelia Preta," and assisted by PoéticaSonora graduate student member Adriana Dávila. As part of the Juárez-based all-women hip-hop collective Batallones Femeninos, Molina provides some illustrative cases of collaborative and creative networks operating not only in Juárez but also in other border cities, such as Tijuana (Dávila, 2019). Along with Cynthia Franco's *Mujeres en su lengua*, *Vivas nos queremos* promises to be a landmark curatorial contribution to understand the role women artists have played in Mexico's twenty-first century sound poetics.

Sound-text compositions

Many cases can be found in Mexico in which artists or collectives read their texts using a traditional performatic style accompanied by some kind of sound-based or musical background. In these works, there is a clear multidisciplinary drive that nevertheless leans towards preserving the status of voice as a purveyor of intelligibility. There are cases as well in which pitch range is consciously explored, initially within the usual rules and places for spoken word and slams but also at venues more associated with music, such as Foro Hilvana in Mexico City. The PSP has

several collections from three different projects that can be classified under the broad category of sound-text composition—a concept preferred by Paul Dutton instead of "sound poem" (Dutton, 2002). The most relevant project for this dissertation is the album *Frágil* (2015), a collaboration between spoken word artist Edmeé García, vocal artist Leika Mochán, and jazzist Iraida Noriega. Their explorations on vocalization, their use of loop stations (effects units usually employed for instrument playing) to alter their own voices and other sounds at will, as well as the fuzziness of their collaboration in terms of collective organization (they do not consider themselves a band or a group, yet they have shown clear signs of collective action on and offstage) turn *Frágil* into an extreme test for the PSP's capacities to classify and describe vocality, instrumentality and collectivity. Chapter 3 constitutes a detailed description of how fieldwork and editorialization activities cross-pollinated each other during the prototyping phase, an example of how ongoing research on a given topic (in this case, the collective dimension of sound and literature) can benefit from the use of a platform like PoéticaSonora's DRA. Close-listening analyses of some *Frágil* tracks, as well as to the solo work of some members, will lead to a critical ponderation of the extended collaborative network built around their use of loops stations to make vocal art. This example will be used to discuss what is intuitive and what is prescribed in the artist-device interaction (an opportunity to speculate on the researcher-database interaction that is so significant for PoéticaSonora), and how an instrument's (in this case, human voice's) expressivity can be explored through digitally-induced modification.

There are other collections documenting sound-text compositions in the PSP, like those by Los Kikín Fonsecas y el Gringo Castro (KFGC) and Salvajes de Ciudad AKA. Both collectives compose their works in a similar fashion to *Frágil*—they teamwork on the creation of audiovisual collages, having their ultimate expressive form in musical venues, as opposed to more literary oriented shows. Both accompany their recitative styles (with few variations in terms of modulation and pitch range) with samples of third-party songs, films, and onstage musical performance using string instruments, digital devices, and audio software. There is, as in *Frágil*, a clear division between declamation and song, as well as a reluctance to be considered a music band. However, KFGC and AKA lean on a sound-text "buffer zone" where the balance is slightly yet noticeably tipped towards the word's intelligibility, that is, towards "voice as *logos*" instead

of "voice as *melos*."[13] They also consciously perform collectivities, as it is clear in the fact that they have publicly identified themselves as part of such groups,[14] taking advantage of the presentation platform that I have elsewhere called "el impulso colectivo," or the collective drive (Meza, 2012, pp. 32-34). The influence of artistic collaboration in individual art works, along with the creative tension between declamation and song, represent an ideal point of departure to put in practice some theoretical-methodological considerations initially discussed in Chapters 1 and 2 that are further developed in Chapter 3.

Experimental and conceptual sound poetry

One of the most important contributions to the history of experimental and conceptual sound poetry in Mexico is Israel Martínez's and Manuel Rocha Iturbide's collection *Música experimental, arte, poesía y experimentación sonora en México*, commissioned by LAA for its multimedia anthology *(Ready) Media: Hacia una Arqueología de los Medios en México* and presented as a retrospective exhibition at that same venue in 2010 (Martínez, 2012, p. 393). The collection's title evidences the need for a term that encompasses all these tendencies, something that sound poetics attempts to do. Fully available in the PSP, *(Ready) Media* has become a necessary reference for understanding the similarities and differences among several sound-oriented creative tendencies in Mexico, where sound art overlaps with practices such as radio art and sound scape. Their selection criteria are, of course, always subject to debate and reflecting, but their curatorial work and research have been vital to map Mexico's sound poetics.

[13] I use the classical Greek terms *logos* and *melos* to refer to opposite conceptions of the voice's instrumentality, drawing from Mladen Dolar's discussion on singing as a postlinguistic phenomenon (2006, p. 29) and of metaphysical thought as essentially phonocentric (2006, p. 37). For Dolar, *phoné* (literally "voice" or "sound") is located at a conceptual crossroads, considered on the one hand as a transparent knowledge transmitter (a phenomenon privileging the voice's logocentrism), noticeable in prayers and commands, in which meaning is favored over sound. On the other hand, *phoné* is also able to "take over in its own jubilation, the melisma without a support" (2006, p. 49), as with musical forms and genres that render a linguistic message unintelligible, such as *iubilus* (the segment allotted for Alleluia) or polyphony. This partly explains why historically "each new musical invention had devastating effects [for both phono- and logocentrism] and was immediately seen, in a very Platonic manner, as a road to moral ruin" (2006, p. 49), in the sense that they privilege *melos* over *logos* in order to integrate *phoné* into musical repertoires and performances. The adjective I use for this phenomenon is "melismatic," which in music refers to singing a single syllable while gliding across different successive notes. In contrast, psalms and prayers favor *logos* over *melos*, thus giving rise to the monotone drone associated with reading out loud religious and (following Marit MacArthur and Peter Middleton) with literary texts as well. In these cases, I use the adjective "meaning-oriented."

[14] For example, Ánuar Zúñiga Naime introduced himself as part of collective KFGC before starting his participation in one of the aforementioned CCD slams.

Some artists selected by Martínez and Rocha are among the most representative exponents of vocal experimentation in Mexico: Juan Pablo Villa, whose oeuvre focuses almost entirely on the exploration of human voice; Ricardo Castillo, whose exercises sometimes surpass the threshold of signification without necessarily delving into the world of song; performance art stars like Felipe Ehrenberg and Guillermo Gómez-Peña; Rocío Cerón's collaborations with Bishop, and a selection of Ulises Carrión's *The Poet's Tongue*. Together, these pieces constitute a panorama of predecessors of a younger generation that has taken off from those early experiments up into new places of action. Although all these authors have been previously classified under different genres or fields (particularly sound art and performance art), an approach to their vocal expressivity and the role played by the voice and voicing for the selection of their works promises to be one of the contributions of PoéticaSonora's editorialization of the *(Ready) Media* collections.

Radio art and sound art

In order to establish an interdisciplinary platform for the discussion of sound poetics, I follow the definitions of radio art and sound art by two artists who have curated or donated collections for PoéticaSonora, Érika López and Manuel Rocha Iturbide. I employ the term radio art to classify sound works produced in "espacios radiofónicos que se dedican a la exploración del sonido como arte [broadcasting spaces dedicated to the exploration of sound as art]" (López, 2019). On his part, Rocha Iturbide considers sound art to be the interdisciplinary hotbed for many expressions of creative sound experimentation:

> arte sonoro se refiere a experimentar con el sonido interactuando con otras maneras de hacer arte […]. Estas formas diversas de trabajar a partir del elemento sónico, se traducen en poesía sonora, radioarte, música electroacústica y electrónica, música experimental, paisaje sonoro, escultura sonora, instalación sonora, acciones sonoras e intermedia, entre otras (2012a).
>
> [sound art refers to experimenting with sound by interacting with other ways of making art [...]. These diverse forms of working with the sonic element are translated into sound poetry, radio art, electroacoustic and electronic music, experimental music, soundscape, sound sculpture, sound installation, sound interventions and intermedia, among others].

My approach to these trends in this dissertation is largely interdisciplinary, with a focus on the ways these and other sound categories have influenced each other regarding their use of vocality and aurality during the early 21st century.

Although these and other genres sharing affinities with sound poetics are not studied in depth in this dissertation, it is important to say we expect them to contribute with a significant number of recordings to PoéticaSonora's repository. So far, the main source of pieces that may be classifiable as sound art and radio art are the second annual radio marathon *Poetas en abril*, broadcast by Radio Educación in 2003 (Montaño Garfias, 2003; Rocha, 2004, p. 176), from which PoéticaSonora got 14 pieces by Mexican sound artists and one by a Spaniard. This broadcast was important for the translation to Spanish and subsequent publication in Latin America of Dmitry Bulatov's emblematic anthology *Homo sonorous* (2004). Among students and scholars interested in the history of Mexican radio, there is a growing need for more detailed accounts of the interrelations between vocal art and this medium. For this reason, as part of PoéticaSonora's invited curator series, Érika López anthologized ten different works of radio art created between 2002 and 2017 in the context of Mexican radio biennales where "no sólo se debatía sobre nuevas herramientas y plataformas, sino que también nacía un interés por crear y producir a partir del lenguaje radiofónico, por parte de aquellos que no habíamos tenido estas experiencias en México [not only were new tools and platforms debated, but there was also an interest in creating and producing in radio language on the part of those of us who had not had these experiences in Mexico]" (López, 2019). Her collection *El radioarte y el arte sonoro: hacia una experiencia estética* documents the birth and early development of a new kind of expression in the country, crystallized in representative pieces by Bárbara Lázara, Hebe Rosell, and Juan Pablo Villa, among other figures in both vocal art and sound art. After contributing to the PSP initial sample with the *(Ready) Media* collections he co-curated, Rocha Iturbide also donated his album *A través, otra vez* to the repository. Both collections are part of an effort by PoéticaSonora to give due credit and presence in the PSP to genres in which the voice plays a leading role but that are not among the areas of specialization of current team members. This does not bar PoéticaSonora from becoming an ideal scholarly platform on which future researchers could work on these and other subjects.

This brief account of genres and art scenes present in the PSP initial sample throws light on how some constants and variables have already surfaced while delineating the history of sound

poetics in Mexico, such as recurring venues, practices, and stakeholders. It is clear as well that there is a constant discussion on the legibility of human voice and the tension between song and declamation, between intelligibility and pure enjoyment of a word's sound, between *phoné*/voice-as-meaning (*logos*) and *phoné*/sound-as-enjoyment (*melos*), an issue that has been at the core of early Western music and literary history since the European Middle Ages (Ochoa Gautier, 2014, pp. 90, 221). For Mladen Dolar, the voice is a mark of authority as well as of vulnerability (2006, pp. 80-81): it is either supplicant and cajoling as in the myth of Orpheus, or cruel and ruthless as in that of the sirens. It also seems to be inherently ambiguous, for it has the capacity to clear the path towards knowledge just as much as distancing us from it. What was once called "el denominador común de la palabra fluctuando entre la recitación y el canto [the common denominator of the word fluctuating between recitation and chanting]" (Ansón, 2006, p. 224) in poetry-and-music experiments is still relevant for discussing the voice's sound poetics, even when it is distorted up to the point of incomprehension, or when it is reproduced or emulated by machines (Dolar, 2006, pp. 10-11; González Aktories, 2019c). Under this light, we notice how all the scenes that form the basis of PoéticaSonora's initial sample can be divided in three different levels according to their conception of voice as leaning either towards *logos* or *melos*:

- At the most "literal," logocentric level we find the vast majority of literary audio recordings, most of them documenting poetry readings in both academic and non-academic venues, usually without any musical or sound accompaniment. Some performances coming from poetry slams and spoken word participations can be classified under this category as well.
- Next, we find interaction between declamation and singing in a more conscious manner. Spoken word artists crossing the border between reciting and singing can be classified here, while works that have been labelled under categories such as sound poetry, sound-text compositions, and other related terms can also be part of it.
- In a more decidedly musical level, in which the human voice may even be supplanted by machines, we find experimental electronic music, different manifestations of sound art, and electroacoustic music.

More detailed descriptions of each scene or genre, as well as of their varying degrees of voice modulation, might of course lead to more taxonomic identifications, the kind of which Haraway precisely suggested to avoid. Despite the need for humans to classify information in order to

better understand it, we sought in our data schema for inclusive, open discerning criteria that would not stiffen into taxonomies and yet would be useful enough for the association between apparently unrelated works, artists, or genres. As we will see, pieces associated with a particular genre might be compared with others independently from the traditional classifications ascribed to either of them. An affordance facilitated by the creation of a digital repository that would gather Mexico's variegated sound poetics is to trace patterns between scenes and genres that may have not been compared to each other before, in a move that promotes the creation of innovative frameworks to analyze these artists and their works.

This panorama of genres and scenes included in PoéticaSonora's PSP provides two main arguments for choosing 1960 as a departure point in this project: it is the year when the literary audio collection Voz Viva de México was officially launched (González Aktories, 2017a), and when Carlos Jiménez Mabarak created *El paraíso de los ahogados*, presumably the first piece of sound art in the country (Rocha Iturbide, 2012a, p. 377). Three authors who have dedicated several studies to tracing the history of these poetics in Mexico are Manuel Rocha Iturbide, mainly focused on experimental electronic music and sound art (2012a; 2012b), Israel Martínez on electronic and electroacoustic music (2012), and Susana González Aktories on the aural dimension of poetry (2017a; 2019a). In line with their academic endeavors, PoéticaSonora seeks to provide intellectual and contextual resources for exploring and studying the genealogies by these and other genres in Mexico.

Fieldwork activities and archival research conducted for this project also bear witness to different moments of intensity in the promotion and dissemination of sound poetics. During the 1960s, due to improvements in audio recording and playback technologies, there was a steady growth in their production, particularly visible in Max Aub's initiatives around Voz Viva at UNAM. During the next decade, in contrast, there is a noticeable decrease, followed by a slow recovery during the 1980s and 1990s, and a steadier growth from the 2000s on, marked by such milestones as the translation of *Homo sonorous* to Spanish (Bulatov, 2004), Poesía en Voz Alta's new era at Casa del Lago (Caudillo, 2017), Fonoteca Nacional's foundation in 2008 (González Aktories, Meza, Medina, & Villanueva, 2017), the emergence and consolidation of the poetry slam scene (Córdova, 2013), and the release of LAA's *(Ready) Media* (2012). There are still some unanswered questions regarding why the 1970s experienced a setback in the production and circulation of these practices at a time when countercultural movements and improvements in

audio technology were on the rise north of the border (Kahn, 1999; Smith, 2011; Allison, 2014). One theory formulated by PoéticaSonora members González Aktories and García Leyva attributes this situation to an increasingly intensified censorship of heterodox practices (mostly political, but also artistic) particularly after the 1968 Tlatelolco and the 1971 "Halconazo" massacres—a period known in Mexican historiography as "la Guerra Sucia [the Dirty War]." It could also have been due to the growing influence exercised by Octavio Paz in Mexican literary circles. Also responsible for silencing writers associated to Infrarrealismo (the last avant-garde literary movement in Latin America), Paz did participate in multidisciplinary collaborations, although he focused on dialogues between literature and visual arts, as in *Discos visuales* (1968), illustrated by Vicente Rojo. Rocío Cerón reminds us that not even Infrearrealistas themselves produced much work combining different genres, formats, or media, and she wonders why both Paz's detractors and his devotees were not seemingly interested in interdisciplinarity (Cerón, 2016a). Indeed, literary generations heavily influenced by Paz (particularly those born in the late 1950s and throughout the 1960s) usually show a prevalent mistrust in performance, conceptual, and sound art. Some artists who were most heavily looked down on by the "*Vuelta* circle" (comprising writers published or working in Paz's famous literary magazine and its offspring, *Letras Libres*) are the late Ulises Carrión, who even self-exiled to Europe in order to develop his artistic career, as well as César Espinosa and Araceli Zúñiga, founders of the first and longest running experimental and visual arts biennale in the country. Only until recently have Espinosa's and Zúñiga's efforts received due attention from cultural institutions such as UNAM-funded Museo del Chopo, which is in charge of digitizing their biennales' audiovisual heritage. As for Carrión, many writers and exhibitions have revendicated his importance as the precursor of a new materialist turn in Mexican literature. Some of his sound poems are included in the PSP as it was anthologized in the *(Ready) Media* collections.

Notwithstanding the need for tracing a comprehensive history of Mexico's sound poetics,[15] this dissertation pays particular attention to the sound-oriented literary scene in Mexico City during the early twenty-first century. My focus on current trends is due to most of my interviewees being actively part of them. Their reflections on voice and collectivity have taken me to revisit my first studies on the collective dimension of literature in the US-Mexico border region (Meza, 2012; Meza & Nieto, 2014). This revision was particularly relevant for Chapters 2

[15] Such history is being written by González Aktories in her most recent works (2017a; 2019a; 2019b; 2019c).

and 3, where I detail the PSP's contributions to better understand how sound-oriented multidisciplinary art scenes and collectives operate, and how specific case studies may contribute to substantially modifying certain aspects of the repository's data schema.

The use of digital repositories for academic purposes has long been established in the fields of natural sciences and engineering. While for social sciences and humanities it has been a predilect choice for digitizing already existing archives and institutions (Quamen, 2006), it has also motivated the development of repositories focused on digital-born files. In Mexico it has also propelled and diversified the spaces and platforms to share them (Ortega, 2018). Although there is substantial research on the perceived results and outcomes of electronic resource management through the use of institutional repositories (Galina Rusell, 2009), the importance of speculation for the development of new forms of classification and dissemination in the digital world has not been fully addressed. This dissertation constitutes a contribution to this quest, particularly Interchapter 2 and the Epilogue, where I reflect on the value of prototyping for the sake of a speculative turn in social sciences and humanities that would be consequential for art and literary criticism. One of the main differences between prototyping and other kinds of site-specific methodological practices (such as participant observation, research-creation, or research-action) is that a prototype is a concrete set of decisions that are sometimes beyond control of individual stakeholders. Relations inside and outside PoéticaSonora contributed to its final outcome, directly correlated to the audio recordings found by the Mexico City team members in archives and documentation centers of several cultural institutions, and used by the Montreal team as an initial sample to populate and test the database, as explained in detail in Chapter 1 and Interchapter 1. Among the many issues faced during the prototyping process, five examples in which a refactoring led to significant changes to the database design are detailed in Chapter 2: language use, composition/interpretation, collectivity, instrumentality, and voice modulation. That does not mean these were all the problems we had to solve, but they are the ones most clearly related to Chapter 3, which deals with a case study of a music-poetry interdisciplinary album and the creative consequences this collaborative project had on the involved participants. Issues of a more technical nature can be consulted on the project's GitHub repositories.[16] However, even if technical-archival and critical analyses seem to point towards opposite interests, they are complementary and help explain other fields of action within the project.

[16] See https://github.com/davlum/poetson and https://github.com/davlum/poet.

When working on experimental prototypes, it is "necessary for the interface to mediate in some way between the existing knowledge and specialization of the people working with the prototype and the intended functionality. One way to improve that mediation is to provide the participants in the user experience with content that makes sense to them, that looks like the kind of materials they often use" (Ruceker, 2016, pp. 404-405). It was for this reason that one team gathered pertinent materials from cultural institutions and private collectors for the other to test a prototype built upon the recordings they found. The collections donated and/or curated by sound poetics stakeholders caused a revision within PoéticaSonora regarding the relevance for the project of terms such as archive, database and repository. In the following paragraphs I will sum up this discussion, in order to explain why we decided to use "repository" to encompass most of our interests, theoretical positionings, and *loci* of enunciation.

While some authors remind us to distinguish between the archive as a document and the archive as the institution that keeps such documents (Mitchell & Mattern, 2015; Treleani, 2014, pp. 48-50), the distinction between archive and database is even more important for the current digital *régime de vérité*. Whereas the archive as an institution is characterized as hermetic, localized, and concealing the information it stores (Taylor, 2003), the database is seen as open-ended, ubiquitous and focused on distribution rather than on storage (Folsom, 2007). As Marlene Manoff argues,

> When scholars outside library and archival science use the word "archive" or when those outside information technology fields use the word "database," they almost always mean something broader and more ambiguous than experts in these fields using those same words. […] Scholars use the terms metaphorically, appropriating them from the professional experts (Manoff, 2010, p. 385).

This metaphorical use of technical terms, noticed by other scholars as well (McGann, 2007, p. 1588), is a clear symptom of the fact that we still do not know how to conceptualize some of the affordances and limitations of information technologies for scholarship in social sciences and humanities. As Wendy Chun states, "Digital media, through the memory at its core, was supposed to solve, if not dissolve, archival problems such as degrading celluloid or scratched vinyl, not create archival problems of its own" (2008, pp. 153-154). Other authors have observed how concepts like "digital archive" and "digital preservation" are oxymoronic due to "digital media's bias toward circulation over preservation" (Camlot & Wershler, 2015) or because "the digital both fosters and threatens the archival record" (Manoff, 2010, p. 395). In the end, as

Jonathan Sterne argues, it may probably be impossible to use digital media for long-term preservation, due to what he calls the preservation paradox in digital audio:

> For while a damaged disc or magnetic tape may yield a little information—it may be possible to hear an old recording through the waves of hisses or crackles of a needle as it passes through damaged grooves—digital data have a more radical threshold of intelligibility. […] In other words, digital files do not age with grace. Where analog recordings fade slowly into nothingness, digital recordings fall off a cliff from presence into absence (2009, p. 64).

The consequences of this impossibility of achieving preservation through digitality for the achievement of PoéticaSonora's objectives are discussed in Interchapter 1, taking as a departure point the announcement of the "death" of the MP3 audio format.

Using the term "archive" to refer to a wide arrange of discursive practices surrounding the notions of dissemination and preservation was initially promoted by groundbreaking studies such as Michel Foucault's *An Archaeology of Knowledge*, Foucault's depiction as "The New Archivist" by Gilles Deleuze, and Derrida's *Archive Fever*—whose original title in French, *Mal d'archive*, resembles a "betrayal in translation" that "already anticipated the book's reception in the English-speaking world, which involved an 'upheaval' that left only the French-speaking audience still sunk in the gloom of its pain" (Chivallon, 2016, p. 69).[17] Due to the saturation of meaning besetting the archive concept, our interest in a decolonial approach to this project, and PoéticaSonora's actual commitment and regular interaction with institutional archives and documentation centers preserving audio recordings, we have preferred the notion of "repository" to refer to dissemination technologies (possibly also preservation ones) in digital formats. In a rather intuitive way, other studies have adopted this term to characterize digital audio projects like SpokenWeb (Hannigan, 2015), Ubuweb, and PennSound (Nardone, 2019). Its multiple meanings help us define a more dynamic, less unidirectional model for the distribution of information than those offered by "archive" or "database." A repository can be characterized either as a container to store and deposit things or as a space where objects can be displayed for exhibition, like a museum (*Collins Dictionary & Thesaurus*, 1st and 2nd entries), or as an abundant source of supply (*Collins Concise*, 2nd entry), even as a burial or sepulcher (*CDT*, 4th

[17] In the odyssey of this research, my ruthlessly tempting sirens were French poststructuralism and process philosophy. Although I believe many of the subjects treated here resonate with key concepts from their treatises (rhizome, refrain, archival fever, spectrality, monolinguism of the Other), I have actively decided to avoid referring to them as much as possible to favor texts written in the Americas (in French or any other language).

entry). In Latin, *repositorium* was either a wardrobe or a cupboard. This ambivalence between storing and displaying, most clearly present in the interactivity that information technologies provide, can account for the conflict between digital media's circulation bias and the "archival effects" (Manoff, 2010, p. 386) these media inevitably produce. In this dissertation, "repository" has been preferred over the concept of archive-as-institution, whereas "database" is used exclusively when referring to the management system software that was created to administer the gathered archives-as-documents. "Archive" is used to refer to cultural institutions in custody of both digital and analog sound works, whereas "database" refers to the SQL data schema designed to store and access these works.

The prototyping process sought to integrate feedback from user-testers to the project's infrastructure and data schema, as well as contemplating possible avenues for expansion in subsequent phases. If we envision the repository as a building, the idea was to create the most stable basic structure in which new research niches could be easily integrated to the overall structure, and where existing ones could be easily expanded. Different areas of study can thus be integrated in the near future, along with their own sets of tags, names, instruments, and other classifications.

The political implications of prototyping motivated the team to establish some guidelines that would lay the groundwork for our conceptual, theoretical, and technical positionings, and in turn drive the outlines of the repository's Beta version,[18] a topic discussed at length in the Epilogue. These guidelines include, but are not limited to the following list:

- *The repository must be built around a poetics of Relation* (see Chapter 1) between human and nonhuman agents, between the aural and the written, and between the self and alterity. Teamwork and research should therefore aim towards facilitating a community-driven, constellatory type of repository (Fong, 2015) in which related yet divergent artistic expressions find affinities among the concepts of voice, legibility, and aurality. The challenge in face of the diversity of listening is to respect it without forcing it, while at the same time finding some description standards and promoting a more attentive listening.

[18] In a software release life cycle, Beta refers to the phase in which software development is complete but some bugs are still expected to surface, so that a pre-released version is shared with a large sample of users for them to try it in real-life conditions. Prototyping, on its part, corresponds to the previous phases, pre-Alpha and Alpha, dedicated to requirement analysis, design, deployment, and inhouse testing. Beta testing is the last phase prior to stable release.

- *It must be displayed in Spanish*. However, source code can be written in English due to the inertia of this language in programming and international standards (a phenomenon studied in Interchapter 1 and Chapter 2). Navigation tools, bars, buttons, and other paratextual elements may also be programmed in English, but the focus must be on Spanish language. Moreover, if a decolonial approach constitutes a desirable choice and area of expansion, integrating appropriate classification tools for poetry recordings in indigenous languages like Nahuatl or Maya must be considered.

- *It should be open access* (OA), and therefore remain available to as many users as possible (Del Río Riande & Tóth-Czifra, 2019). In OA terminology, PoéticaSonora aspires to be a "green, gratis OA" repository (see Suber, 2012, pp. 49-75). As in any other green repository (in opposition to gold repositories, where the documents are under an OA license ever since they are first published), archived documents in the PSP might have been originally toll-access, but are converted to OA when an author waives their royalty rights, accepting the document's release for research and preservation purposes. In case of not accepting, documents are archived in a so called "dark deposit" until permission is granted (Suber, 2012, p. 52). While metadata would be available for anyone regardless of the recording's copyright status, access to audio files in PoéticaSonora will be available free of charge (gratis), but not for circulation, format migration, or any other kind of redistribution (libre). The quest for libre OA is vital for PoéticaSonora's long-term sustainability, if such thing can happen, despite the many difficulties the project has faced since its earlier stages, a reason why we have settled for gratis OA. If the PSP seeks to offer a virtual space to concentrate documentary materials scattered across the country, it must maximize the number of target users, something that OA purportedly does. This implies considerable amounts of time lobbying with institutions, collectors, and copyright stakeholders to manage commercial, intellectual and moral rights on the sound works we want to catalog, but in which we have already taken some steps, and proof of this is that some stakeholders have already placed their trust in PS by contributing with their materials. Solving this question can take an entire book on its own and remains as a promising avenue for future research beyond this dissertation's focus.

- *It must be aware of its political relations to the archive-as-institution*. Manoff's questioning about "what digital information is being saved and by whom" (Manoff, 2010, p. 395) should be central not only to this particular project but to DH in general. PoéticaSonora does not aspire to be a transparent, neutral display window, but rather a mediator between different actors, some human and others non-human, across the large collaborative network of sound poetics. There is also a notion of (uncertain) future that is mostly laid out from a present overwhelmed by multiplicity—what to preserve, what for, how, and for whom. In this sense, this dissertation is greatly influenced by studies drawing concepts from actor-network theory (Latour, 2008) to address the creative agency of devices such as interfaces (Ruceker, 2016), loop stations (Morris J. W., 2008), and musical instruments (Tresch & Dolan, 2013).

- *It must promote user-tester interaction and allow for future thematic and structural expansions*. This entails, at an organizational level, the need for the Dissemination Axis to provide necessary training for users and curators when significant changes have been implemented, and to keep incoming or returning participants up to date. It also means that external curators must be continually invited to provide their own views of themes and topics that might be enhanced in the PSP.

- *It should allow for open classifications of a single file*. At a technical level, this entails gradually departing from relational databases, which are paradoxically not good at complex relations between data, or at least enriching a schema-based database with denormalized (thus non-relational) information, as PoéticaSonora programmer David Lum did. The relevance of this point will be explained in detail in Chapter 2.

The consequences of complying with these precepts are studied throughout this dissertation, but are especially relevant for the data modelling process and fieldwork activities reported in Chapters 2 and 3. As explained in Chapter 1, given that PoéticaSonora's repository is most likely to have a limited audience, mostly circumscribed to the specialized fields of arts and academy, any claim to knowledge democratization and social empowerment (Smith Rumsey, 2013) sounds feeble in the context of a developing nation such as Mexico. Technological development without a social strategy behind it is not enough for a wider shift to happen in the international distribution of knowledge. As this project requires participation from several different

stakeholders, among them state-run cultural and educational institutions, available resources for the repository must not only focus on the creation of the repository *per se*. They must also be used to approach potential users through divulgation campaigns "to expand the reach of humanities expertise not only on campus, but far beyond to the public and private sectors" (Smith Rumsey, 2013). This is largely addressed by the Dissemination Axis activities, which this dissertation is not focused on, but constant involvement of new participants is vital for the whole project to thrive in spite of temporary student participations.

Using DARs for academic purposes prompts questions about the technical implications of a sound-based approach to audio as an inscription medium. At first glance, we notice an increasing, self-imposed necessity to textualize the sensible world through audio and code, both based on rational-mathematical models (binary code and psychoacoustics, respectively). All of this happens in the midst of a growing interest in quantitative studies in the social sciences and humanities, which runs the risk of further reifying knowledge in these disciplines. Without a proper, honest political positioning on how knowledge circulation will be conceptualized and carried out, DH run the risk of reinforcing the "the mythic ideal of mathesis" (Drucker, 2009, p. 4) already on the rise in social sciences, particularly in fields like quantitative sociology. A decolonial approach to technology, however, prompts us to conceptualize digital tool limitations as sites of contestation themselves, facilitated through the conceptualization of relational techniques as creative enabling constraints (Manning & Massumi, 2014, p. 93).

Another implication rests upon the progressive atomization of music. Besides making music storage and transmission substantially easier and cheaper, the MP3 digital audio format facilitated alterations in the arrangement of individual songs and their reproduction order (López-Cano, 2018, p. 26). Music players such as Winamp, iTunes, and Windows Media Player, as well as playback devices like the iPod family or the Sony Ericsson Walkman smartphones, have made it possible to arrange songs by parameters such as name of artist, year, title, and genre. They also prompted the birth of playlists, specifically tailored to a user's mood or will, which have recently become popular again due to music streaming services such as Spotify, Deezer, or Tidal. All of these forms of selecting specific music for thematic or any other reasons are the basis for what in PoéticaSonora's data schema we call series or collections. If, from a media archaeology retrospective, playlists seem to be a skeuomorphic version of home tapes (also user-made, almost always for private use), MP3s change the game's rules because they can be part of many different

playlists, while a home tape is always the material crystallization of a particular recording session (even when it was from a local radio station). Thus, the atomization of music facilitated its redistribution, fostered by the pseudo-random combinatory logics behind the now pervasive shuffle playback mode (Meza, 2011, pp. 11-20).

The use of machine-aided listening and critical code studies methodologies to associate affinities between large amounts of sound works (larger than what one person could possibly consult in their whole life) is facilitated by digital tools such as database management systems. SQL-based relational database standards were the background on which the PSP was modelled, mostly based on metadata schema standards Dublin Core and MODS (DCMI, 2009; MODS, 2018). Despite all the areas of research that PoéticaSonora's broad research agenda entails, this dissertation is not about our findings while conducting fieldwork and archival research, neither about the data modelling workflow nor the use of machine-aided listening methodologies we have used to study literary works—although these topics are all part of the group's interests (González Aktories, Meza, Medina, & Villanueva, 2017; Medina & Jimeno, 2017; Caudillo, 2017; Cabrera, 2017; Cabrera, Jimeno, Medina, & Meza, 2019). It is rather about how the several theories and methodologies involved in this project have contributed to shaping and understanding Mexico's sound poetics scenes; while I describe this process, I will inevitably discuss the data schema we design to conceptualize it, and the 429-recording initial sample upon which the repository is based. It is for this reason that throughout Chapter 3 I follow the "*Frágil* cluster" case study so closely, a group of artists who have been editorialized in the initial sample and have been interviewed by PoéticaSonora. Such analyses will evidence how prototyping PoéticaSonora and discerning sound poetics in Mexico are intricately related activities, where the tool designed for the study of an "object" ends up determining its development and consolidation.

The existence of different recordings of a same sound work (be it a poem, a song, or a performance), as well as their integration to digital audio repositories has deepened the crisis of Umberto Eco's notion of "open work" to a new dimension in literary criticism. As Charles Bernstein said during his participation at the 2015 Poesía en Voz Alta festival, in conversation with González Aktories and María Andrea Giovine, audio's tendency towards version multiplicity made him think,

> not that you can find an ideal text, but that there is no original text—there's only an array of versions around a blank center. And if acoustic materiality of audio recording is to be taken seriously, then it actually messes up the idea that there's

> any single poem. There isn't a single poem, there are always lots of poems, there's always a conflict, and there's no way to fully realize it in its final state (Bernstein, 2015).

In a world where both the notions of author and text have died and been resurrected several times (Middleton, 1998, p. 268), Bernstein's "blank center" contributes to demystify textuality as the ultimate dimension of a creative process, as well as the almost Darwinian progression from oral to written cultures present in Ong's definition of orality (Sterne, 2011). The most recent example in Spanish of a multi-version approach to literary criticism is González Aktories' analysis on the textual and aural dimensions of authorship in Coral Bracho's signature poem "Agua de bordes lúbricos" [Water's Lubricious Edges], in which González Aktories claims,

> Mientras más pronto se desmitifique y relativice—como ya está ocurriendo en este *postliterate period*—la jerarquía que se da en literatura al texto escrito sobre otras ocurrencias o versiones del mismo como son las manifestaciones orales, se podrá en la academia empezar a leer el hecho literario bajo paradigmas más ricos (2019a, p. 286).
>
> [The sooner we demystify and relativize the hierarchy that is given in literature to the written text over other occurrences or versions of it such as oral performances—as it is already happening in this postliterate period—it will be possible in the academy to begin to read the literary fact under broader paradigms.]

Regardless of the implications for PoéticaSonora on version comparison that can be drawn from Bernstein's blank center, this perspective is still biased towards textuality, just as most current research on popular music and sound studies.[19] In his most recent book on Berlin's electronic dance music scene in the 2000s, Mark Butler states that "the term *text* is commonly used in contemporary literary theory and cultural studies to refer to anything that can be 'read'" (2014, p. 31). Butler adds quotes around *read*, acknowledging it as a metaphor for interpreting, consuming, or sensorially experiencing a cultural product, understood to be a "text" despite some of his examples fall far beyond the realm of written objects: "a film, a Madonna video, a poem, an Elvis impersonation […]. The value of this metaphorical extension is clear, for it allows theories of writing and performance to be extended beyond their original, canonical domains to many diverse forms of cultural expression" (Butler, 2014, p. 31). This prevalent "text-centrism"

[19] The situation is certainly different in English-speaking literary criticism, where there are plenty of approaches that are aware of the word's vocal/aural dimension (Allison, 2014; Camlot, 2019), of the importance of audio recording technologies and formats for oral performance analysis (McKenzie, 1999; Camlot, 2005; Camlot, 2017; Evans, 2012), and of the social and sonic conventions shaping the performance style known as "poet's voice" or "voice of the poet" (Rasula, 1997; Feaster, 2001; Bernstein, 2009b; MacArthur, 2016a).

has also been noticed in other fields, such as DH,[20] communication studies (Drucker, 2009; Ong, 1982; Sterne, 2011), and even the post-World War II modular paradigm of UNIX-derived operative systems (McPherson, 2012, pp. 150-151). Although audio recording and playback technologies have existed for over a century, and despite their potential as didactic materials, the study of sound in literary studies has also been affected by this bias. One key aspect of PoéticaSonora's approach is seeking not to favor text-centrism and focusing on inscription as a broader term that encompasses activities such as playing an instrument or a digital file, which do not necessarily bear the structuralist assumption that any cultural expression can or should be reduced to its textual dimension.

Despite such needed distancing, the project also faced the inevitability of having to recur to a certain level of textuality in order to contextualize sound, an issue discussed in Chapter 3. In a way, metadata is like "wrapping" text (in this case, source code) around a digital file, be it a sound recording, an image, video, or more text. In our case, however, literal (in the sense of verbal/written) textuality is not subordinating sound but complementing it. As the prime material of editorialization practices, metadata has the potential to become the missing link between literary studies and sound studies, function as didactic material or academic bibliography,[21] and give rise to new classification, dissemination, or creativity platforms. Enhancing literary studies through a bibliographic use of metadata turns critical code studies, ethnography, research-creation, and communication methodologies into just as indispensable tools for criticism as traditional close reading.

It may be useful to name some of the benefits that a focus on aurality and vocality would offer to literary criticism, so that we gradually step into more sound-specific realms of the word

[20] This situation is evident in most volumes of the *Debates in the Digital Humanities* series published by the University of Minnesota Press, with some sound-oriented exceptions found in *Making Things and Drawing Boundaries: Experiments in the Digital Humanities*, edited by Jentery Sayers (Burtch & Rosenthal, 2017; Hannigan, Meza, & Flamenco, 2017; Teboul, 2017). It has also persisted in Spanish speaking academia, as can be noted in two landmark publications for Latin American DH: the three volumes of *Humanidades digitales* (2018) published in Mexico by Bonilla Artigas Editores (one of which is precisely subtitled *Lengua, texto, patrimonio y datos* [*Language, Text, Heritage, and Data*]), and *Revista de humanidades digitales*. A vast majority of digital projects analyzed in this academic peer-reviewed journal's first four yearly issues (2017-2019) adhere to the Text Encoding Initiative (TEI) semantics and use text-oriented XML as their main markup language for classification purposes. As Tanya Clement states, TEI's guidelines for sound (specifically speech) transcription "cannot adequately represent rationales of audio-text that include the situationally contingent and time-based vocal gestures of poetry performance recording" (Clement, 2016b), let alone pieces of sound art, sound installations, or other sound works that are even less text-oriented.

[21] On metadata and markup languages as bibliographic genres, see *Always Already New*, particularly chapter 3 (Gitelman, 2006, pp. 89-121).

and the voice. One of the most immediate applications of sound poetics methodologies in literature is audio's capacity to capture otherwise ephemeral events and reproduce them afterwards. This makes "a *microtemporal* analysis possible […]. Waveforms can be read, compared, tagged and analyzed for a whole range of information (prosodic and otherwise) not possible with text" (Camlot & Wershler, 2015). As Wolfgang Ernst notes, audio recordings hide "a *mémoire involontaire* of past acoustic, not intended for tradition: a noisy memory, inaccessible to the alphabetic or other symbolic recording, added by the channel of transmission—the proverbial 'medium' in Claude Shannon's Theory of Communication" (Ernst, 2013, pp. 174-175). A topic that has received much attention in the fields of literary criticism and media archaeology is the study of "residual" sounds haphazardly captured in audio recordings (Bernstein, 2009a; Filreis, 2015; Camlot & Wershler, 2015; Mitchell, 2015). Features that once were considered irrelevant or anecdotic, such as the presence of an audience and its reactions to a performance, can be studied with the aid of signal processing analysis tools. For example, research group HiPSTAS at the University of Texas-Austin has developed and used the software program ARLO (Audio Recognition with Layered Optimization) to analyze mid- to large-scale samples of audio recordings and find patterns in them, in a couple of processes termed "machine-aided close listening" (Mustazza, 2018) and "distant listening" (Clement, 2013; Clement, 2016a).[22] Having access to tens of thousands of literary audio recordings stored in PennSound, the group has focused on different paratextual—or rather paraphonotextual (Filreis, 2015)—aspects of such recordings, not only the audience's laughter (Rettberg, 2015) or clapping (Clement & McLaughlin, 2015) but also previously unnoticed differences between different recordings of the same poem (Sherwood, 2015) and even identifying sounds previously considered "noise" that may help us trace the provenance of certain recordings (Mustazza, 2015). All of these topics would have been traditionally neglected by literary criticism, considered as peripheral problems surrounding texts, which were in turn the most "substantial" expression of

[22] Both concepts are a nod to Charles Bernstein's groundbreaking anthology *Close Listening* (1998) and to Franco Moretti's collection of essays *Distant Reading* (2013). While close listening is a reproduction at the aural level of the traditional notion of close reading, distant listening emphasizes the potential for studying large amounts of works with the aid of quantitative methods and tools—such as maps, graphs, and trees, which give its title to Moretti's first book on distant reading (2005)—in a way that would be impossible to do through close analysis (whether machine-aided or not). Albeit still legitimating the mythic ideal of mathesis bemoaned by Drucker, Moretti understands this approach radically changes the panorama of literary criticism and unsettles Harold Bloom's notion of canon as a selective pantheon: "Knowing two hundred novels is already difficult. *Twenty thousand*? How can we do it, what does 'knowledge' mean, in this new scenario?" (2013, p. 67).

art. Connections and affinities between repositories and digital tools are further reinforced within HiPSTAS, as members Chris Mustazza and Steve McLaughling have also been part of PennSound, one as associate director and the other as podcast director and senior editor.

Another team using recordings from PennSound and similar repositories is the one led by Marit MacArthur and Lee Miller at the University of California-Davis, who have contributed to the advancement of signal processing analysis for literary criticism through the development of Gentle and Drift (both of which are discussed in Chapter 2), used for measuring more than a dozen human voice prosodic values, such as "vocal pitch (the fundamental frequency, the vibration of the vocal cords, as measured in hertz)" (MacArthur, 2016b), average pause length and rate, rhythmic complexity of pauses, syllables, and phrases. Gentle-Drift can also generate a transcript and match it with the originating audio recording, or use a third-party transcription to do the same process. With the aid of these programs, MacArthur has identified a common performatic style in contemporary U.S. poets that she calls "monotonous enchantment," or "poet voice," characterized by "(1) the repetition of a falling cadence within a narrow range of pitch; (2) a flattened affect that suppresses idiosyncratic expression of subject matter in favor of a restrained, earnest tone; and (3) the subordination of conventional intonation patterns dictated by particular syntax, and of the poetic effects of line length and line breaks, to the prevailing cadence and slow, steady pace" (2016a, p. 44). There are evidently many different styles, some in clear conflict with others, and their degree of circulation across different artistic or literary scenes determines their position and that of their performers within them.

The study of these performatic styles is most promising for the field of sound poetics. It throws new light on how poetry studies are made and redirects the literary critic's interest not only to poetry reading series (Camlot & Wershler, 2015) but to any space or form where literary works have been performed and inscribed, such as recording studios (González Aktories, 2017a), radio broadcasting stations, or audiobook and streaming companies. In Mexico's case, it will be of great value to find out which characteristics have different regional and scene-specific literary reading styles, and the differences they show when compared with standard styles in English and other languages.

Even if ARLO and Gentle-Drift were not directly used by literature professors in class, research based on these tools can contribute to generate discussions about the importance of performatic styles for our understanding of literary phenomena, and help both them and their

students to critically address text- and Western-centric theories and perspectives. Aurally oriented literary criticism should contribute to palliating the most damaging effects of such perspectives without dismissing repetition as an important converging point between poetry and music (Leñero, 2006). In the specific case of poetry analysis, an aural approach would allow us to listen from a different perspective to sound-based rhetoric figures, traditionally difficult to teach and explain, such as anaphora or epistrophe (MacArthur, 2016a, p. 56), or to structures with recognizable aural functions in both poems and songs such as refrains and catch words, even specific sound techniques (syncopation) and performance styles (recitation and song). Although PoéticaSonora has so far not engaged in the use of such digital tools (in part because they are still largely intended for English-language recordings), we observe similar tendencies in Mexican poetry, and expect to make some select close listening analyses before endeavoring more formally into machine-aided and distant listening (although this dissertation is greatly inspired by both methodologies). PoéticaSonora's insistence on keeping a balance between standardization and innovation has also been largely due to the intention of using these tools in the future for the analysis of thousands of recordings we expect to store in the Beta version.

Despite these considerations, we strongly consider that sound poetics analysis cannot be but heuristic. The best way to utilize digital audio archives for literary criticism is an open question without a definitive answer, and any attempt to classify them (databases, compilations) is merely inductive. This may not be so clear at a first glance, partly due to the aforementioned allure of the quantitative in DH, but most social sciences and humanities researchers are highly inductive in their methods when they use digital tools of any kind, either for administrative, educational, preservation, or creative purposes.[23] Despite their claims for neutrality and omniscience, machine-aided and distant listening do not presently contribute to studying the totality of a literary corpus, but rather the existing items registered in a given preservation or dissemination cataloguing system. Even if such systems are PennSound or UbuWeb, questions of availability and selection (critical in a country like Mexico, where audio recordings are not always found on the racks and shelves that cultural institutions were supposed to preserve) still motivate PoéticaSonora's projections for future fieldwork and archival activities. Thus, while there is a change of attitude in the methodological approach to the traditional notion of literary

[23] Cf. MacArthur, "vocal analysis tools using machine learning may serve as a corrective to unspoken assumptions about the vocal performance styles of individual poets, politicians, religious figures, radio and television commentators, and comedians, among others" (2016b).

canon (encompassing rather than restricting the largest possible amount of works for analysis), the analytical process itself is still largely selective. Even in programs that allow for distant listening analysis, such as ARLO and Gentle-Drift, it is a researcher who at the end of the workflow selects those pieces of information that better suit their argument in order to discuss them in a peer-reviewed article, a chapter, or a book. This observation is not an attack to subjectivity, but rather a warning against totalistic claims for objectivity through quantification in the DH. We must not forget that the drive toward the digital management of knowledge produced in the social sciences and humanities is largely due to a growing hegemony of R&D (research and development) practices across Global North universities (Vinck & Camus, 2019; Nowviskie, 2013) and to the decrease in funding opportunities to projects not including a digital component as a fundamental element by North American federal and regional organizations, such as the National Endowment for the Humanities in the United States, the Social Sciences and Humanities Research Council in Canada, or the Fonds de Recherche du Québec-Société et Culture. One of the greatest risks of utilizing digital tools for literary analysis is to uncritically participate in the integration of social sciences and humanities into neoliberal plans for the privatization of public education. Rather, their use should help us question the logical limits of quantitative studies and to redeem ambiguity and ambivalence as key creative factors for humanistic research (Drucker, 2009).

Behind every object, every relationship in the database, before every decision taken during the data modelling phase, there were multiple debates and theoretical discussions, out of which we have constantly reconsidered, refined, and enriched our own perspectives and objectives within the project. In a way this was, to borrow the title of a Placebo song, like "sleeping with ghosts," where spectral presences take the form of concepts in which we may not believe anymore but for which we still do not have new names.[24] Ochoa Gautier's study on aurality's crucial role for the epistemological assimilation of the Americas into nineteenth-century central European thought, for example, dismisses notions deeply rooted in Western musicology, such as work concept, genre, popular song, and oral literature as European

[24] For another take on the perceived spectrality of audio recording technologies (particularly from the electrical, magnetic, and digital eras), see *Haunted Media: Electronic Presence from Telegraphy to Television* (Sconce, 2000). As Jason Camlot argues, the notions of disembodiment and teleportation that Sconce associates with electronic fictions "figure in acoustic-era recordings as well, and even more so when those recordings are delivered (often via digital media players) through loudspeakers that transduce electrical signals into sound waves" (2019, p. 1).

conceptions of music making, language, and literature that do not necessarily correspond to the acoustemology of what is now known as Latin America (Ochoa Gautier, 2014). We still use the work concept and genre, both in the PSP and in this dissertation, even though during the process we dissolved them into wider categories so they may fit different, sometimes antagonistic art practices. It is clear that electronic or electroacoustic musicians, for instance, do not conceive notions like work and composition in the same way as a writer does, or a spoken word artist. Genre went from having a customized controlled vocabulary to being an optional value of element "Temas." As for classifying voice inflection, we have considered different strategies to represent the distinction between melismatic and meaning-oriented vocal practices, either considering the voice as an instrument, or creating a classification of its own. The point in both cases was to describe a resource without falling into stereotypes, as well as the many ways in which human voice is employed in the compositions that conform the PSP initial sample.

This dissertation is the written expression of efforts made at different levels of interpretation and performance during the prototyping process. Each chapter has therefore its own methodological framework, from archival research and participant observation in Chapter 1, going through critical code studies and ethnographic in-depth interviewing in Chapter 2, down to interviewing, instrument log, and field note-taking in Chapter 3. Together they are proof of the importance of having enough time and resources to test and replace ideas and assumptions around a digital project before its implementation. We know that this "idle time" is almost impossible to find outside the pleasant bubble of academy, but it confirms the necessity for prototyping in the production of knowledge, even in the digital industry and the humanities.

Chapter 1 considers the material conditions of digital infrastructure in Mexico in order to set up a fieldwork and archival research methodology that aspires to take a decolonial stance. The objective was to maintain a vertical discussion with literature and knowledge produced around English-speaking digital audio repositories, such as PennSound or SpokenWeb. The topics of knowledge democratization, standard compliance, and path dependence are discussed in the context of an international and interinstitutional research project with important repercussions for the development of sound poetics both as an analytical concept and as a creative art scene in Mexico. I conclude this chapter by considering metadata as an emerging digital bibliographic genre (Gitelman, 2006) that is in the process of integration into Western academic milieus.

Perhaps the passages of the most technical nature in this study are found in Chapter 2,

focused on the design, deployment, refactoring, and redeployment of the PSP from September 2016 until December 2019. The primary sources for Sections 2.2.1 to 2.2.5 and their subsequent discussion are largely based on the data schema and the project's GitHub documentation, as well as on an interview with research assistant David Lum, who is also the only Canadian who has participated in the project so far, chosen through an open call for participation (see Annex C). The quest for a balance between social justice and a friendly working environment is addressed in this chapter's introduction, while in the last section I question the depiction of research assistants in DH projects as "interfaces" between machines and scholars (yet another misleading metaphor, like "archive" or "database") and propose to see them rather as project collaborators, with all the implications of working independence and creativity this term entails.

The case study that fuels Chapter 3, the *Frágil* album (2015), was one of the first recordings to be included in the PSP's initial data sample. By editorializing this collection, and thus contextualizing it to the repository's intended target audience (mainly artists, writers, critics, and liberal arts students), the PSP contributed to shaping their collective actions as a "collaborative network." This concept, drawing strongly on actor-network theory, surpasses the constraining notion of "group" that an ascription-oriented perspective on collectivity proposes. Other donations to the PSP data sample by Edmeé García and Rojo Córdova contributed to identify the way some artists that were not part of *Frágil* were marked by this project, Victoria Cuacuas being the most illustrative case given how her loop and vocalization experiments are influenced by a project that constantly avoided being defined as a music band or a collective. Sections 3.4.1 to 3.4.3 focus on some solo works by three artists (García, Cuacuas, and Leika Mochán) to see how traces left by *Frágil* evolved towards different paths according to their creative interests and current projects. This extended network that I call "the *Frágil* cluster" is an illustrative case of a multidisciplinary creative project currently stored in the PSP, utterly questioning any stiff notion of vocality, collectivity, instrumentality, and creative composition that we may find in art and literature.

Beyond the sociocultural circumstances that gave way to these case studies, this is an example of how artists operate at the intersection of two or more creative disciplines (such as music and writing), but also how their recognizable "products" (that is, the documental resources stored in the repository) become comparable parameters by being named, or marked. The relevant question for literary analysis is whether a naïve listening would equally yield such

parameters and up to which point they posit questionings and challenges for art and literary criticism. In the end, such discussions are inevitably necessary: there is a high degree of risk and empiricism in each of these stakes, but there is also a will of developing new "modes of listening" (echoing the title of *Modos de Oír*, a joint exposition and online repository presented by Ex-Teresa and LAA in 2018-2019*)*. Due to its focus on aurality and vocality, and to its potential to enhance already existing research on the collective dimension of art and literature, Chapter 3 is an example of how to engage in new forms of literary criticism through the use of digital tools such as the PSP for creative and analytic purposes.

In order to emphasize the speculative nature of this dissertation, as well as of the research sustaining it, two interchapters are included which operate as conceptual and stylistic bridges from one chapter to another, connecting and separating them at the same time. Interchapter 1 deals with the "death" of the main audio format used for the PSP, the ubiquitous MP3, and of the consequences of this situation for the project. It draws on some notions initially discussed in Chapter 1, mainly standard compliance and path dependence, and prepares the reader for a more technical discussion on the prototyping process in Chapter 2, particularly the reasons why it is a dissemination repository instead of a preservation one. Interchapter 2 is both a reflection on and a review of Danish artist Winnie Soon's software art work *Vocable Code*. It contributes to transition from discussions full of programming jargon back to a writing style that is more familiar for literary critics and writers. At the same time, it takes up the notion of repetition, discussed several times throughout this dissertation, linking it to the creative technique of sample-looping, fundamental for Chapter 3 in the form of the digital loop and delay stations that the *Frágil* cluster uses to modify and enhance the sonic affordances of their voices.

As independent yet interrelated pieces of writing, interchapters became a useful tool to emphasize the interdisciplinary nature of this research project. They operate as spaces where discursive shifts are negotiated in practice (i.e., at the moment of research and writing), transitioning either from theoretical to technical-infrastructural issues (Interchapter 1) or from digital to critical analysis (Interchapter 2). These negotiations are a crystalized version of the "pacts" that interdisciplinary researchers must establish between different interlocutors and stakeholders, whose points of view may be conflicting at times. They also try to reach conciliatory conclusions about the consequences of technological obsolescence for the project

and the possibilities for critical analysis involving not just the repository's content but its very structure as well.

This study is not about what the repository will eventually become, nor what the prototype was at the end. It is rather about the speculations needed to carry out such prototyping, and the correlation between fieldwork, archival research and theory modelling for sustaining not just this repository, but any kind of digital project in the humanities. Some of these speculations involved familiarity with debates and discussions in other fields beyond my area of expertise, in order to deal with interrelated issues at a theoretical, methodological, and technical level. While drawing from a wide range of disciplines and area studies, this dissertation is particularly relevant for the cultural heritage sector, which in English-speaking scholarly associations has been clumped together under the name of galleries, libraries, archives, and museums (GLAM). Despite its glittery acronym, GLAM literature is usually written in a highly technical tone, which may be considered boring by newcomers—and as we will see in Chapter 2, metaphors in the digital world are never gratuitous. It represents my personal contribution to this sector without necessarily engaging in the technical aspects of digital cataloguing for the preservation of cultural heritage usually found in it (González Aktories & Meza, n.d.). It seeks to prove how writing about prototyping for the sake of prototyping itself, whether in the humanities or elsewhere, can actually be pleasant to read (and write as well). It shows that highly technical problems have always a human side, with its flaws and all, which must be taken into consideration into the workflow.

Chapter 1
Tracing voices from South to North

1.1 Decolonizing international research practices in the Digital Humanities

During the last few decades, Digital Humanities (DH) projects have become a viable strategy to secure much needed funding for research in arts and humanities, in a moment when important bastions of scholarly life, such as tenure or disciplinarity, are being radically altered due to the advance of neoliberal policies in the world.[25] Despite being offered as a paradigm shift in the current intellectual discursive regime (Quamen, 2012, p. 8), until very recently DH have been mostly practiced in North American and European academia, rather than in the Southern Hemisphere, contradicting any claim of universality based on the idea that the reach of networked digital technology is global. Quite often, projects about a place, aspect or culture in what is known as the Global South are developed by a university or cultural institution from the Global North. These projects explicitly evidence the infrastructural differences among various regions in the world, as they risk deepening existing gaps between developing and developed countries, reflecting at the same time the current "geopolitics of knowledge" (Miskolci, 2014), that is, the tacit distinction between knowledge generated by the Global North and South. It seems as if information and cultural products from non-Western nations and communities acquire value only when a Western or Westernized university, and mostly its money, takes part in a project that makes them visible.

This chapter reflects on what it means to prototype a DH project as a collaboration between researchers from a developing country and a developed one, Mexico and Canada, offering some lessons about international collaborative research to DH practitioners, particularly

[25] Authors interested in DH from both the Global North and South, such as Johanna Drucker and María Gimena del Rio Riande, acknowledge the *Index Thomisticus* (Father Roberto Busa's collaboration with IBM in 1949, later renamed *Corpus Thomisticum*) as the first project that paved the way for the development of the fields of humanities computing and what is now known as DH (Drucker, 2009, p. 8; Del Rio Riande, 2019, pp. 4-5). However, as Del Rio Riande and Jesús Pascual Molina state, there are clear differences between Digital Humanities in English and *Humanidades Digitales* in Spanish: "En los últimos años, el desarrollo de las denominadas Humanidades Digitales ha experimentado un considerable aumento en los países de habla hispana, tanto en su aspecto práctico como en lo referido a su conformación como episteme y currículum universitario y de investigación. Su emergencia no ha logrado, sin embargo, acuñar una definición homogénea y clara del concepto, fenómeno que comparte con las anglófonas Digital Humanities [In recent years, the development of the so-called Humanidades Digitales has experienced a considerable increase in Spanish-speaking countries, both in its practical aspect and in terms of its development as an epistemics and university research curriculum. Its emergence has not, however, managed to formulate a homogeneous and clear definition of the concept, a phenomenon it shares with the English-speaking Digital Humanities]" (Del Rio Riande & Pascual Molina, 2019, p. 9).

in English-speaking academia. As a case study, it considers PoéticaSonora, a research group formed by students and faculty members from Universidad Nacional Autónoma de México (or UNAM) in Mexico City and Concordia University in Montreal, in order to develop a digital audio repository for Latin American sound art and sound poetry. Its main objective is to operate as "an articulating node among the many Mexican initiatives [...] that put an emphasis on the study, production, cataloguing, or distribution of practices related to the voice, as employed in poetic and sound creative works" (PoéticaSonora, 2016b). Among the many debates in DH to which PoéticaSonora's experience can contribute, this section focuses on the correlation between access and participation through the use of information and communication technologies (ICT), a phenomenon referred to as "knowledge democratization." It then outlines PoéticaSonora's theoretical, ethical, and political positioning, as well as the methodological process carried out by this international and inter-institutional research group.

1.1.1 PoéticaSonora: the project

Several Mexican venues and institutions, either state-run or private, have been responsible for facilitating the performance or distribution of what in PoéticaSonora has been referred to as "sound poetics" (González Aktories, 2019c). In Mexico City, their dissemination has mostly been done through festivals, museums, and cultural institutions, among them Casa del Lago, Ex-Teresa Arte Actual, Carrillo Gil Art Museum, and Laboratorio Arte Alameda (most of which already participate or are in the process of collaborating with PoéticaSonora). However, the audio material they have managed to preserve is atomized into several different archives and documentation centers, sometimes inaccessible to the average user, rendering their study difficult. The intention of making them discoverable is tightly bound to the very need for disseminating them: these recordings need a means of accessibility or they will disappear from Mexico's cultural memory once their formats are irretrievably obsolete.

PoéticaSonora wishes to contribute to inaugurating, activating, or revisiting certain audio materials that have remained inert for too long, running the risk to be lost. We seek to respond to that need by providing access to a database management system and a front-end providing specialized search and analysis tools, as well as every recording's descriptive metadata using a schema based on Dublin Core and MODS. Given that UNAM's main campus is located in Mexico City, along with most of the PoéticaSonora team, the prototype's initial sample of 429

audio files mostly comes from institutions and collectors in this city. We seek to alleviate this centralist bias, troubling in a country where most federal institutions are still located in the national capital, through the ongoing participation of invited curators and provincial institutions in the project, like UNAM's Morelia campus. In the future, the Beta version is expected to gather collections from other regions in Mexico, as well as other countries in Latin America.[26]

Contributor	Collection name	Event type
Fonoteca Nacional/Radio Educación	Poetas en abril 2003	Radio show
Laboratorio Arte Alameda	(Ready) Media	Audio collection
Centro de Cultura Digital	RojoeSlams 2015	Poetry slam series
UNAM/Eduardo Ortiz	Voz Viva de México	Audio collection
Rojo Córdova	eSLAMex vol. 1	Album
Edmeé García, *a.k.a.* "Diosa Loca"	Frágil	Album
Los Kikín Fonsecas y el Gringo Castro	Tour Negativo *and others*	Concert
Salvajes de Ciudad AKA	La tierra prometida	Concert
César Cortés Vega	Piezas sueltas	Audio collection
Manuel Rocha Iturbide	A través, otra vez	Album
Rocío Cerón	Urbe Probeta *and* Personae	Albums

Table 1.1 Some of the institutions, artists, and private collectors who contributed to the prototype's initial sample of 429 audio files. The students who did fieldwork, archived, and/or editorialized these recordings were Juan Jimeno, Andrea Cabrera, Sara Villanueva, Alonzo Caudillo, Jorge Pacheco, Ivonne Pineda, and Juan Carlos Ponce, coordinated by Ana Cecilia Medina and Miriam Torres, and supervised by Aurelio Meza and Susana González Aktories. See Annex A for a complete list of PoéticaSonora participants per year. All of these collections are available in the PSP temporary site, https://poeticasonora.me.

[26] Another work in progress is the federation of related repositorial projects focused on sound and materiality. This is manifest in the will to bind together different Mexican initiatives for sound work preservation and/or dissemination, such as the aforementioned *Modos de Oír*, the meta-repositorial project launched by UNAM-Morelia's Laboratorio Nacional de Materiales Orales, and Perla Olivia Reséndiz's conferences and seminars at UNAM-Mexico City's Instituto de Investigaciones Bibliotecológicas y de la Información, just to mention the ones that are already in contact with PoéticaSonora.

The PoéticaSonora prototype (hereafter PSP; see https://poeticasonora.me/inicio) aims to disseminate Mexico's art and literary audio heritage (see Introduction) that has been recorded and produced since 1960, the year when Voz Viva de México, the first literary audio collection in the country, was founded as part of a preservation campaign by Max Aub at UNAM (González Aktories, 2017a).

The PSP also helps conceptualize listening or aurality as a form of legibility, providing methodological and pedagogical tools to analyze sound recordings. Pieces included in the initial sample have been commonly classified under different categories, genres, and practices combining sound and word, such as literary audio, sound poetry, sound art, hip hop, and spoken word. The span of event types documented ranges from poetry readings—which have received much recent attention in English speaking countries (Camlot, 2012; Clement & McLaughlin, 2015; Mustazza, 2018; MacArthur, 2016a)—to poetry slams and performances where voice poetics play an essential role in the creative process (Table 1.1). In the context of this project, "sound poetics" does not solely refer to the human voice but to any imaginable way to convene an authorial and aural presence through the use of new and old technologies—including "real" voices modified and spectralized through digital or analog media, as well as the "voices" of machines themselves (Doyle, 2005, pp. 137-139; Dolar, 2006, p. 13; Rivas, 2015, p. 63; González Aktories, 2019a; González Aktories, 2019c).

Invited curator	Series title	Student name
Bárbara Lázara	*Seamos voz* [Sound art and vocal experimentation]	Muriel Herrera
Suzanna Molina, *a.k.a.* "Obelia Preta"	*Vivas nos queremos* [Women, hip-hop, and spoken word in the US-Mexico border]	Adriana Dávila
Cynthia Franco	*Mujeres en su lengua* [Women writers in Mexico City's poetry slam scene]	Isabel Alcántara Carbajal
Erika López	*El radioarte y el arte sonoro: hacia una experiencia estética* [Radio art and sound art in Mexico]	Jorge Pacheco & Ivonne Pineda

Table 1.2 Confirmed invited curators as of December 2019 and students in charge of each project. All these series are currently in the process of being editorialized and ingested into the PSP.

The PSP inner workflow is focused on strengthening the reading and writing abilities of participating undergraduate students by applying their knowledge on art and literary criticism to the process of *editorializing* sound recordings, that is, contextualizing or updating such recordings' referential networks during its remediation and subsequent integration to digital media via web sites, or databases. The task of editorialization seeks to reduce what Bruno Bachimont calls the "fossé d'intelligibilité [intelligibility gap]" caused by the temporal and epistemic distance (or "commensurability plan") between the audiovisual document's space-time axis and the current one (Bachimont, 2017; Treleani & Mussou, 2012, pp. 5-6; Treleani, 2014, pp. 33-47, 92-93; Leyoudec, 2015). At an organizational level, PoéticaSonora gives priority to this term over curating because the latter implies aesthetic or any other selective criteria aimed at limiting the number of chosen pieces—a typical strategy in canon formation.[27] It must be noted, however, that we have also commissioned external curators with experience in certain scenes or disciplines to conceive special collections. The common objective for PoéticaSonora students is not to discriminate between different works, but rather to provide as much contextual information and access to as many audio files as possible. The dangers of self-reference and saturation are mitigated by our invited curators' selecting the works, genres, and trends they consider important; one or two students assist each curator, a specialist in her own field, throughout the editorialization process (Table 1.2). We thus expect to offer complementary, even conflicting perspectives about what is worth preserving and disseminating from the current scenes of sound art and literary audio. The emergence of new ways of calling these scenes, along with all their possible conflicts and points of convergence, is what manages to be glimpsed when all these voices and perspectives are tallied up. These contacts and even frictions activate thoughts and ideas that we consider relevant to contemporary academic discussions on sound, art, and society,

[27] Opposing criticism to editorialization is a deceptive move, given that the former can actually distill into the latter, and vice versa. Rather, the opposite of editorializing is curating a selective anthology (instead of a potentially boundless compilation) of a given literary corpus. As a theoretical-methodological framework for the recontextualization of documents in a digital environment, the notion of editorialization strongly resonates with that of the "sociology of the text" in English speaking literary criticism (McGann, 1983; McKenzie, 1999; Middleton, 2005a; Camlot, 2019). However, the latter perspective struggles to integrate the ethical and political (not just sociohistorical) aspect of performance into the "rationale of audio-text" (Clement, 2016b), even if Middleton does write about this dimension being embodied the author's body while speaking (1998, pp. 266-267). I prefer the term editorialization because it more readily allows assessing tested protocols and best practices for interpreting a document and "translating" it to digital standards. For case studies on methodologies for the ethical editorialization of audiovisual documents, see Treleani & Mussou, 2012; Leyoudec, 2015.

as they are stimulating to think about not in isolation but through dialogue, plurality, and discursive negotiations.

1.1.2 Access and participation: cognitive extractivism

This section focuses on a topic from the perspective of a digital project built from south to north, which can greatly benefit ongoing DH debates. It is assumed that one key advantage of DH, not only for academic communities but society in general, is the promise of a free source of knowledge, readily available online regardless of the user's academic degree, profession, or education level. It is an idea shared by several authors, which could be conceptualized as the premise of knowledge democratization. Abby Smith Rumsey, for example, says a main leverage of what she calls translational humanities "is to expand the reach of humanities expertise not only on campus, but far beyond to the public and private sectors" (2013). For Andrea Hunter, DH practitioners are part of an academic community in the process of committing to higher levels of social engagement: "By focusing on access and participation as central tenets of their work, it frees digital humanists from any critiques of technological determinism, and positions digital humanists within a larger community of social scientists, scientists, journalists and public intellectuals who are seeking to make their professions more inclusive" (2015, p. 421). Similar claims have been posited from the field of Open Access (OA), where the focus is on reducing restrictions to access knowledge shared under OA licenses. For Peter Suber, "shifting from ink on paper to digital text suddenly allows us to make perfect copies of our work. Shifting from isolated computers to a globe-spanning network of connected computers suddenly allows us to share perfect copies of our work with a worldwide audience at essentially no cost" (2012, p. 1).

The problem with these arguments is that they take for granted that ICT access is universal.[28] As a Latin American country such as Mexico can show, this assumption must be thoroughly reconsidered. ICT penetration in Mexico has grown considerably in the last few years, but it is still far from reaching the entire population. According to annual surveys conducted by federal statistics bureau Instituto Nacional de Estadística y Geografía (INEGI), while the

[28] This does not mean, of course, that there are no DH projects being done that recognize this divide. Examples of this awareness are Global Outlook::Digital Humanities, a special interest group from the Alliance of Digital Humanities Organizations (ADHO) whose purpose is precisely to tackle connectivity gap problems among DH practitioners across the world. Another is #UnitedFronteras, that seeks to palliate the symbolic effects of geopolitical borders on local communities by offering them a map and database of cultural projects with a digital component in their regions, initially taking the US-Mexico border as a case study.

percentage of households in Mexico with internet connection has consistently risen during the last two decades (INEGI, 2014, p. 2; INEGI, 2015-2018), computer usage and ownership have remained below half of the nation's total household proportion (Fig. 1.1). Despite a relatively stable increase in absolute terms of the use of these technologies, it is still very low if compared to Global North countries. For example, the average percentage for ICT usage at households in other OECD countries was 71.6% in 2011 alone (INEGI, 2014, pp. 12-15).

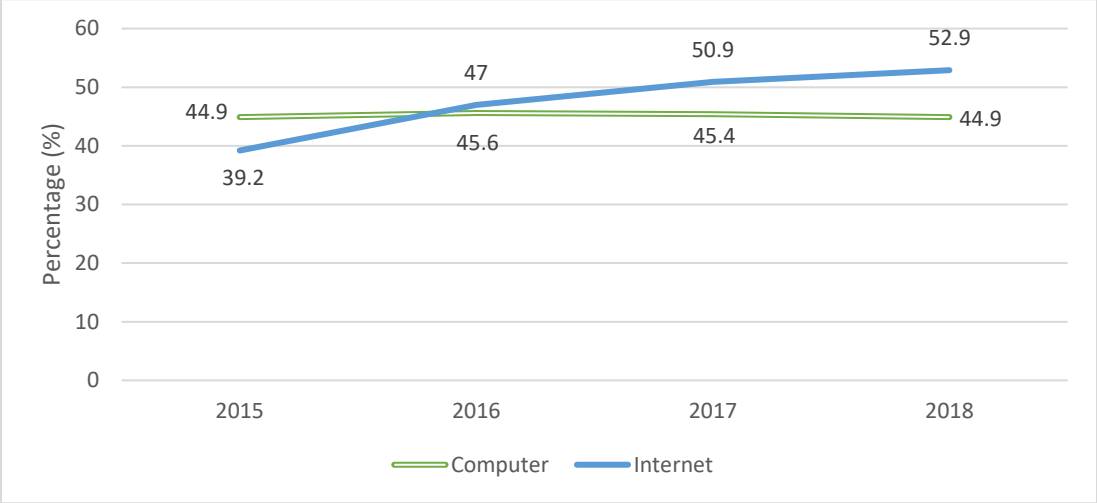

Figure 1.1 Percentage of Mexican households with computer and internet access, 2015-2018. Source: created by Aurelio Meza using data from *Encuesta sobre disponibilidad y uso de tecnologías de la información en los hogares* (INEGI, 2015-2018).

It is important to remember that the place where a technology is utilized also determines the user's interaction with it. It is not the same to access internet at home as to use a borrowed or rented computer. Evoking Golding and Murdock's discussion about access hierarchies, Hunter writes, "access to the Internet through a library is a very different, less privileged form of access than a connection at home or at work" (2015, p. 418). INEGI's surveys show that internet access in Mexico has strongly diversified during the last four years, as the percentage of computer usage fluctuates around half of Mexico's households, yet internet usage is considerably on the rise (Fig. 1.2). This is not only due to the introduction of other technologies, such as tablets and videogame consoles. Even though the proportion of users who access the internet in public places has dropped from 29.1% in 2015 to 13.4% in 2018 (INEGI, 2015-2018), it is still quite common to find so-called *cafés internet* (even when, ironically, coffee is not always sold there), private venues meant for renting computers, telephone lines, and videogame consoles at fixed rates.

These businesses continue to thrive in a country where public libraries, unlike their North American counterparts, are not important internet providers for local communities.

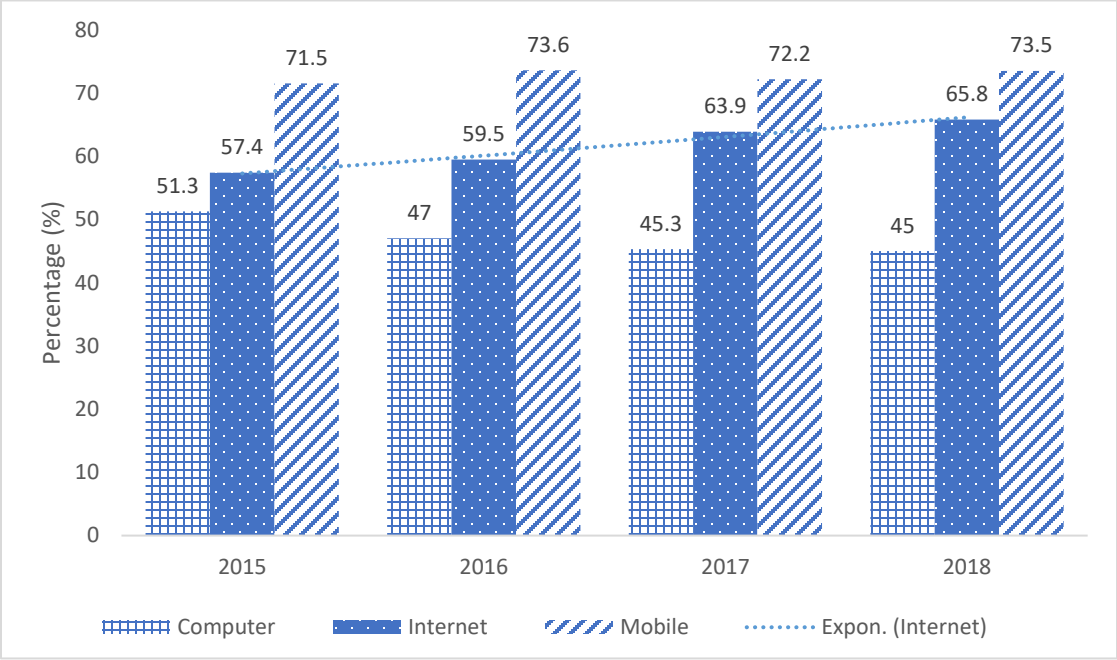

Figure 1.2 Percentage of computer, internet, and mobile users in Mexico six years of age or older, 2015-2018. Even though the absolute values for all three technologies have increased during this period, notice how the proportion of computers decreases while that of mobiles fluctuates, even if internet usage steadily rises. This suggests a diversification in the use of devices for internet access, such as tablets or videogame consoles, not illustrated in this graphic but considered by the INEGI surveys. Source: created by Aurelio Meza using data from *Encuesta sobre disponibilidad y uso de tecnologías de la información en los hogares* (INEGI, 2015-2018).

Among these varied access differences, the computer literacy needed to make use of any digital tool is not a condition given by technology *per se*, but a social process based on previous knowledge and socioeconomic privileges enabling or hindering learning conditions. The fact that access to a website, an OA article, or a digital repository seems free is due to the display of infrastructure, platforms, and standards for file storage and transmission. As Jonathan Sterne reminds us, "An MP3 costs almost nothing to make and reproduce—once someone has invested in a computer, software, a relatively reliable supply of electricity, and some kind of internet connection (because of these costs, we cannot say that it is truly free even when it is not directly purchased)" (2012, p. 26).

Even after having the necessary infrastructure spread around a country, nothing assures that ready internet access correlates with a direct increase in the social impact and reach of digital

tools (Galperín & Viecens, 2016, pp. 38-39). For example, one of the programmers of Omeka, a content management system developed by the Roy Rosenzweig Center for History and New Media at George Mason University (widely used for creating and developing cultural heritage digital collections),

> disagreed that simply making information and primary sources available, or enabling more people to create historical records is democratizing. Instead, this person argued that what was necessary for democracy is a group of people rallying around information, using it for political or social means. Democracy is active, rather than passive, and requires the formation of community (Hunter, 2015, p. 416).

Another Omeka developer claimed that "any agency they [DH tools and resources] afford is done within a safe, uncontested medium that does not challenge power structures in a substantive way" (Hunter, 2015, p. 417). Thus, for a DH project to be relevant, even if only within a limited field or area of study, it must also address questions that are central to its discipline or study area, and that may begin to be answered through the use of tools provided by such a project.

The discourse of knowledge democratization conceals material conditions deeply rooted in ICT and their differentiated access by gender, race, and social class. Learning to use a digital product or service (and, even less frequently, learning something relevant about a topic or subject through it) implies having adequate material possibilities, enough "social time" (Valenzuela Arce, 2009, p. 21) and knowledge for making use of them, even if content is only temporarily accessed, as in internet being rented by the hour, a much more common transaction in the Global South than in the North. As Google's "one-click democracy" case shows—which, according to Barbara Cassin (2018) is neither a democracy nor is it just actually click-based—labeling an algorithm or a programming function as democratic is dangerous given that, just as any cultural production, it has its own implicit and explicit ideological, political, and even aesthetic biases. [29]

[29] Many computer scientists grapple with the idea that algorithms are cultural productions just as (both human and computer) language, even if they all operate in different temporalities and sometimes have incompatible forms of evolution. Defined by *Collins Concise* as "a logical arithmetical or computational procedure that, if correctly applied, ensures the solution of a problem," algorithms are the backbone of computer science, largely dedicated to studying, analyzing, improving, and implementing them. While I will not argue about their perceived naturalness, a quest that I leave to science philosophers, I wish to draw attention to Safiya Umoja Noble's explanation to this perception taking Google as a case study: "Rendering web content (pages) findable via search engines is an expressly social, economic, and human project, which several scholars have detailed. These renderings are delivered to users through a set of steps (algorithms) implemented by programming code and then naturalized as 'objective.' One of the reasons this is seen as a neutral process is because algorithmic, scientific, and mathematical solutions are evaluated through procedural and mechanistic practices" (Noble, 2018, p. 37). As she explains regarding Google's polemic search results for the word "Jew," computer scientists and programmers (and by extension their bosses) tend to attribute

Given the degree of ICT penetration in Mexico nowadays, who may PoéticaSonora actually serve at all? It is vital to be clear and honest towards the community a DH project seeks to benefit, as well as to implement effective dissemination and follow-up strategies. Clearly, even though users from outside an academic milieu are greatly welcomed, based on our fieldwork experience it appears that most PoéticaSonora users will be writers, artists, critics, professors, and liberal arts students. The prototype had to be functional enough for them to access it from practically any computer connected to the internet, without the need to install any additional program or plugin. We have often taken care not to widen connectivity gaps among different user sectors in Mexico. One of the main pitfalls of knowledge democratization is neglecting the existing inequalities between developing and developed nations, and between poor and rich citizens within them. Thinking a project is available for everyone just because it is online runs the risk of inadvertently privileging a certain user sector—those with more digital literacy, social and economic capital. It can also potentially affect the area or region studied, either directly or indirectly, as infrastructure differences sometimes open some "areas of opportunity," in the crassest capitalistic sense (say, cheaper labor force or raw materials, less strict employment regulations), that can be exploited, inadvertently or not, even within scholarly projects.

Lisa Nakamura's study on the essentialization of Navajo women as naturally gifted chip manufacturers in the 1960s and 1970s (2014, p. 919) is a great example of how flexible labor, either local or outsourced, is exploited in digital culture.[30] She also offers fruitful connections between U.S. gender studies in technology and the early history of *maquilas*, or assembling factories, in Mexico and other developing countries (Iglesias Prieto, 1997; Lugo, 2008). Drawing from Tiziana Terranova and Donna Haraway, Nakamura emphasizes that "really looking at digital

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algorithms an agency that they are purportedly unable to confront and modify, placing the responsibility for undesired search results out of their hands and on the algorithm, sometimes on their users themselves (Noble, 2018, p. 44). But even if algorithms were independent from any kind of language (and therefore part of the factual world, as any other natural resource), both the input they receive and the output they produce do have a human bias. In order for a computer to solve a problem implementing an algorithm, input data must be coded in a certain way, and such code is almost certainly already biased by the same cultural factors bemoaning other semiotic units (such as texts, maps, or utterances). For this reason, *how* data is coded and *what* is done with the resulting information is vital for understanding the agency of algorithms in our societies. For an example of why this is important for both critical analysis and the DH, see Roopika Risam's critique to LaMem (Large-Scale Image Memorability), an artificial intelligence software developed at MIT addressing a "universal subject" without considering the material and political economies involved in its conceptualization (Risam, 2018b, pp. 44-46).

[30] For a Global North perpective on the academic flexible labor market and the institutionalization of evolving digital projects (in this case, the Women Writers Project) through their intergration to research libraries and ICT centers, see "Time, Labor, and 'Alternate Careers' in Digital Humanities Knowledge Work" (Flanders, 2012).

media, not only seeing its images but seeing into it, into the histories of its platforms, both machinic and human, is absolutely necessary for us to understand how digital labor is configured today" (2014, p. 920). These dynamics are also present in scholarly life, as when a Global North institution or university funds research on Global South topics or materials, while most of the project is developed from the institution's, rather than the subject's, perspective. Under this "*maquila*-like" model, knowledge stemming from Global South communities is treated as raw material that must be turned into a suitable commodity (via articles, book chapters, and digital projects) for an academic market in which, according to Bolivian theorist Silvia Rivera Cusicanqui, "ideas run, like rivers, from the south to the north and are transformed into tributaries in major waves of thought. But just as in the global market for material goods, ideas leave the country converted into raw material, which become regurgitated and jumbled in the final product. Thus, a canon is formed for a new field of social scientific discourse, postcolonial thinking" (2012, p. 104).

In the context of PoéticaSonora's workflow, where faculty members and students from Mexican and Canadian universities interact, how do we avoid practices that reinforce cognitive extractivism, understood as the inequitable circulation of knowledge produced in different geopolitical regions of the world? This question has made us consider not just end-users within the workflow, but rather administrators, moderators and user-testers, who must add, use, and modify information in the PSP from a very early phase in the project. In turn, it has resulted in a reflection on the participation of each member and their institutional affiliation in this international and inter-institutional collaboration, as well as of the north-south flux of goods and knowledge in academia.

Cognitive extractivism is a very concrete example of the *colonialidad del saber*, or coloniality of knowledge (Wynter, 2003, p. 260). It is also the clearest manifestation of coloniality in the PSP out of five known types, the others being of power, freedom, gender (Lugones, 2008), and (well) being.[31] As with many other milestones in the modernity/coloniality

[31] Building up on Latin American decolonial writing (Escobar, 2007; Dussel, 2011), it is important to distinguish between colonialism and coloniality. Modern colonialism is an imperialistic foreign policy strategy, exercised by European nation-states from the late sixteenth to the mid-twentieth centuries, and by American ones from the eighteenth century on. Coloniality, on the other hand, is an internalized form of such colonialism, capable of perpetuating itself even after the fall of a political regime that could enforce it. What we observe nowadays are neocolonial interactions, either explicit or not, between an ex-metropolis and its ex-colonies (such as France in relation to Quebec and Haiti), or with a new colonial force (such as the United States in relation to South America in general). Something that seems clear when comparing English-speaking postcolonial and Latin American decolonial

world-system, the origins of this phenomenon date back to the discovery of America, as Edgardo Lander wrote: "Con el inicio del colonialismo en América comienza no solo la organización colonial del mundo sino—simultáneamente—la constitución colonial de los saberes, de los lenguajes, de la memoria y del imaginario [with the beginning of colonialism in America not only does the colonial organization of the world begin but—simultaneously—the colonial constitution of knowledges, languages, memory, and imagery]" (Lander, 1993, p. 7). Being conscious of this form of coloniality implies questioning concepts like knowledge democratization by contrasting them not only to the material and infrastructural conditions of other countries, but also by revising the pervading Anglocentrism and cultural homogenization that, despite many good intentions, still predominates in the actual DH debates. Richard Miskolci makes a similar claim from his field: "Queer Theory has left intact a geopolitics of knowledge that preserves and updates old colonial practices" (2014, p. 13), denouncing the persistence of "a powerful political, cultural and scientific hegemony which highlights and privileges that which is created in the United States and Europe, relegating Southern works to ethnographic status or sources of case studies" (2014, p. 21).

In the face of such considerations, it is necessary to avoid reproducing the North-South flux of the international division of digital labor *and* of academic research, both infused with gender, class, and race biases, during this advanced phase of white patriarchal capitalism, termed "the informatics of domination" by Haraway (1991, p. 170). Other than "a space for collecting data, making ethnographic incursions or applying (northern) theories to particular cases" (Miskolci, 2014, p. 13), the Global South has been portrayed as ideal for prime material extraction or assemblage using cheap labor force (Grosfoguel, 2016; Nakamura, 2014). Under these circumstances, for a real paradigmatic change to happen, "Queer [and all] scholars from the North should begin [to] recognize that their way of producing and circulating knowledge sustains international hierarchies and inequalities, evident in the almost complete absence of dialogue

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studies is that colonialism was developed in several phases, every time with a different *ethos* and *telos*—colonies like enormous factories or planting zones (Spain in Puerto Rico and Santo Domingo, England and the Netherlands in the Caribbean, France in Saint-Domingue); colonies as extensions of European kingdoms (Brazil, the settler colonies); as livestock haciendas (Spain in Cuba), and so on (Ashcroft, Griffiths, & Tiffin, 2003, pp. 134-138; Garraway, 2005, pp. 240-244; Bringas Nosti, 2008; Ibarra Cuesta, 2012, pp. 65-140). Experiences of colonialism in different places will entail diverging expressions of coloniality, albeit sharing some similar traits. This must be taken into consideration when analyzing neocolonial relations as those established by Mexico with the United States and Canada.

with their colleagues in that part of the world understood to be the Global South" (Miskolci, 2014, p. 29).

The complaint about using goods and knowledge from colonized regions without giving anything back to them (a common topic in postcolonial approaches to anthropology) has also been raised by indigenous peoples in the Global North, most notably the Idle No More movement in Canada. It has been well established that extracting minerals, plants and other resources was fundamental for the creation of the current modernity/coloniality world-system, as well as for the illicit enrichment of colonial European nations (Grosfoguel, 2016, pp. 126-131). Nishnaabeg writer and activist Leanne Betasamosake Simpson has noted how extractivism is also manifest within the geopolitics of knowledge through what she calls "cognitive extractivism": "The canoe, the kayak, any technology that we had that was useful was extracted and assimilated into the culture of the settlers without regard for the people and the knowledge that created it" (Simpson, 2012). This concern for extractivist practices is reflected in her work, engaged with keeping individual and social agency within an occupied territory (Simpson, 2011, pp. 11-29), or with generating narratives for a tradition of one's own to explain a world submerged in all the mentioned manifestations of coloniality (Simpson, 2013). Under this light, cognitive extractivism stands out as one of many cooptation strategies exercised in the Global North to make otherness look like sameness, erasing in the process any individual and collective identity mark that may diverge from Western-centric standards—that is, white, male, heterosexual, and speaking a colonial language, particularly English (Bordalejo, 2018; McPherson, 2012; Risam, 2018b).

In view of an Anglocentric, socioculturally homogeneous discursive regime, and the risk of reproducing extractivist models in scholarship, what lessons can a DH project offer when it is mainly conceived and carried on from the Global South? It is crucial to understand that well intended projects are not necessarily beneficial to the target community if ethical guidelines or similar tools are not implemented. Making conceptual matter (Sayers, 2018, p. 3) discernible while being unaware of its implications on real people is an irresponsible act contributing to the status quo in the geopolitics of knowledge—in fact, Rivera Cusicanqui proposes that we rather talk about a *political economy* of knowledge (2012, p. 102)—silently legitimating the international distribution of digital labor in the academic world.

The main differences between Mexican and Canadian universities regarding flexible labor can be seen in the positions offered to students in the context of a research project. Most UNAM

students participate in PoéticaSonora through the *servicio social* program, a temporary, professionalizing activity similar to an internship (s*ervicio social* could be roughly translated as "social community work"), mandatory for undergraduates to get their degree in any program of a Mexican university (UNAM, 2017). This normally entails a period of 6 months (or 180 hours) working on an area akin to their program or specialty. Most *servicio social* positions are unpaid, and exceptionally few of them offer a competitive salary, since it is considered a sort of test or preparatory experience, rather than a professional position as such. Due to our low operating budget, it is impossible for PoéticaSonora to economically compensate students at this moment, and the fact that neither involved graduates nor professors get any extra funding for the project[32] does little to make this consideration less complex. Only until recently have two student members, Miriam Torres and Muriel Herrera, been assigned a teaching assistant position which is only indirectly related to the project. Moreover, UNAM's School of Philosophy and Letters (where most PoéticaSonora members study or work) seldom offers undergraduates this type of support.

The situation in Canadian universities is slightly different, as they tend to offer students more positions and more flexible funding for specific research projects than their Mexican counterparts. With the financial support of Hexagram (a Montreal-based international network dedicated to research-creation in media arts, design, technology and digital culture), PoéticaSonora was able to integrate David Lum to the project as a research assistant who would closely work with Concordia professor Ricardo Dal Farra and myself in the design and development of a data schema and a simple front-end for the repository. While finishing Concordia's graduate diploma in computer science, Lum undertook the work paid on a rate previously settled between the university and TRAC, the relevant student union—a standard practice encouraged by the Hexagram application process (see Annex C). Even though Lum's knowledge and expertise are clearly indispensable for the project as a whole, so are the fieldwork and archival tasks performed by UNAM undergraduates, whose labor was essential for gathering the initial sample with which the Concordia team worked. It can be argued that giving students a

[32] Until very recently, in 2019, PoéticaSonora joined Impresos Populares Iberoamericanos (IPI)—formerly known as Impresos Populares Mexicanos (Ortega, 2018, pp. 244-245)—in the creation of an umbrella project, "Materialidades de la voz: archivos, impresos y sonido," funded by UNAM program PAPIIT. Through this initiative, limited support for academic mobility and minimum technical equipment has been granted to both IPI and PoéticaSonora. Other than individual scholarships and awards (with their respective restrictions on use and management), this is the only kind of funding that has been directly allocated to the project.

servicio social position in an innovative DH project is already compensating enough, but these benefits fall mostly under the realm of symbolic rather than economic capital (Bourdieu, 1993, pp. 74-76). Neither does Lum's compensation reflect his knowledge or expertise; instead, it was determined by his last degree achieved. As Jenstad and Takeda argue, giving credits and acknowledgement to a research assistant in a project "ensures that the RA is not an invisible mediator between the digital data and the project director. However, it does not liberate or, to borrow from [bell] hooks, invite them to become" (2017, p. 77).

Notions of use value and exchange value come to mind, showing why discussing digital labor in an international scholarly context is absolutely necessary. My argument is not that the labor of Mexican students is being alienated and exploited by a Canadian university, which would be an unfair caricature of the project. I am rather pinpointing that diverging scholarly and labor policies do make a difference when trying to find a fair, equitable balance for Global North universities to collaborate with their Global South counterparts. Being conscious of this tacit, symbolic form of extractivism implies questioning the notion of knowledge democratization not only by contrasting the material and infrastructural conditions of developing and developed countries, but also by revising the pervading cultural homogenization that, despite many good intentions, still predominates in current DH debates. It is also a matter of being careful not to widen the already existing connectivity gap between the Global North and South, and revisiting why the exhausting task of finding and editorializing sound recordings is considered less important in the scale of digital labor than designing and implementing a digital platform to manage them.

1.1.3 The origins and motivations of Concordia University's involvement with PoéticaSonora

There are two main reasons why Concordia University became involved in this project; one is biographic, the other subjective. The seed of this initiative is surely to be found in the courses on sound, literature, and intermediality offered for over 20 years by Susana González Aktories, first in UNAM's National School of Music, where she founded a research group on music and literature, and later in the College of Modern Letters, located at the School of Philosophy and Letters. Nearly every PoéticaSonora participant has taken such courses or has been supervised by her while writing their theses (in Mexico's public educational system, depositing a thesis is usually mandatory for graduation in Liberal Arts, even at the undergraduate level). My first

approach to sound studies and what would later be called "literary audio" was through one of these courses, for which I wrote an early version of an essay on Kerouac's jazz recordings that eventually became part of *Shuffle: poesía sonora* (Meza, 2011, pp. 21-43). After my first year in the Ph.D. in Humanities program at Concordia, I was undecided about making a digital version of this book (normalizing information to build a database and adding essential audiovisual material) or rather a large-scale repository for literary audio and sound art, a task I would not be able to manage alone. I asked González Aktories, who had continued mentoring me after graduating from UNAM, for advice. At that moment (2015) she was co-organizing *Plataformas de la imaginación: Escenarios de la literatura electrónica en México*, a groundbreaking event along with María Andrea Giovine, Élika Ortega, Roberto Cruz Arzábal, Cinthya García Leyva, and Ana Cecilia Medina (Ortega, 2018, pp. 242-243). Most of them are former students of González Aktories' and together had previously co-founded the Laboratorio de Literaturas Extendidas y Otras Materialidades (LLEOM). When I approached her, González Aktories was committed to dedicating once again her full attention to a twofold topic that has fascinated her for a long time and has driven her most remarkable academic writings: the aural dimension of the word and the materiality of the voice. She invited García Leyva and me as founding graduate student members of PoéticaSonora, and Medina as an undergraduate member, each of us contributing to the project's two main operating axes: Dissemination (organizing performances, exhibitions, and conferences on sound, voice, and legibility) and Cataloguing, mainly focused on building the PSP workflow.

As for the subjective motivations behind this project, in a nutshell I can say that my participation from a North American university is due to an uncritical submission to the coloniality of knowledge. When I first met González Aktories, I was doing my BA in English at UNAM, the only program in the country focused solely on Anglophone literature. Studying foreign cultures, immersed in their host language while living in the largest Spanish-speaking metropolis of the world, far from any direct, everyday interaction with English-speaking communities, I suffered from a kind of cultural alienation that I did not perceive as particularly oppressive but instead felt like a privilege. At UNAM's College of Modern Letters it has never been mandatory that we should go to a country where the language we studied was spoken, even though there are increasingly more academic exchange programs and support from UNAM for undergraduates to temporarily attend a foreign university through an official exchange agreement.

Many current students and alumni did study abroad before, both while studying and after graduating, like Raúl Ariza Barile, who eventually earned a Ph.D. in Old English literature at the University of Texas-Austin, or Ernesto Priego, yet another former student of González Aktories' and founding editor in the United Kingdom of *The Comics Grid: Journal of Comics Scholarship*. In my case, I have attended several universities in the United States and Canada during my M.A. as an exchange student and Ph.D. as a full-time student, immersed in an Anglophone academic environment that continuously yet tacitly pushed me towards Latin American studies, even if my professional career in Mexico was already built around English (as I have long been an ESL teacher, literature professor, and translator). This has resulted in curious, sometimes seemingly oxymoronic situations, like finding out one of my first graduate seminars in a Quebec Anglophone university was offered exclusively in Spanish (both classes and readings), along with classmates coming from several places in Latin America where diasporic movements have happened—Cuba, Colombia, Chile, Honduras, and of course Mexico.

Montreal may offer ideal environments for sound studies due to the number of artists and researchers interested in the field—a reason why I came here to study—but it does not mean by far that North American neoliberal models of education provide peaceful, idyllic places for studying developing regions. Shortly after I took this seminar, in fall 2016, admissions were suspended for the M.A. program in Hispanic studies, so that no graduate courses on Latin American literature or culture are currently offered at Concordia. This was followed by other significant changes in the Department of Classics, Modern Languages and Linguistics that affected teaching and research on area studies in general—except for cases where private donations are frequent, like the growing School of Irish Studies. Nowadays, the only options at Concordia for graduate research on Latin America are the Independent Studies program and the Interdisciplinary Doctoral Program in Humanities. The situation is paradoxical: we are offered study programs that seem free of disciplinary pigeonholing, yet there is not a strong research and student community that would facilitate the kind of innovative work expected from us. Symbolic resources must be continually sought elsewhere, a reason why I ended up not only collaborating with PoéticaSonora, but also participating in a research internship on decolonial studies with Eduardo Restrepo at Universidad Javeriana in Bogotá, Colombia.

So the answer to why the collaboration with Concordia was undertaken (or needed) may be that in principle it was not necessary at all, but once the connection with LLEOM and

PoéticaSonora was established it had to be critically engaged to avoid the mentioned pitfalls surrounding cultural interaction in academic milieus, both English and Spanish-speaking. Given that compliance to international standards for ICTs like ISO is so widespread in universities across the world, the fact that the PSP was created between Canada and Mexico is merely contingent and does not determine its reason of existence. The prototype might as well have been designed and developed exclusively by UNAM professors and students, but the question remains whether it would have any repercussion in contemporary DH debates *outside* Latin America. Certainly, without the participation of Canadian institutions like Concordia and Hexagram we would not have access to much needed funding which, despite logistic and administrative support from UNAM, is still largely missing in Mexico. As the project's language of study is mainly Spanish (although not limited to it, for it also includes pieces in English, Spanglish, and Mexican indigenous languages such as Nahuatl, Zapotec, and Tojolabal), it is very likely that its repercussion in Anglophone academia would have been minimal, particularly if compared with PennSound, SpokenWeb, or UbuWeb, which have greatly inspired PoéticaSonora and have shown us the potential of digital audio repositories.

Integrating a North American university into the project's workflow offered the possibility of essaying new participatory dynamics, seeking to avoid an uncritical cooptation by the political economy of knowledge, and proposing alternatives to extractivist workflows. The aim is to build a locus of enunciation that includes the self—"The self is the One who is not dominated" (Haraway, 1991, p. 177)—within terms that are not their own, out of their comfort zone. For Haraway, a common achievement of feminist theorists Chela Sandoval and Katie King "is learning how to craft a poetic/political unity without relying on appropriation, incorporation and taxonomic identification" (1991, p. 157). This unity by affinity, rather than by identification—a concept carrying a profound colonial heritage (Fuss, 1995, p. 141)—raises questions resonating with PoéticaSonora's own path, such as "What kind of politics could embrace partial, contradictory, permanently unclosed constructions of personal and collective selves and still be faithful, effective—and, ironically, socialist-feminist?" (Haraway, 1991, p. 157). Building a politics/poetics by affinities can be carried out within English speaking academia (and in fact it is), but it might as well come from a compound locus, consisting of different places and temporalities.

By prototyping PoéticaSonora, a critical, aesthetic, and political statement is being made. Not only will its implementation make discernible a series of artistic multidisciplinary works in audio format from the 1960s on, but it also wishes to put those practices in a duly horizontal dialogue with those archived by PennSound, SpokenWeb, and UbuWeb. Of course, a decolonial approach to scholarly research collaboration (or any other topic, for that matter) does not mean forfeiting every knowledge produced in the context of modernity/coloniality, but rather means understanding and integrating the importance of studies in/from/for the Global South (Miskolci, 2014) and what they tell us about the self-assured universality present in some scientific works produced in the Global North.[33]

The PSP workflow during the fieldwork and archival research phase is a good example of how to revert the north-south flux in the academic editorial market noticed by Rivera Cusicanqui (2012, p. 104). Instead of devising a scheme in Canada to implement in Mexico, the database design was largely modeled on the available recordings donated by participating institutions, private collectors, and invited curators, as well as on experiences documented in two different fieldwork trips I conducted in Mexico City (summer 2016 and fall 2017). This inductive approach intends to address the needs of artist and student communities involved in the repository's development (who are also potential target audiences), rather than solely focusing on the technical-conceptual part of the process. The existing gap between the needs of target audiences and the technical requirements to meet such needs is bridged by the fieldwork

[33] It must be noted that there is already a decolonizing drive in English-speaking critical digital studies encouraged by adherents of "both postcolonial digital humanities and #TransformDH, strands of the field that have pushed for greater attention to digital humanities projects and methods that foreground intersectional engagement with race, gender, class, sexuality, nation, disability, and other axes of identity that shape knowledge production" (Risam, 2018a, p. 78). The postcolonial approach followed by authors like Risam stems from the subaltern studies variant of English-speaking postcolonial studies, drawing from the writings of Gayatri Chakravorty Spivak, Homi Bhabha, and Arun Mukherjee among others; from scholars who made possible the institutional establishment of postcolonial studies in Commonwealth universities such as Bill Ashcroft, Gareth Griffiths, and Helen Tiffin, and from precursors of postcolonial studies such as Frantz Fanon, Edward Said, and Benedict Anderson (Risam, 2018a; Risam, 2018b; Risam, 2019). While I acknowledge the importance of these authors for the common cause of decolonizing Western academia, my approach is grounded on the Latin American strand of decolonial studies invested in Immanuel Wallerstein's "world-system" approach, inspired by the initiative of thinking-feeling "worlds and knowledges otherwise," based on concrete examples stemming from Latin America's social realities, and engaged in the active use of Spanish language for the production and circulation of knowledge (Escobar, 2003; Castro-Gómez & Grosfoguel, 2007; Restrepo & Rojas, 2010; Dussel, 2011; Grosfoguel, 2007). Conflating postcolonial and decolonial agendas is a common strategy in English-speaking academia that silences the existence of different, diverging frontlines in the quest for social justice. For a completely different stance on the same subject, see "Decolonizing Digital Humanities: Africa in Perspective" (Aiyegbusi, 2018).

activities of *servicio social* undergraduate students—visiting archives, assisting in interviews, and editorializing audio recordings, always coordinated by a professor or graduate student.

This dynamic is clearly exemplified in the different *relatorías* or reports that we have prepared for every consulted archive and collection, among them Fonoteca Nacional (González Aktories, Meza, Medina, & Villanueva, 2017), Ex-Teresa Arte Actual (Medina & Jimeno, 2017), Casa del Lago (Caudillo, 2017), and Laboratorio Arte Alameda (Cabrera, 2017; Torres, González Aktories, Mendoza Pineda, Caudillo, & Pacheco, 2019). PoéticaSonora team members have written these *relatorías* as a means of disseminating the results of fieldwork and archival research phases, as well as of helping institutions evaluate new methods to better classify and preserve such material. In turn, the experiences of undergraduates while exploring these archives and collections have served to find and correct bugs, refine classification criteria, and add or remove fields according to the needs they find. These suggestions sometimes have had profound implications. For example, we added an external URL field after feedback from several students pointed out that way, a suggestion that allowed us to solve some interoperability problems, as it allows to relate the resource to other unique identifiers, like ORCID or database permalinks.

The role played by undergraduates is vital both for the PSP and for their development as art or literary critics, a necessary ability for editorialization. It also prepares them, albeit informally, as incoming DH practitioners, showing them how to cope with tools and resources not widely available in the Mexican educational system, despite efforts from several government administrations to bring ICT to public schools. The fact that PoéticaSonora does not directly receive funding other than that already allocated to their members' programs or departments does little to acknowledge the irreplaceable labor made by *servicio social* students. It is clear that, in the big picture, the increasing precarity of academic labor permeates this whole story, but we would not want the benefits of this project for undergraduates to be exclusively in terms of symbolic capital,[34] even if some authors consider accumulation of this type of capital to be one of the most noticeable benefits for Mexican low-income populations getting in contact with digital technologies such as tablets and wi-fi (Mariscal & Martínez, 2016, p. 268).

Regarding PoéticaSonora's positioning towards knowledge democratization, we believe it is important to target the study area as well as the intended users with honesty and modesty.

[34] Particularly given that UNAM is a public university; the story may be different at, say, Instituto Tecnológico y de Estudios Supetriores de Monterrey, or at Universidad Iberoamericana.

Certainly, ICT offer modes of distributing knowledge that were unthinkable just a few decades earlier. However, digital literacy is a process heavily burdened by infrastructural differences between the Global North and South, whereas some research in English speaking academia takes findings in a few developed countries as an argument for universality. A good way to test the reach and breadth of an assumption based on infrastructural conditions is to consider similar case studies in areas different from our own (the more contrasting the example, the better). This will hopefully avoid most over-generalizations and will prove a great test for the argument's groundings. Another thing we do at PoéticaSonora to avoid the *maquila*-like model, as has been said, is sketching the database schema out of findings made during fieldwork in Mexico City, instead of planning everything beforehand and extracting the "necessary" information. This way we ensure that the repository is covering most of the potential users' needs, and that we offer necessary tools and background for them to gather relevant information.

1.2 Archive, voice, and Trace in Relation

So far, we have looked at the material aspects defining PoéticaSonora from the perspective of digital academic labor and asymmetric neo-colonial relations between scholars in North and Latin America. Now let us consider the relevance in this project of the notions of "trace"—particularly aural traces captured in audio recordings—and "inscription," in a clear attempt to distance ourselves from text-centered approaches to sound and legibility. Metadata is where aural traces are inscribed into an accessible form for end-users, constituting the meeting point of archival, technological, and political tensions driving document dissemination and preservation initiatives. This is the reason why every ethical decision made in the prototyping phase is ultimately reflected in the way metadata is gathered, described, and displayed in the PSP.

Although at moments it may seem as if the following sections are too technical in contrast to the first part of this chapter, one must remember that the value of a decolonial perspective is not so much in finding the other in oneself, but rather in considering all selves as equally determinant to each other. Therefore, technical specificities are just as politically charged as other more socially visible situations, such as inequalities in academic labor. In turn, this is a clear sign that designing a database must be carried out following well-established social objectives, and that "une éthique de la technique ou du numérique devrait ainsi s'accompagner d'une éthique du

passé [an ethics of technique or digitality should also be accompanied by an ethics of the past]" (Treleani, 2014, p. 194).

1.2.1 Editorialization and metadata: inscribing for preservation or dissemination?

Editorialization, the process of contextualizing an audiovisual resource in a digital environment, is the task through which information about a recording, gathered by PoéticaSonora members through archival research and fieldwork, is crystalized into an inscription format. In turn, the place where inscription formats and audio recording formats meet is known as metadata.[35] According to Jeffrey Pomerantz, "metadata is a map […] a means in which the complexity of an object is represented in a simpler form" (2015, p. 11). It is thus another representation system, like literary genres, or languages; as such, metadata schema are prone to bias in terms of the transversality of gender, class (Hall, 1997a), race (Noble, 2018), and even aesthetic positioning. The work of representation (Hall, 1997b) is also exercised at the level of editorialization, a compelling reason to claim that every decision made in the context of prototyping has political implications of every kind. One of our main tasks has been to accomplish equitable representation modes, and ultimately to make discernible certain artistic practices that, due to their focus on hearing rather than sight, have not been given due attention among certain criticism circles. This does not mean that PoéticaSonora sought to editorialize metadata in a "transparent" way, for we consider transparency to be an impossible ideal in a modern-colonial world-system (Escobar, 2003, p. 60 n.12) made out of equivocal representations of the other (Ochoa Gautier, 2014, pp. 23-24) which has become a tool for fixating subaltern communities and making it easier to control them by rendering them accountable (Glissant, 1997, pp. 111-120). However, the team constantly questioned itself about which information was essential for grasping the content of a recording and which may be prone to bias and stereotyping.

Metadata is where editorialization, and therefore every piece of research conducted to perform that task, is materialized into an accessible way for end-users. In Chapter 2 I will discuss how information is broken down into pieces of data so that it can be stored and classified in the

[35] The term *metadata*, which can be roughly defined as "data *about* an object" (Pomerantz, 2015, p. 10), is derived from the Latin prefix *meta-* (beyond) and the plural form of *datum* (given). Although in English it is spelled *data*, the word is usually considered a singular uncountable noun. Throughout this dissertation I use this spelling to refer to both its plural and singular forms, instead of the less popular, singular countable *metadatum*.

PSP, a task ultimately condensed into the metadata schema. In preparation for that discussion, we must learn how metadata's representation system works and how it can contribute to documenting aural traces for a better understanding of literary and sound art pieces.

Pomerantz considers that, "although the word 'metadata' is only a few decades old, librarians have been working with metadata for thousands of years" (2015, p. 6) in the form of library catalogues. Similarly, for Lisa Gitelman the emergence of markup languages is partly due to increasingly specialized scholarly editions of literary works.[36] Building upon controversies in the late 1960s and early 1970s involving literary critical editions, Gitelman observes how new bibliographical bodies are born out of what is satirically called "graphical barbed wire" (2006, p. 117), a metaphor describing the paratextual elements surrounding a highly contextualized text—footnotes, line numbers, and diacritical marks. This new paratextual presence "exists by definition on the page (or on the screen) graphically to represent—to mark up—the bibliographic qualities" (Gitelman, 2006, p. 120) of a given resource. Although PoéticaSonora does not use a markup but a query language (SQL) to make editorialization visible for end-users, the idea of metadata as a sort of textual envelope around sound works appeals to the way information about a recording is stored and displayed in the PSP.

The emergence and proliferation of audio recording/playback devices, as well as of the inscription technologies that brought forth metadata, fomented the creation of new kinds of "legible representations of aural experience" (Gitelman, 1999, pág. 15), already common in sound technologies prior to the phonograph. Alphabetic transcription, music notation, playing an instrument—all of them constitute different forms of sound inscription, a technique that essentially consists of the rematerialization of sound in order to preserve it or to disseminate it (Ochoa Gautier, 2014, pp. 7, 208; Gitelman, 2006, pp. 18-22), which also predates audio recording/playback. The diversity of formats, instruments (musical and otherwise), and interfaces employed for sound inscription have historically made it difficult to study these practices as a hermeneutical unit. As Ochoa Gautier understands, "the traces left by audibility are enmeshed with different practices, a listening to be found in the nooks and crannies of history, dispersed across several fields and sites of knowledge and sound inscription" (2014, p. 6). As a task aimed

[36] These, in turn, may be traced back to Greek and Roman scholiastic comments to literary classic texts, from which modern philologists gather verse fragments and summaries of long-lost ancient epic poems. Sometimes we only know the poem's title, a brief description, and maybe its author's name. All of these values would later become standard elements of modern metadata schema (Bernabé Pajares, 1979).

at reducing the intelligibility gap between a resource's semantic network and the user's special-temporal position, editorialization is a form of inscribing aural traces into metadata.

The question about where audio files and metadata should meet remained not only an urgent issue for the PSP, but also became one of its most important consolidating factors. Any decision taken at any stage would have consequences on the resulting database structure. Throughout the prototyping process, all of our tasks at PoéticaSonora were ultimately concerned with "making things and drawing boundaries", to borrow the title of a collection of essays on DH and the maker movement (Sayers, 2017). This approach was not as focused on the materiality of audio recordings (although this aspect was important, too) as it was on relevant descriptive metadata about such recordings. At a very early phase in the project, following *The PennSound Manifesto for Archiving Recorded Poetry*'s fifth point (Bernstein, 2009a, p. 970), we embedded the core elements of our data schema into each audio file uploaded to the database. We quickly dismissed this approach because no media player would ever reproduce our most relevant, customized elements, such as `Instrumento` or `Contribuidor`. For a time, the prototyping team wondered whether audio files should be part of the database itself, included in an element called BLOB (acronym for "binary large object") but we soon learned it was not recommended for our case, in which the repository size is expected to scale up to tens of thousands of recordings. In the end, repository architecture and recordings were stored in separate containers, so that they were independent from each other yet indispensable for appropriate information display on the webpage.

Another question we had to answer while prototyping was related to the ultimate role of editorialization—whether to preserve recordings in the long term or simply disseminate information about them, along with a low-definition copy in audio format. As we will see in Interchapter 1, the uncertain long-term sustainability (and even viability) of digital preservation, as well as copyright matters, forced us to opt for a dissemination repository. The number of digital scholarly projects in North America has been on the rise since the consolidation of university programs focused on DH or humanities computing, such as those offered by the University of Virginia (founded by Johanna Drucker and Jerome McGann) or the University of Alberta (in which humanist and database expert Harvey Quamen is affiliated). However, archivists and librarians who have dedicated several decades to the issue of documental preservation in its textual form, sometimes look at DH projects with distrust, not as much due to

their drive for thinking out of the box as because in library and archival sciences there is a longstanding tradition of establishing and following best practices and standards for the classification and preservation of their materials.[37] Trying to keep balance between innovation and standardization, PoéticaSonora's main objective moved away from preservation and leaned toward dissemination due to the prominence and infrastructural inertia of the MP3, an audio format standard that is not deemed ideal for long-term preservation, given the psychoacoustic model of audio compression on which it is based (Sterne, 2012). That does not mean, however, that in our workflow we eschewed the question of how preservation should be managed, even at the moment of planning and designing the prototype. Setting it aside as a problem to solve later on can have catastrophic consequences for the project as a whole:

> Digital preservation begins at the time of creation, well before the digitized material comes to rest in a preservation repository, where it will be managed by professional archivists throughout its life cycle. Choosing which formats to use, deciding how to name and manage files, performing routine backup and migration—these are all critical preservation actions that individuals and organizations must take to help ensure that their content will be preserved (Smith Rumsey, 2013).

Among the available ICT for humanistic research, digital preservation experts Lisa Goddard and Jane Morrison (2016) suggest the use of standard practices, computer languages, and formats. It is taken for granted these will make future preservation tasks simpler; however, having left the question itself of digital preservation ultimately unanswered, it is difficult to know which strategy is optimal. Due to the limitations of MP3 as a preservation format, it is also possible that only metadata will survive in the long term, making the question of inscription even more urgent.

This format's inertia—a part of what Sterne calls the "preservation paradox" in digital audio—is also responsible for PoéticaSonora turning from a preservation repository to a dissemination one: "If early recordings were destined to become lost recordings, digital recordings move in the same direction, but they do so more quickly and more fitfully. […] One moment they are intelligible, but once their decay becomes palpable, the file is rendered entirely unreadable" (2009, p. 64). This paradox is even more urgent to solve in the context of developing countries where technological infrastructures are slightly out of synchrony with developed ones.

[37] See "Due Diligence and Stewardship in a Time of Change and Uncertainty" (Marcum, 2016) for a revision of more than a century of challenges in the U.S. for print book preservation.

During the fieldwork and archival research phase in Mexico City, not only did PoéticaSonora members come across with empty shelves and cases where there should be recordings, but they also faced a lot of materials stored in digital formats that currently are in the final stages of their life cycles, particularly CDs and MP3s. As a result, many of the recordings we have editorialized may not be suitable for format migration, which means their contents may be lost in the mid to long term.

In face of such challenges, the editorialization strategy followed by PoéticaSonora had to be developed in two closely interrelated steps. First, a material-oriented theoretical approach was necessary, while in the second step a sound-specific methodology was developed to obtain, store, and classify new content. While the multidisciplinary art scene that shapes the PSP corpus is discussed elsewhere in this dissertation (particularly Chapter 3), in the next sections I will explore some of the theoretical approaches carried out by PoéticaSonora to classify information about such scenes. I will then sketch out how the aesthetic and conceptual limits of the PSP were operationalized into concepts or relations (tables), each of them broken down into attributes or fields (columns).

1.2.2 Aural traces in a digital repository

For Ochoa Gautier, the ambiguity inherent in knowing through sound—what some theorists have called "acoustemology"—is due to perception's embodiment: "Knowledge in sound often confounds the boundaries between sensorial perception and discourse, between nature and culture characterized by sound's capacity to reverberate in the body and in different entities" (2014, p. 33). Having an embodied experience through a digital repository is particularly possible when it comes to audio recordings due to the reverberation, both physical and technical, both internal and external, that they offer to the right user (one who is in the disposition to listen). If sound is crucial for the definition of our epistemic horizon, and if aurality is one of the ultimate grounds in which colonial differences are assigned and established (Ochoa Gautier, 2014), can digital audio repositories provide with alternative forms of listening to the world, and therefore understanding it? Echoing Ferdinand De Jong, Paul Basu and David Murphy, "How can postcolonial futures be imagined through alternative archives? Can popular culture and forms of embodied knowledge constitute such alternative archives?" (*apud* Chivallon, 2016, p. 70). Moreover, how can digital repositories encompass and revert the Foucauldian archive's colonial effects based on previous

preservation endeavors made by librarians, historians, and other professionals who make extensive use of colonial archives?

To answer these questions, we must remember how audio recordings are, by definition, aural traces of an event, hiding "a *mémoire involontaire* of past acoustic, not intended for tradition: a noisy memory, inaccessible to the alphabetic or other symbolic recording, added by the channel of transmission—the proverbial 'medium' in Claude Shannon's *Theory of Communication*" (Ernst, 2013, pp. 174-175). Based on Paul Ricoeur, and still from a predominantly ocular-centric perspective, Christine Chivallon defines trace as "an image laid down by previous experience and recalled through narrative intervention" (2016, p. 73). An aural trace, in turn, would be the evocation of a sound previously recorded and recalled through any inscription medium. In this process, certain aspects of sound are irretrievably lost or can be perceived more difficult to evoke, depending on the inscription technology that was used. It is therefore the task of bodily-embodied forms of knowledge to "cover that gap," we could say, so that archival research involves not only an intellectual and ethical commitment to the consulted documents, but also a psycho-somatic one. As Chivallon says, "A family name, a neighbour's name, a place name, a brief description of a situation or of a particular location; all can be deciphered in an unexpected way when viewed through the eyes of a reader informed by the living trace of cumulative memories. The point is not to discover an unknown past but to add to what is already known" (Chivallon, 2016, p. 78).

While Ricoeur's and Chivallon's notion of trace may sound similar to the definition of memory by some media historians (Woodside, 2015), Édouard Glissant considers trace and memory as actually entangled within each other:

> Memories radiate in the Trace, they fill it with a presence-without-materiality that is open to emotion. Their associations, memory-Traces, do not create monuments, nor do they crystallize a single memory; they are the play of memories that are tangled together. They are not governed by the colonial act but by the conflicts that resulted from it. Their meanings continue to evolve, they are not fixed-univocal like those of the monument. They make me hear-see-touch-imagine the entangle of stories that have woven the earth (*apud* Chivallon, 2016, p. 75).

Glissant's opposition of memory-Trace to the monumentalization of history brings Chivallon to conclude that "The archive absorbs the domain of the written when the latter is severed from orality, thereby becoming nothing more than 'the universalizing influence of Sameness' as opposed to 'the organized manifestation of Diversity' that characterizes the oral for

Glissant" (2016, p. 75). In this passage Chivallon refers to "National Literatures," an essay in which Glissant defines oral languages as still "not being inscribed in the realm of transcendence" (1999 [1989], p. 100). In contrast, he considers writing to be in the wake of its decline in Western thought: "It appears that the written could increasingly perform the function of an archive and that writing would be reserved as an esoteric and magical art for a few" (1999 [1989], p. 101). The only way for writing to recover its openness, thus transitioning from Western sameness to diversity, "would be to nourish it with the oral" (1999 [1989], p. 101). The writing-orality relation, however, is inoperable without integrating the notion of aurality, that is, the listening techniques involved in making sense of the plethora of sounds within and around us—the human voice among them (Ochoa Gautier, 2014)—as well as the importance of human and non-human voices for our acoustemologic understanding of the world. On the assumption that what has been conceptualized as orality actually comprises two separate notions (aurality and vocality), we can better understand how "The 'trace' then becomes the expression of this diversity that has escaped from the writing of history and its monumentalism" (Chivallon, 2016, p. 75).

Are digital audio repositories ideal spaces to study sensorial memory-Traces whose meanings are constantly evolving? Adding up to Sterne's preservation paradox in digital audio, there is a seeming contradiction between the temporality and placeness of sounds on the one hand and the fixity and ubiquity of their recorded form on the other, a phenomenon that has been characterized using many different adjectives, from *schizophonic* (Schafer, 1977) and *acousmatic* (Schaeffer, 2004; Baumgärtel, 2015; Butler, 2014, pp. 66-67) to *ghostly* (Bernstein, 2009a, pp. 961-962) and *uncanny* (Dolar, 2006, p. 97; Hannigan, Meza, & Flamenco, 2017, pp. 202-203). All these concepts deal with roughly the same phenomenon—the dislocation of a sound and its originating source, though not exactly as in Glissant's presence-without-materiality, given that both analog and digital audio recording technologies involve sound's re-materialization rather than its dematerialization.

The question remains about how an incomplete documentary trace can contribute to enhancing of modifying our notions of originality, performance, and authorship, and whether it helps to debunk the notion of a single, indivisible art work concept, clearing the ground for multiple version analysis. While storing different versions of a same composition in the PSP runs the risk of ontologizing audio recordings as "definitive" forms of specific sound-based performances, it also makes cross-comparison analysis much more feasible. If a composition, as

it happens in electronic dance music, can be more broadly conceptualized as a "distributed object" (Butler, 2014, p. 62) across the many versions that comprise it and the agents involved in its creation, then the PSP can effectively contribute to mapping the different networks on which a given sound work is enmeshed, without compromising its social and relational dimensions at play.[38]

As suggested in the previous section, it is through responsible editorialization that memory-traces can be gathered and mobilized. The PSP seeks to address embodied forms of knowledge through evocations suggested by the interplay of aural traces and their corresponding metadata. These forms are accumulated and sedimentary, which means they cannot be expected to magically show up by mere exposure to the objects or resources that evoke them. Such a question must be addressed, as Treleani recommends,

> À partir d'une perspective qui tient compte des enjeux éthiques, et non seulement ergonomiques, liés à l'édition en ligne (ou du moins, de voir l'édition du point de vue d'une éthique du design). La seule mise à la disposition du public des documents d'archives, qui est généralement appelée « accessibilité » de l'archive, n'est pas suffisante (Treleani, 2014, p. 189).
>
> [From a perspective that considers the ethical stakes, and not only the ergonomic ones, related to online edition (or at least seeing edition from the point of view of an ethics of design). The mere availability of archival documents to the public, which is generally referred to as "accessibility" of the archive[-as-document], is not enough.]

Once connections are made among certain resources and their producing agents (be they interpreters, composers, or any other role), relevant information begins to emerge, of which neither collection donators nor the editorialization team were necessarily aware. Patterns become discernible along with recurrent names, compositions, genres, topics. An ethically responsible administration of these patterns is the ultimate goal of continuous editorialization tasks performed by PoéticaSonora members. However, as will be discussed in the next chapter, manual and automatic updates must be constantly performed to ensure that metadata reflect the real world as accurately as possible.

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[38] Building up on this notion of a "work" as a multi-version distributed object, let us remember that other concepts such as *body*, *thing*, and *music* and *artwork* can all be defined as "bundles" of affordances, capacities, or affects (Sterne, 2012, p. 189; Ochoa Gautier, 2014, pp. 63-65). This conceptualization is related to Alfred North Whitehead's principle of relativity: "The potentiality for being an element in a real concrescence of many entities into one actuality is the one general metaphysical character attaching to all entities, actual and non-actual" (Whitehead, 1978, p. 22).

1.2.3 Tracing Relation in relational databases: SQL as techno-creole

A database finds patterns in data that may have no apparent relation, contributing to the production of new information. There are many ways to describe this relation between two pieces of data (which could be factoids, entities, concepts, or resources), but they are most popularly portrayed as tables, diagrams, or networks. A statement's basic syntax in a database is similar (although with varying meanings in terminology) to human language syntax: a subject, a predicate, and an object—"Leonardo Da Vinci painted the *Mona Lisa*" (Suber, 2012, pp. 27-28). Statements can be later organized into data schema (conceptual lists of the most important elements of a database), which have become key components in the development of DH archival and repositorial projects.

In this chapter, I procure to represent data statements not in graphic or ocular-centric terms, but in more broadly sensorial ones; in order to do this, I recur to the notion of Relation as understood by Glissant. This concept became relevant for PoéticaSonora in the context of data modelling, as it offered unsettling ideas for the ongoing resourcification of knowledge through database management, such as, "In Relation every subject is an object and every object a subject" (1997, p. xx). By offering alternative, decolonial interpretations of what database management systems (DBMS) *mean* for the creation of the PSP, this section paves the way for more critic-technical discussions on data schema and refactoring in Chapter 2. Such interpretations are crystallized into data modelling tips and counsels drawn from his writings, particularly *Poetics of Relation*.

Although Glissant never actually defined Relation,[39] Christine Chivallon describes it as "cultural forms driven by transversality—by connectivity—rather than by the linearity of the root-based ideology of the Nation" (2016, p. 75). It constitutes an important concept in his plan to overcome globalization's universalizing aspirations as understood from Western colonial policies. Like other key concepts in his work written with a capital letter (Trace, Diversity, Being), the

[39] While this may be perceived as his omission, it is true that he generally does not "define" his main concepts, mainly because he is "anti-definitive" in the sense of not seeking to decide, resolve, or conclude his ideas in any way. Glissant draws his own approach to Relation from a passage by Immanuel Kant, considering, "first, that it is the binding agent that guarantees the permanence of thought in the individual; and, second, that it has no share in the substance" (1997, p. 211). What interests him, though, is precisely what is not evident in Kant's passage, extending this notion towards "an opening onto plurality, insofar as it would be a totality. For Kant plurality takes place in time, not in space. In space there is existence, which seems not to be differentiated within itself" (1997, p. 212). Relation is not given *per se*, that is, among objects, but rather from an individual's point of view. Plurality in both space and time is a productive way to understand this and another Glissantian concept, *Chaos-monde*.

meaning of Relation in its proper noun form differs from its common noun form, eschewing any straightforward translation from French to other languages: "To the extent that our consciousness of Relation is total, […] we no longer need to add: relation between what and what? This is why the French word *Relation*,[40] which functions somewhat like an intransitive verb, could not correspond, for example, to the English term *relationship*" (Glissant, 1997, p. 27).

Glissant usually contrasts Relation with filiation, a colonial strategy based on the notion of the Root to legitimate a hierarchical world-view based on identity politics and alleged land ownership privileges (1997, pp. 47- 62). As an "intransitive verb" (or rather, as an uncountable noun), it contains in itself the world's diversity without making any claim for totality: "Relation is a product that in turn produces. What it produces does not partake of Being. That is why, without too much anthropomorphic reductiveness perhaps, we can risk individuating it here as a system, so as to speak about it by name" (1997, p. 160). While subject-predicate-object data statements are strongly influenced by Root-based filiation, Relation offers less unidirectional models of information transmission by upsetting the hierarchy established between subjects and objects, a strategy yielding a system nevertheless, however chaotic it may seem from an external perspective. The ambiguity or ungraspability of how relationships would operate within Relation does not mean it cannot be conceptualized as a scheme, albeit one much more open to organized chaos (or, in Glissantian terms, *Chaos-Monde*) and unpredictability:

> Relation diversifies forms of humanity according to infinite strings of models infinitely brought into contact and relayed. This point of departure does not even allow us to outline a typology of these contacts or of the intersections thus triggered. Its sole merit would lie in proposing that Relation has its source in these contacts and not in itself; that its aim is not Being, a self-important entity that would locate its beginning in itself (1997, p. 160).

The main issue at the core of filiation and of Being, "the old idea of identity as root" (1997, p. 141), is partly responsible for the centripetal forces driving the modern-colonial world-system. It is also the conceptual matter at the core of metadata and of any technology based on them. Relation, on its part, offers an alternative Weltanschauung—a different way of encountering the many identities and alterities of the world, as well as the interactions among

[40] It was due to passages like this that Betsy Wing, the first translator of *Poetics of Relation* to English, decided to translate "Relation" in the most literal possible way, attaching to Glissant's own intentions. Wing also translates adjectival, verbal, and common noun forms of "relation" in the same way. For comparative analysis reasons, I add the original word in French between brackets every time Wing translates a French word as "relation" (without a capital letter), compared with the original Gallimard edition (1990).

them, without denying their colonial heritage: “The consequences of European expansion (extermination of the Pre-Columbians, importation of new populations) is precisely what forms the basis for a new relationship with the land: not the absolute ontological possession regarded as sacred but the complicity of relation [*complicité relationelle*]” (1997, p. 147; 1990, p. 161). In this passage, we find Glissant casually using Relation as part of a prepositional phrase with an adjectival function, which could not be more telling of his political agenda behind Relation and Trace. Sometimes, only vague hints remain from important colonial encounters. Identity-as-root and its tendency to monumentalize the past is unable (or perhaps unwilling) to assign an important place in history to these hints, these memory-Traces, whereas Relation takes its force precisely out of such inability to cope with the past. The colonial wound-heritage is thus the basis for a new kind of ontology (in the sense given to this term both by information science and by philosophy).

The disruption of filiation’s inherent hierarchies in data statement management does not mean knowledge will become “clearer,” nor is it Glissant’s intention by proposing Relation as a new form of *in-der-Welt-sein* (being-in-the-world). The fact that different formats appeal to particular senses—texts to sight, recordings to hearing—suggests that all documents, be them monumental or not, bear an unavoidable level of inaccessibility for all the information they provide us. In this sense, editorialization tasks performed by PoéticaSonora members should aim at shortening the technology gap among users from different parts of the world, while at the same time conceding what Glissant calls “the right to opacity” (1997, pp. 189-190), an important step towards the liberation and recognition of alterities in a decolonial Relation-system:

> Opacities must be preserved; an appetite for opportune obscurity in translation must be created; and falsely convenient vehicular sabirs must be relentlessly refuted. The framework is not made of transparency; and it is not enough to assert one’s right to linguistic difference or, conversely, to interlexicality, to be sure of realizing them (1997, p. 120).

Here he is specifically referring to literary translation into “sabirs,” or “vehicular languages”—usually of Western colonial origin, such as Spanish, French, or English, turned *linguae francae* due to the hegemonic global political economies of knowledge (1997, pp. 19, 98-99, 104, 107, 116). But his opinions are also fit for analyzing translations from human languages to computer languages, or interpretations from an artistic or literary genre (spoken word, sound poetry) to a digital one (e-literature, metadata):

> The literary text plays the contradictory role of a producer of opacity. […] Literary textual practice thus represents an opposition between two opacities: the irreducible opacity of the text, even when it is a matter of the most harmless sonnet, and the always evolving opacity of the author or a reader. Sometimes the latter becomes literally conscious of this opposition, in which case he describes the text as "difficult" (1997, p. 115).

"The attempt to give 'some transparency' back to a text" (1997, p. 116) is a common strategy in language-learning methodologies as well, in search of texts whose opacity is less threatening (less "difficult") even when their apparent clearness can be deceiving (Glissant mentions the case of Albert Camus's prose as an example). The quest for transparency is also the purpose behind Cartesian logical reasoning and the modern-colonial world-system: "Dans l'histoire de la pensée occidentale c'est d'abord la conscience lucide et transparente de soi dans une expérience de la coïncidence qui a été pensée et seulement beaucoup plus tardivement les processus de l'écart, de la dissimulation et de la duplicité [In the history of Western thought, it is the lucid and transparent consciousness of self in an experience of coincidence which has been first thought of, and only much later the processes of gap, dissimulation and duplicity]" (Laplantine, 2001, p. 193). Clarifying a text, getting to its "bottom" or "core," is an attempt to fixate it, and ultimately to control the knowledge it produces or circulates. Hence the need for the right to opacity as a way to respect the knowledge that has been willfully transmitted to PoéticaSonora.

Both the reductionism of cultural productions to their textual dimension—a bias even in previously quoted passages—and colonial quests for transparency can be countered through a truly engaged politics of the sensorial: "Contact among cultures infers, however, a relation [*relation*] of uncertainty, in the perception one has or the experience one senses of them. […] Decisive mutations in the quality of relationships result from this, with spectacular consequences that are often thus 'experienced' long before the basis for the change itself has been perceived by the collective consciousness. […] What best emerges from Relation is what one senses" (1997, pp. 161, 162, 174). We see again how, for Glissant, a set of relationships [*rapports*] is fundamental to shape a relation (cultural, linguistic or otherwise), even when Relation cannot be reduced to their individual connections. Coming in contact with Relation, in any case, is a sensorial event, and as such it overcomes actuality—and textuality, too. A sound can be opaque in meaning and still be imbued with relevant information for the listener without ever going through a text.

Can the relational logics behind databases be tweaked to generate inclusive representation systems that are aware of Relation, defending the right to opacity? Glissant's definition of creolization, as well as his distinction between Relation and relationship, can contribute to redefine the role of how relational databases, a DBMS standard, are used for literary criticism. In mathematics, a relation is defined as the relationship(s) existing between a set of values. When displayed as a table, a relation is determined by its domain (the number of possible values or tuples a data element may contain) and its range (the attributes or columns defining such element), both of which establish relationships between different values (Zamora Nunfio, Soriano Ortega, & Sanjuan Carreño, 2016, pp. 10-11). In relational databases, relations are the basis of reference tables, formally linking elements to each other (also displayed as tables) through primary and foreign keys (ID numbers of a given tuple), allowing for an object's breakdown according to its different attributes, each of which would be displayed as a column in the object's table (Codd, 1970, p. 380).

This process of compartmentalizing or breaking down information into different tables representing entities and relationships among them, known as "normalization" (Codd, 1970, p. 381), is responsible for the increased complexity of relational databases, as will be explained in Chapter 2. As the Cataloguing Axis team came to understand the technical and epistemological limitations of this method, our goal was to make the repository's data schema as simple as possible while keeping a reasonable amount of contextualization at the editorialization level, thus purportedly granting the right to opacity to recordings and their authors, inspired by what François Laplantine and Alexis Nouss call "La pensée métisse, pensée de la traduction et de la relation [Métis thought, the thought of translation and relation]," which is "une pensée du dehors venant brouiller les distinctions conventionnelles de l'intérieur et de l'extérieur. Elle suppose que le dehors—qui est un autre nom pour désigner ou plutôt surprendre l'altérité—ne soit pas seulement dérivé ou projeté sur autrui à partir de soi [an external kind of thought that blurs conventional distinctions between the inside and the outside. It assumes that the outside world—which is another name for designating or rather surprising alterity—is not only derived or projected onto others from oneself]" (Laplantine, 2001, p. 197). This notion of *métissage*, still predominantly Western-oriented and French-centric (for it ignores decades of Latin American socio-anthropologic literature on colonial and postcolonial *mestizaje*, as well as decolonial approaches from North American indigenous and *métis* writers), is nevertheless useful in

fostering a politics of the sensorial that is in line with some Glissantian concepts: "une pensée qui se refuse à prendre les choses « à la racine », mais qui commence par observer et décrire ce que l'on ressent à la surface de la peau : le frémissement tactile provoqué par la sonorité des mots, la vocalité des textes, la couleur des idées [a way of thinking that refuses to take things 'from the root,' but begins by observing and describing what one feels on the surface of the skin: the tactile quivering caused by the sound of words, the vocality of texts, the color of ideas]" (Laplantine, 2001, p. 195).

In this sense, PoéticaSonora's quest—predetermined by established infrastructural conditions of technology in the Americas long before the project was even conceived—was to find a way to infiltrate Relation into a relational database by making audio recordings discernible through a digital tool without attempting to reify them into a fixed form for its preservation. Although this task was performed on every front of the project, both at the human resources and development operations level, in this section I will focus on SQL as a case study to sidestep some epistemological biases behind programming languages in order to "aprende[r] cómo esta máquina hace lo que tú quieres que haga [learn how this machine does what you want it to do]", as spoken word artist Edmeé García "Diosa Loca" says regarding loop pedal techniques (García, 2016; see Section 3.4.1).

An acronym for Structured Query Language, SQL is an ISO-certified computer language that perfectly illustrates how standard compliance and technology path dependence condition the way we interpret, arrange, and represent information through a database—which in turn is the product of a certain way of framing an epistemic methodology.[41] SQL has a huge presence in DBMS software, from the ubiquitous MySQL going through object-relational hybrids such as PostgreSQL to the payware Oracle (whose company recently acquired MySQL, although it kept it open source). The SQL command line employs English grammar elements, set theory, relational calculus and relational algebra operations to query detailed, dynamic, and updated information stored in a database. SQL statements are divided in three different aspects—data manipulation, definition, and control—defined by predetermined keywords which are conventionally written in upper case letters. An SQL statement is formulated using English verbs in imperative mode, such as `SELECT`, `CREATE`, or `GRANT`, determining the type of action to

[41] For Gary Tomlinson, a tool can modify the behavior that motivated its *areté* or prime function, not through a Lamarckian mutation process but in epicycles of reciprocal influence and modification (2015, p. 39).

perform and the effects it will have on the database—whether it is just a query or it will modify the database structure, edit or delete data, and manage user access options. Other predefined words, such as clauses `WHERE`, `ORDER BY`, `GROUP BY`, or predicates `BETWEEN`, `IN`, and `LIKE` refine the query and determine operations on specific values (Fig. 1.3). Most errors in a program like MySQL are associated with syntax, that is to say, the order and validity of the predetermined keywords combined in a given statement. Although these limitations make it a rigid language, sometimes two different statements can be used to perform some frequent operations, such as creating a new table or combining data from two different tables, the latter being possible without explicitly stating the function `INNER JOIN` in a statement (Rodríguez Ramírez & González Cruz, 2016; Rojas Delgado & Cano Granados, 2017).

It is worthwhile to notice how, as with object-predicate-statement data statements, terms like *statement*, *clause*, and *predicate* diverge from their meanings in both English and Spanish grammar. Its use in SQL conflates the specifically grammatical dimension (parts of speech—noun, verb, adjective) with the lexical-semantical one (parts of discourse—subject, predicate, clause). Thus, prepositions and adverbs such as *between*, *in*, and *like*, which may or may not be part of a predicate, become predicates themselves. Let us not be driven by the need to correct this terminology by invoking grammar, which has always been a colonial device to tame the other's voice (Ochoa Gautier, 2014, p. 190; Yépez, 2018). More than claiming beforehand that these terms' meanings are incorrect, let us consider them a terminological symptom of the emergence of a new mixture of human-machine language—a *techno-creole* sprung out of the contact of English with other languages, Spanish among them, as well as with relational algebra and calculus.

As suggested in previous passages, translation and literature are common similes for Glissant to explain the work of Relation. And while I describe how Relation sneaks into the cogwheels of DBMS, it is as if a new praxis-based grammar were taking shape. Mixing two languages, even if one of them is computer-based, can be considered a process of creolization:

> What I call Creole here (and contrary, perhaps, to the rules) is a language whose lexicon and syntax belong to two heterogeneous linguistic masses: Creole is a compromise. What I call pidgin is a lexical and syntactical reforming within the mass of a single language, with an aggressive will to deformation, which is what distinguishes pidgin from a dialect. Both practices are products of an active creolization (1997, p. 118).

```
SELECT
  array_to_string(array_remove(ARRAY[
    p.nom_part,
    g.nom_part,
    p.seudonimo,
    p.nom_materno,
    p.nom_paterno], ''), ' ') author,
  count(DISTINCT c.nom) recordings
FROM participante_pista_son son
LEFT JOIN persona p ON p.part_id = son.part_id
LEFT JOIN grupo g ON g.part_id = son.part_id
JOIN pista_son ps ON ps.pista_son_id =
son.pista_son_id
JOIN composicion c ON c.id = ps.composicion_id
JOIN serie s ON s.id = ps.serie_id
WHERE son.rol_pista_son IN ('Lectura en voz alta',
'Interpretación musical')
AND s.nom ~* 'eslam'
GROUP BY author
ORDER BY recordings DESC;

/*
*              author              | recordings
* ---------------------------------+-----------
*  Rojo Córdova                    |         11
*  Luis Ro                         |          8
*  Caco Pontes                     |          6
*  Jonatan Huachimingo Barreda Hernández |          5
*  Hugo Cóatl                      |          4
*
*/
```

Figure 1.3 SQL query retrieving the five most frequent performers during Rojo Córdova's poetry slams in 2015 at CCD in Mexico City. For a discussion on the implications for literary criticism based on this query, see Annex B. Source: David Lum using PostgreSQL.

This politically motivated "compromise" or "will to deformation" is what SQL shares with other manifestations of creolization. It is well known that any language is the result of centuries of development imbricated into its fabric, expressed through the use of specific vocabulary items and grammar rules, particular intonation systems or "accents," and cultural backgrounds. In the case of SQL, however, we have an "artificial" language (that is, designed by a human writing code instead of through intergenerational usage and transmission by a community or a region) which in a few decades became a lingua franca (another Anglo-American sabir, Glissant would say) among the most widely used DBMS software for transmission and standardization purposes. Its human linguistic basis, as with many other pidgins and creoles across the world, is English, so that keywords and syntax implicitly comply with English grammar rules. This is so deeply embedded into SQL that if I wrote any piece of literature in Spanish translating SQL to LEC (acronym for "Lenguaje estructurado de consultas," Spanish for

structured query language), no one would immediately understand what it refers to without previously explaining what I mean, or why such a translation was even necessary in the first place. This would also miss the allusion to its predecessor SEQUEL, which incorporated language predetermination into the acronym (Structured *English* Query Language). Finally, if a query language tried to replicate SQL into any other human language but English, it would still have to pass the ISO standard tests again, and in such case, it would not even be considered SQL anymore, for its syntax would have significantly changed.

As with creole and pidgin, SQL's syntax and vocabulary are essential for defining it as an example of creolization. The fact that SQL's birth, development, and standardization happened within a much shorter period of time than human languages allows us to observe how linguistic, cultural, class, race, and gender biases are set to motion in the establishment of a lingua franca—in this case, one used both to communicate with a computer and to establish a common ground for information classification and transmission (cf. Noble, 2018). For Haraway, "data base construction and management" is one example of "the translation of the world into a problem in coding", characterized by "a search for the common language in which all resistance to instrumental control disappears and all heterogeneity can be submitted to disassembly, reassembly, investment, and maintenance" (1991, p. 164). Both vehicular languages and technological sabirs seek to function as this common language, promising control over both its resources and its users. In cases like this,

> The solution to the key questions rests on a theory of language and control; the key operation is determining the rates, directions, and probabilities of flow of a quantity called information. The world is subdivided by boundaries differentially permeable to information. Information is just that kind of quantifiable element (unit, basis of unity) which allows universal translation, and so unhindered instrumental power (called effective communication)" (Haraway, 1991, p. 164).

The very essence of a relational system—organizing data into tables and relationships—is determined by the correlation between power and communication: if it can be uttered, then it can be controlled. At the center of such correlation lies the role of languages as representational systems employed to navigate the sensorial world.

Haraway's opinions on the database compel the question whether there can actually be Relation in a relationship *cum* table. This is particularly relevant in the context of fairly and equitably representing a colonized country's art heritage through a relational database. Glissant's perspective on the effects of normalization (although he does not call it that), as well as his

distinction between external and internal relationships, are key to answering that question. He sustains that it is impossible both to claim a culture's prime element or origin and to assert absolute knowledge of it "since its proper limit is not discernible in Relation" (1997, p. 169). The impossibility of breaking culture down into prime elements (Codd's normalization) is due to the existence of two kinds of relationships within Relation, internal and external. The former is "determined by something related [*s'apparenterait*] to the physical nature of things" (1997, p. 170; 1990, p. 184), while the latter is linked to interactions among cultures. He grants that defining both kinds could be a never-ending task, "because the components of a culture, even when located, cannot be reduced to the indivisibility of prime elements. But such a definition is a working model. It allows us to imagine" (1997, p. 169).

The pretense to represent any cultural manifestation in a database is therefore just as fictional as the representation systems which data modelling aims at substituting or overcoming. But this does not mean we should not attempt to (re)interpret and contextualize them. For Glissant, imagination is an antidote against colonial extractivist transparency: "The imagined transparency of Relation is […] the opposite of the reductive transparency of the generalizing universal" (1997, p. 55). The presumed "clarity" of the repository's data schema as a representation system must be open enough to allow for opacities to remain: "Analysis helps us to imagine better; the imaginary then helps us to grasp [*saisir*] the (not prime) elements of our totality" (1997, p. 170; 1990, p. 184).

While Relation is movement, totality is relation at rest (1997, p. 171); this means a system is dynamic only when it allows for the evolution of its content. This is obtained, Glissant insists, through imagination and the right to opacity: "The genesis of a particular culture could be grasped and its specificity approached without having to be defined. The genesis of Relation cannot be approached, whereas the definition of it can be, if not decided, at least imagined" (1997, p. 171).

Another lesson that a Glissantian approach to relational data modelling can offer is refraining from recurring to excessively specific examples to explain an element in a data scheme:

> Whenever we try to analyze Relation, the analysis as such being in turn an element of relation [*de relation*], it seems pointless to grant every new proposition in a succession of convincing examples. The example only bears a relationship to one element of a multiple whose parts are in harmony with and repel one another in

> many areas at once. Choosing one example (introducing it as evidence, using it for demonstration) also unduly privileges one of these areas: misperceiving relationship [*le rapport*] within Relation (1997, p. 174; 1990, p. 188).

This does not mean eschewing examples while explaining how a database is structured. Even the first academic paper on the subject[42] uses real-life cases (however abstract) to explain the different domains or attributes of a given relation (Codd, 1970, p. 380). Contrary to what is usually taught about data modelling, this approach proposes that specificity is not the key, but rather malleability. An imagined (that is, abstract) category that fits several different cases is more useful than a highly specific description of every case. This does not necessarily mean, to put an example, that switching from `agent` to `agentClass`, an entity encompassing an abstract grouping of individuals in the Library of Congress's Metadata Object Description Schema (MODS, 2018), is the straightforward solution for all cases. Rather, it means that simpler data schema are more effective when the number of entries in a database is expected to increase exponentially. The less restrictive a data scheme is, the more genres and artistic manifestations it may encompass.

> The accumulation of examples is reassuring to us but is outside of any claim to system. Relation cannot be "proved," because its totality is not approachable. But it can be imagined, conceivable in transport of thought. The accumulation of examples aims at perfecting a never complete description of the processes of relation, not circumscribing them or giving legitimacy to some impossible global truth. In this sense the most harmonious analysis is the one that poetically describes flying or diving. Description is no proof; it simply adds something to Relation insofar as the latter is a synthesis-genesis that never is complete (Glissant, 1997, p. 174).

If non-poetic description cannot "prove" Relation just as a hypothesis purportedly proves a scientific theory, at least it can imagine it. Another possibility is to embrace a poetically-oriented approach to description, in which case imagination is again crucial for finding cracks and lines of flight in digital forms of sound inscription.

This chapter worked around the interrelated concepts of representation and interpretation. It went from analyzing the most materially perceivable aspects of technologic infrastructural inequality between the Global North and South to understanding editorialization as the meeting

[42] Codd's early examples (part number, part name, quantity on hand, quantity on order, and so on) evidence this technology was initially meant for commerce and industry stock management, rather than for academic purposes (1970, p. 380). As in other situations related to technology development and improvement, the cyborg (Haraway, 1991) breaks free from the industrial or military complex in order to find a place in the public sphere.

point of embodied and digital labor in the context of a DH project. In the first section, I discussed some pragmatic strategies to avoid cognitive extractivist practices and create an equitable working environment within an international and interinstitutional research project. I also showed how tasks performed in Mexico or in Canada (materialized in the metadata produced by the Cataloguing Axis team) are given due recognition within the collaborative matrix. In this sense, Section 1.1 focused on the work of representation, defined by Stuart Hall as "the production of meaning through language" (1997b, p. 16), provided that it encompasses computer languages as well. Decolonial representations must operate both at the internal workflow level and at the external, symbolic one; for this reason, I switched from a heavily fieldwork-based analysis to a theoretical one, always revolving around the task of prototyping the PoéticaSonora digital audio repository. Section 1.2 discussed the process in which such representations are established (that is, interpreted) through the use of computer software, particularly the lingua franca of relational databases, SQL. After defining uses of this query language in a multilingual context as an instance of techno-creole, where linguistic mixture and deformation are key defining features, I looked at how Relation (Glissant's term for transversal, sensorial connectivity) can infiltrate the apparently stiff borders of DBMS. The need for non-extractivist intercultural collaboration models for equitable editorialization took us to consider the lessons a decolonial approach to sound studies can offer to DH practitioners in the Americas, drawing from key concepts and ideas by Glissant.

Having opted for SQL as the structuring language for the PSP database, information obtained during fieldwork and archival research was preconditioned, delimited and molded by the very results we wished to get from it, as if we were projecting our desires and intentions onto the data sample. At the same time, however, such information is more discernible and accessible through a representation system that is able to manage amounts of information that are increasingly unmanageable for the human brain. This situation can be defined as an "enabling constraint," as Erin Manning and Brian Massumi call a relational technique that both limits and boosts the event or context in which it is utilized (2014, p. 93). In this case, the constraint is tied to the use of a computer language based on set theory, relational algebra and calculus, as well as to the vehicular language (English) that permeates it. This also prompts the question whether "worlds and knowledges otherwise" (Escobar, 2003, p. 53) can spring out of such limits heavily burdened by Cartesian parameters.

The need for a metadata-based representation system that respects the right to opacity of aural traces (and of the people who produced their originating sounds) has led these intercultural and interlinguistic discussions, ultimately aimed at conceptualizing the dissemination of such traces in a digital repository. Throughout this chapter we have seen how the need for information control predetermines countless aspects of prototyping, from fieldwork and archival research all the way down to code writing and information retrieval. In Chapter 2, the discussion about how computer languages (such as SQL, but not limited to it) precondition the way we store and transmit information will be relevant once again, as well as how we can find cracks and lines of flight to eschew, and even overcome, these constraints in the practice of source-code writing.

Interchapter 1
The MP3 is Dead… Long Live the MP3? Format Choice and Digital Preservation

The MP3 audio compression format triggered some major shifts in the music industry, reconfigured audio playing devices and rematerialized the way we approach our music collections. It also became the object of many scholarly studies, such as George Yúdice's *Nuevas tecnologías: música y experiencia* (2007), Jonathan Sterne's *MP3: The Meaning of a Format* (2012), and Stephen Witt's *How Music Got Free* (2016). In 2017, the Fraunhofer Institute for Integrated Circuits announced that their patents for the MP3 had expired and their licensing program had terminated after 24 years. Despite this, users across the world will still be using this format for some time. But how long will its cultural influence last, and how are digital humanities projects facing issues like long-term preservation in view of the format's so-called "passing away"?

Perhaps due to the announcement's conclusive tone (shouting out to everyone who took part in the project, thanking them for their support), it has been interpreted by some media as "the death of the MP3" (Fraunhofer Institute, 2017). But as both Sterne and Witt clarify, other "deaths" have been previously heralded, as it struggled from the very beginning with other competing formats, like RealAudio, or MPEG-2, which for some time seemed to win the match. As early as the mid-90s, an Australian hacker reverse-engineered a Fraunhofer MP3 codec and released it under the name "Thank You, Fraunhofer" (Sterne, 2012, pp. 201-202). Here is where both narratives of the format's history diverge—whereas Witt considers the MP3 thrived on despite being hacked, for Sterne this contributed to its popularization.

In a typical reaction to the news, NPR's Andrew Flanagan considers, "We may still use MP3s, but when the people who spent the better part of a decade creating it say the jig is up, we should probably start paying attention" (2017). But is this really the end of the format? It probably would be if it hadn't been released to the public domain—and officially it wasn't, but there are other "liberation" stories besides "Thank You, Fraunhofer." Since the late 90s, LAME, a codec under a copyleft license, has cleared the way for open source audio compression. It is used by digital audio workstations such as Audacity, CDex, and Virtual DJ. Although its developers claim it does not infringe on any copyright law, given that its source code is released for educational purposes only, they do remind us that, in some countries, using it can interfere with Fraunhofer's patents—that is, until now. Version 3.99 was released in October 2011, and its most

recent revision was in February 2012. The latest version, 3.100, has not been released yet, and there has been no news from the developers after the expiration of Fraunhofer patents. However, open source software programs like freeware audio player Foobar2000 added LAME to their encoder packs right after the announcement.

It is true that there will be no more industrial development of the techniques that brought about its creation. But the MP3 will be circulating in Western and Westernized cultures as long as the infrastructure that supports it still works. This is not the same as when the last company manufacturing VCR players announced they would stop producing them (Barrett, 2016). People can still create MP3 files without Fraunhofer; new improvements to the format (if any) will come from open source communities, rather than the industry. AAC has been usually referred to as the "natural" heir of the MP3's kingdom, but it will hardly have the same cultural impact. As Sterne reminds, "To succeed, the MP3's eventual replacement will require its own combination of technical processes, multi-industrial and transnational regulatory formations, user practices, and opportunities. Whatever it will be, we know that simple technical improvements or new business models are never enough" (2012, p. 199).

There has also been a severe path dependence (the tendency to using one particular standard or technology instead of another) from audio industries on this format, which is difficult to resist. This concept, coined by Paul A. David and studied by media scholars such as Trevor Pinch (2001), explains the success and domination of MP3—a format partaking of the histories of the music, computer, consumer electronics, and broadcast industries (Sterne, 2012, pp. 134-135)—not by having the best audio quality in the market (which it hasn't had, and probably never did), but rather by the strong inertia this standard exercised for years upon the very media that made its birth possible in the first place. As Sterne explains,

> Once manufacturers and users adopt a system built around a certain standard, the standard becomes a self-reinforcing phenomenon. Both manufacturers and users have interests in the persistence of the standard (or "path"), since a change in standard means a transformation in manufacturing equipment and sometimes major purchases for users. So the potential advantages of a new standard have to outweigh the cost for either manufacturers or users (2012, p. 199).

This transition to a new standard will take longer to happen in Latin America, for example, where selling CD-Rs of USB drives full of MP3 files is still a business for informal computer stores and marketplaces. Due to the political economy implied in the international distribution of digital labor described in Chapter 1, the fading away of the MP3 infrastructure will

take much longer than in Western Europe or North America.

So, what will happen to MP3-based audio repositories, like PennSound or UbuWeb? In fact, this question raises the conundrum of digital preservation in general—we do not really know how to preserve files that in the long run will become obsolete (that is, inaccessible through available infrastructures). As stated by the editors of the *SPEC Kit* survey report on digital preservation in North American research libraries, "The question of broad support for digital formats and/or successful migration to archival quality formats has remained a topic of great interest in the digital preservation community" (McMillan, Schultz, & Skinner, 2011, p. 10). Some have suggested the use of prevailing standards in digital formats, software, and protocols (Goddard & Morrison, 2016), while others consider data migration and emulation as better options (Lowood, et al., 2009, p. 144). Format migration is not recommendable for MP3 files because it is an end-use format, and recodification is strongly discouraged by its promoters. Nevertheless, people regularly recode and circulate MP3, as in the case of mashups.[43] The result, of course, is a loss in definition, just as when a document is photocopied too many times.

The centripetal forces exercised by this dependence on existing, well-established technologies forced PoéticaSonora (a digital audio repository prototype designed by faculty members and students from Concordia University in Montreal and UNAM in Mexico City) to accept compressed or "lossy" audio formats like MP3 or M4A as access formats, even though most recommendations suggest uncompressed or "lossless" ones like FLAC. This was due to the fact that most of the sound recordings donated by cultural institutions, private collectors, and artists themselves came in MP3 format, some others on CDs, and only a few in lossless formats. It is important to emphasize this given that digital preservation is a process that begins well before the moment a file is stored in a preservation repository (Smith Rumsey, 2013). Even though the Cataloguing Axis team promotes the use and transmission of lossless formats among institutions and donors, we have noticed how it is impossible to escape from MP3 path dependence. Under such circumstances, we have followed suggestions from digital preservation experts Lisa Goddard (University of Victoria) and Kelly Stewart (Simon Fraser University), using lossless formats for preservation and MP3 for access purposes (Goddard & Morrison, 2016; SFU, 2017). This way we get a backup that is not dependent upon external supports prone to

[43] "A mashup is made by combining two or more recordings and beat-matching them in such a way that they 'work' together as a new kind of song" (Sterne, 2009, p. 61).

deterioration, like CDs; it also means, however, that there may not be a high-definition version for some recordings.

An MP3-based dissemination repository is not capable of ensuring long-term preservation for its materials after a certain time and, as has been mentioned, some countries may not even have the infrastructure and resources to sustain a preservation repository in the short to medium terms. One of the reasons why the PoéticaSonora prototype (PSP) switched its focus from preservation to dissemination was due to our impossibility to ensure long-term high-quality migration from a lossless audio format, such as AIIF or FLAC, let alone WAV (which is actually an audio compression format, just as MP3, making it an odd selection for long-term preservation in some institutions' recommended practices).

Sterne frequently talks about the conflation of media and users in communication models and warns, "When we reduce some aspect of humanity to a single model, we elevate one set of problems and interests above all others. We take industrial and technical formations [...] out of context and elevate them to the transcendent ground for discovering human truth" (2012, p. 243). Overall, it is good that the industry is moving forward from the MP3 because the perceptual limitations of the psychoacoustic model on which it is built made it a perfectible format. Paraphrasing John Philip Sousa's derision of recorded sound as "canned music," Sterne claims, "MPEG audio is processed sound for listeners who live in a processed world" (2012, p. 159). The AAC is not as hip as its predecessor, but it is just as processed. Until another format does not break its ties with psychoacoustics and its biased sound processing, we cannot claim there is a strong candidate to occupy the place that MP3 has had during the last three decades.

When Sterne suggests digital preservation may not be possible in the long term (Sterne, 2012, p. 229; Sterne, 2009, p. 63) he is not only referring to the infrastructural resources needed for its sustainability, which is already a very important argument. His preservation paradox points to an epistemic problem—how information can be retrieved after those resources have been exhausted and the supporting infrastructures do not exist anymore. Digital formats are irretrievably more inaccessible than analog ones, and their sustainability begs another question regarding the actual *physical* place of a digital repository within the Western university system. Do repository specialists and managers work in a research center, an IT department, or an archive? While North American research libraries have become predilect spaces for access and, sometimes, preservation of digitized and digital-born content, the role played by their staff, the

allocation of resources, and infrastructure remains the object of much heated debate (Posner, 2013; Nowviskie, 2013; McMillan, Schultz, & Skinner, 2011). As the *SPEC Kit* report has found,

> it is much more likely that a group within the library, rather than an individual, will have primary responsibility for researching and developing the library's digital preservation policies […]. In the relatively few libraries that give an individual policy development responsibility, it is typically a digital initiatives librarian or special collections head (McMillan, Schultz, & Skinner, 2011, p. 11).

This situation is utterly different in Mexico, where digital audio preservation initiatives usually stem from efforts within independent research groups such as PoéticaSonora, which is not officially affiliated to any academic or cultural institution, deprived as well of their economic and infrastructural resources. Both the project's blog and prototype are hosted in private servers, unable to obtain maintenance and sustainability benefits from university faculty servers and technicians (whose resources, in the case of UNAM's School of Philosophy and Letters, are already allocated to existing digital projects). The problem is not limited to the Mexico City campus; in Morelia, the Impresos Populares Iberoamericanos (IPI) main page is still not part of a UNAM server either. In order for these projects to be admitted to UNAM's Red de Acervos Digitales, both are required to migrate their databases to the open-source repository software package DSpace, a process that is underway.

Many important decisions about PoéticaSonora's sustainability and its commitments to long-term preservation have been carried out from outside the library environment by only two or three members, as opposed to larger groups of specialists in similar North American projects.[44] The lack of material and administrative conditions for the development and implementation of proper digital preservation policies in Mexico is a shared problem with IPI, whose "IT department," so to speak, is comprised by one person. Without the appropriate funding sources or the adequate infrastructure, both institutionalized and independent research groups heavily rely on a limited number of individuals (usually males) to perform dev-ops, prototype, implementation, management, and preservation tasks—all at once, sometimes without

[44] See for example the SpokenWeb governance structure in its third phase. Several task forces focus on specific areas of expertise (metadata, pedagogy, rights, podcasts, sound signal, and so on); each of them is comprised of technicians, researchers, artists, and students coming from different backgrounds and participating institutions (SpokenWeb, n.d.). See also the implementation in Canada of the digital preservation software system LOCKSS, developed by Stanford University and used by the Council of Prairie and Pacific University Libraries (COPPUL), comprising universities from British Columbia, Alberta, Saskatchewan, and Manitoba (McMillan, Schultz, & Skinner, 2011, pp. 122-127).

sufficiently accredited certifications to work on so many different fronts. Similar constraints are faced in North America, where "the most frequently reported barriers to preservation were staffing and expertise" (McMillan, Schultz, & Skinner, 2011, p. 12), and "several institutions reported having difficulty making the transition from grant-funded support to dedicated institutional funding for sustained operations" (McMillan, Schultz, & Skinner, 2011, p. 12).

While there are some impressive systems proving long-term digital preservation is possible for well-funded North American universities, the sad reality is that most of these resources are currently unsustainable in a country like Mexico. It is also unclear whether research libraries will play a major role in long-term preservation of digital content and its containing repositories in the country.

PoéticaSonora's Cataloguing Axis members have faced these and other decisions that were conditioned by current format and infrastructure standard practices, some of them more unavoidable than others. At a very early stage in the project, for example, when the prototype was being designed and still not available online, editorialization tasks were performed through the use of open source audio editing software Audacity, especially its metadata editing tool.[45] The problem with this process is that it compromised the original files' provenance and quality, as they must be converted to Audacity's format to be editable. We tried other programs such as Mp3Tag to modify metadata without migration (and hence without data loss). However, these practices were abandoned because no digital audio player would display our customized metadata elements (such as instrument, or series), which are very relevant for us. When the database was finally online, metadata and audio recordings were stored separately, a practice endorsed by standard practices as well.

Debates on standards and protocols evidence the politics behind the preservation for large amounts of information, and of technologic infrastructures determining the course of a research project when certain digital tools are chosen over others. These infrastructural decisions were determined long before such research was even conceived or carried out, without the researcher

[45] For an instance of research stemming from such methodology, see Annex B. By "editorialization" I mean the practice of contextualizing the referential networks of an audiovisual document during its re-medialization and consequent integration into new formats. Editorialization tasks (which may employ data modelling, programming, and markup languages, but are not limited to them, and are complementary with both aurally and text-oriented literary criticism) seek to reduce what Bruno Bachimont calls "the intelligibility gap," caused by the epistemic distance existing between the space-time of the audiovisual document and the current one (Bachimont, 2017; Treleani & Mussou, 2012, pp. 5-6; Treleani, 2014, pp. 33-47, 92-93).

being able to change them, just accept or refuse. This is not a question of advocating for a neo-Luddite destruction of all existing standards, but of maintaining a critical perspective on their design, implementation and development. If “preserving digital sound recordings will require more in resources than their analog counterparts” (Sterne, 2012, p. 229), we must at least be aware of the possibility of emerging new standards that could facilitate working at a conceptual and technical level with large quantities of audio files.

Chapter 2
Audio and Inscription:
A Case Study on the PoéticaSonora Prototype

> *J'ai eu, il n'y a guère, connaissance du projet d'une Société en informatique du Japon, qui investissait des sommes considérables dans l'étude théorique de quelques langues orales africaines : l'intention était d'explorer les capacités de ces langues à générer un nouveau langage en informatique et à servir de support généralisé pour des systèmes inédits. Bien entendu, ces recherches avaient d'abord pour but la conquête d'un marché potentiel au XXI^e^ siècle et pour la motivation la concurrence à l'anglo-américain. Mais on note comment la technologie la plus intéressée consacrait là, non pas certes la libération (de fait) des langues de l'oralité, mais déjà leur reconnaissance en droit.*
>
> (Glissant, 1990, p. 123)[46]

2.1 Speculating on the logics and/of language in computer programming

As discussed at length in Chapter 1, Martinican thinker Édouard Glissant was well aware of the growing importance of computer programming for the political economy behind the international distribution of digital labor in the modern-colonial world-system. That is why, in *Poetics of Relation*, from which the epigraph above comes, he mentions a programming language experiment based on African "oral" languages. Although Glissant understands there is a colonialist drive behind the funding of such research under the shape of commercial competition between multinational companies, he glimpses the importance of digitality in recognizing the transcendence and value of non-vehicular (or colonized) languages in the production of new and old forms of knowledge:

> Poets today, fascinated by the adventure of computers [*l'informatique*], sense that there lies, if not the germ of a possible response to society's haranguing, at least a chance to reconnect two orders of knowledge, the poetic and the scientific. Visible now, and approachable thanks to computers, scientific intention, putting in action

[46] "Not long ago I learned of a project in which a Japanese computer company was investing considerable sums of money on a theoretical study of several African oral languages. Its intention was to explore the capacity of these languages to generate a new computer language and to provide broad-based support for new systems. The primary goal of this research was, of course, to capture a potential market in the twenty-first century, and it was motivated by competition from Anglo-American companies. Still, it should be noted how the most self-interested technology was thereby sanctioning not the (actual) liberation of the languages of orality, of course, but already their right to be recognized" (Glissant, 1997, p. 109).

> the most obvious workings of social responsibility, concretely alerts and questions the poet. For what information can the poem be responsible? Can this information shoot through a computer's laser jets […]? (Glissant, 1997, p. 81).

These evocations of orality less than a decade after Walter Ong's original statements serve as a prelude to looking at source code as a cultural process (Marino, 2006). Through the evocation of laser jet printers, it emphasizes their still prevalent text-centrism as well. It also resonates with Lisa Gitelman's notion of annotated editions and mark-up languages as "graphical barbed wire" (2006, p. 117) put around a text—or, for that matter, any other kind of sound inscription. As I have discussed in Chapter 1, metadata is the middle ground between a sound work's content and the programming functions invoked to make them both available to the user.

In this chapter I will focus on the PoéticaSonora prototype (PSP), a digital audio repository storing and classifying sound works recorded and produced in Mexico since 1960. The fact that the repository's source code and its content are in different languages begs the question of the linguistic hegemony exercised by English over computer programming paradigms. While many computer languages have been developed that are not based on English, such as the Chinese versions of C++, Basic, and Python, or those based in Korean, Russian, and Arabic, none of them has had the popularity of their English counterparts. In Spanish there are some compilers, pseudocode interpreters, and direct translation pseudo-programming languages, such as Pascual, Sí, and Latino, which range from providing functions in Spanish without altering the original program's English structure, up to creating a new programming language from scratch. None of them, however, is able to eschew the high-end program used to develop them—mostly C or some of its versions, another lingua franca of programming languages, originally written in English. For example, the famous program "Hello, World!"[47] is expressed in C++ in the following terms:

[47] In order to "read" source code (that is, to understand it at a critical level, even if not every function is evident for those unfamiliar with computer science), it may be useful to remember what Wendy Hui-Kyong Chun says about executability and causality in code writing: **"**Programming languages offer the lure of visibility, readability, logical if magical cause and effect. […] Consider this ubiquitous 'hello world' program written in C++ ('hello world' is usually the first program a person will write). […] Although not immediately comprehensible to someone not versed in C++, this program nonetheless seems to make some sense, and seems to be readable. It comprises a series of imperatives and declaratives that the computer presumably understands and obeys. When it runs, it follows one's commands and displays 'Hello World!.' It is no accident that 'hello world' is the first program one learns because it is easy, demonstrating that we can produce results immediately. […] The seeming ease of programming hides a greater difficulty—executability leads to unforeseen circumstances, unforeseen or buggy repetitions" (2011, pp. 47-48).

```
#include <iostream>
using namespace std;
int main(void)
{
     cout “Hello, world!” endl;
     return 0;
}
```

In Sí (whose name is an aural pun on its English predecessor, C), the same program would look like this:

```
#incluir <iostream>
usando nombres std;
int main(vacío)
{
     ca “¡Hola, mundo!” terml;
     volver 0;
}
```

With the aid of this sort of digital Rosetta stone, suddenly the cryptic nature of some functions with abbreviated names (such as `cout` and `endl`) becomes clearer—they signal console output and the end of a line. However, other functions like `iostream`, `std`, and `main` remain irretrievably in English. Despite the efforts of Sí's developers to provide Spanish-language programming code, the result is a mixture of Spanish and English in which traces of the original template are still visible. More than a palimpsest, and for all its allure for poststructuralist approaches to literary criticism, this is rather another instance of *techno-creole* (see Section 1.2.3) resulting from the contact of English with Spanish and code. Terms used to describe different parts of a programming language's syntax—statement, clause, predicate—diverge from their original definitions in English grammar. Rather than taking a prescriptive stance and seeing this as a mistaken use of terms, it proves code can be considered “a special type of language” (Marino 2006). This man-machine linguistic tension also evidences a breaking point where acts of resistance are potentially visible. It should be seen as the expressive potential of source code both as creative writing *and* as code, even when it is not expressly made for literary purposes (see Interchapter 2).[48]

[48] Chun frames the emergence of source code as a paradigmatic change for computer programming in the context of the U.S. technological race against the Eastern Bloc in the second half of the twentieth century, out of a desire to automatize and routinize mass calculation in human computing, which was eventually transferred to machines (2011, p. 38). She also understands software (the “source” in *source code*) to be axiomatic, and as such it “temporarily

The difficulty to overcome the use of English language in computer programming is another clear example of path dependence (see Interchapter 1) around technological improvements by English-speaking countries after the fall of the Eastern Bloc. Although we are far from having a programming language entirely based on oral commands, the importance of speculation fostered throughout this dissertation prompts a vow for the recognition of the aural dimension of multilingual knowledge in the programming paradigm.

Language use is only one front in the potential decolonization of computer programming; another one is to be found in the logics behind computer languages such as SQL, particularly set theory and relational algebra. Responsible for most data query operations in relational databases, these two mathematical fields heavily condition information flux and display in the most popular programs for digital research development. For all the symbolic importance non-English programming languages may have for the diversity of knowledge production, path dependence and standard compliance forced the PoéticaSonora prototyping team, based at Concordia University in Montreal (see Section 1.1.1), to use English-derived programming languages to perform their tasks. This, of course, immediately begs the question about the interaction between English and Spanish *within* the database, as well as other languages that are present in the sound works to be stored in the PSP. Linguistic interaction has permeated decisions taken throughout the whole process, ever since the first data schema's[49] modelling and testing in 2017, up to the refactoring that took place between 2018 and 2019.

The notions of Relation and coloniality of knowledge, explained at large in Chapter 1, are quintessential in understanding how the PSP was designed and tested. This phase in the project evidences how some linguistic and technological constraints are deeply embedded in data modelling and computer programming in general, while it documents the difficulty in overcoming the global economic politics of knowledge from within its very own structures. It is not just that some types of knowledge are favored over others, but even the way such knowledge

limits what can be decoded, put into motion, by setting up an artificial limit […] that seeks to separate information from entropy […]. Programmability, discrete computation, depends on the disciplining of hardware and programmers, and the desire for a programmable axiomatic code. Code, however, is a medium in the full sense of the word. As a medium, it channels the ghost that we imagine runs the machine—that we see as we don't see—when we gaze at our screen's ghostly images" (2011, pp. 49-50).

[49] There are usually several schema involved in the development of a database. In the PSP there are three of them: one for the database as such, another for the administrators' and user-testers' access, and an intermediate one between these two for data entry, editing, and validation. When I use the plural form "schema" I refer to the three as a whole, while I limit the singular "scheme" to refer to the level where audio recording metadata is stored.

is transmitted (through human or computer languages) is conditioned by decisions made long before a digital project like PoéticaSonora was even conceived. The drive towards standard compliance in the design of the PSP meant that blind-spot situations, such as the predominance of English over Spanish (and in fact any other language) in computer programming, or the enforcement of certain principles to ensure data integrity in relational databases, are almost unnoticedly assumed by the developers throughout the prototyping process.

This chapter will discuss how the PoéticaSonora prototyping team in Montreal dealt with the notions of audio and inscription in the context of these limitations set by code writing and data modelling. As primary sources it draws on data schema and source code written for the PSP, as well as on participant observation, field notes, and a semi-structured open interview with programmer and amateur musician David Lum, the research assistant in charge of deploying and refactoring the PSP. I thus rely on methodological tools coming from both ethnography and critical code studies[50] in order to understand how the initial data sample contributed in modifying the repository during the prototyping process (Restrepo, 2016, pp. 39-50, 54-61; Marino, 2006).

Section 2.2 is perhaps the most technical and descriptive one in the whole dissertation, albeit essential for understanding the importance of the refactoring performed by Lum: from having around 30 tables, the data scheme was simplified into only seven. It is also a necessary step before discussing other issues faced by the prototyping team that border on the fine distinction between code and content. I will not detail every bug and enhancement suggestion (which are nevertheless available on GitHub), but rather focus on issues that implied theoretical, methodological, or pragmatical reconsideration, as well as to discuss the on-field solutions we found for each case, given our budget and infrastructure limitations.

One of the most important distinctions made by the first exponents of critical code studies is that between operational code—functions, file names and locations, etcetera—and data. Everything included in the code between quotations marks, as in “Hello, World!”, indicates it is not intended for the computer to read but to manipulate it (Marino, 2006). As we will see in Section 2.2.1, this forced the team to distinguish between the backend language (exclusively in English after refactoring), the frontend language (in English or Spanish depending on the user’s

[50] Critical code studies (CCS) “is an approach that applies critical hermeneutics to the interpretation of computer code, program architecture, and documentation within a socio-historical context. CCS holds that lines of code are not value-neutral and can be analyzed using the theoretical approaches applied to other semiotic systems in addition to particular interpretive methods developed particularly for the discussions of programs” (Marino, 2006).

location), and the data or content as well as its related metadata (the result of PoéticaSonora's editorialization tasks, mostly in Spanish). In the process, Lum went from writing the code with a mix of Spanish and English to using a translation library applied at the frontend level, changing the focus on language contact from data modelling to end-user interaction. This, of course, does not subvert the coloniality of knowledge implied in the predominance of English over Spanish[51] or any other language in the field of computer programming, but it made sense for Lum to leave the code as readable (in English) as possible.

Section 2.2.2, "Edge-case data vs structured data," focuses on an important decision regarding data integrity and the enforcement of the fifteen core elements that constitute the prototype's data scheme (see Table 2.1). It also discusses Lum's conclusion about relational databases having difficulty in representing exponentially-growing, highly relational data, as it is expected for PoéticaSonora to happen. In order to avoid an unnecessary proliferation of tables in the data schema, Lum used data types coming from nonrelational data modelling, thus "breaking" some laws in relational database design yet at the same time making the source code much simpler and more effective. As an example, in this section I will look at two fields that were denormalized after refactoring, "date of death" and "instruments." Lum's procedure goes a step further from recommendations by Harvey Quamen made more than a decade ago, when he suggested reducing code volume by moving from MySQL, the standard relational database management system, to more object-oriented programming software (Quamen, 2006). While this may not sound surprising for computer science students, it must be discussed in the context of a strong support in summer schools, workshops, manuals, and other digital humanities (DH)

[51] It may be argued that Spanish is also a vehicular or colonial language, in the sense that its dominant dialect (Castilian) was Spain's official language during its imperial expansionist period, from the late 15th to the 19th century. However, it is still at a disadvantage when compared to the hegemonic techno-cultural inertia of English in the international production and circulation of academic knowledge. Moreover, revindicating indigenous languages is not always possible in Latin American regions with a deep colonial heritage where miscegenation (known as *mestizaje*) has been widely exercised. Countries in which Spanish is the main or official language, such as Mexico, have large populations—mostly urban—that cannot trace their origins or ancestry back to a specific indigenous community, thus not having any legitimate or family-tied motives to speak their languages. As an example, both my parents and I were born in an urban society (Mexico City), whereas only one of my grandparents (my mother's father) was born in an indigenous community but was raised in a Catholic seminary. Neither he nor any of his fourteen children spoke Nahuatl, and few family members have felt the urge (let alone the right) to learn it, as our ties with Mexican indigenous cultures seem to have been effectively severed by my grandfather's transition from a rural to an urban setting via religious education. Spanish is so deeply naturalized in Latin American *mestizo* communities of this kind that its usage does not *seem* to be determined by a colonial relation with Spain anymore, as Glissant explains: "The result of this is that Spanish […] really became the national language of Cubans and Colombians, with no spectacular problems or acknowledged conflicts. This did not happen with French" (1997, p. 118). Neither is it the same as when English is portrayed as a neutral lingua franca.

initiatives for SQL database management systems (Quamen, 2017; Martin, 2016).

ID	*Identifier*
Nombre de archivo	*File name*
Título	*Title*
Intérprete	*Author*
Colección	*Collection*
Año	*Year*
Género	*Genre*
Instrumento	*Instrument*
Contribuidor	*Contributor*
Publicador	*Publisher*
Idioma	*Languages*
Derechos	*Rights*
Cobertura	*Coverage*
Comentario	*Comment*
Temas	*Tags*

Table 2.1 PoéticaSonora's fifteen main elements, based on the Dublin Core Metadata Initiative, along with a simple English translation. While most definitions are taken almost verbatim from Dublin Core, others were specifically chosen for the classificatory needs of recordings stored in the PSP, such as `Instrumento` and `Colección`.

There is a similar motivation in Section 2.2.3 for understanding the importance of refactoring for data entry and display. It focuses on how the distinction between composition and interpretation (or performance) illustrates the problems posed by relational database modelling, and how Lum's denormalization sought to solve them. The composition-performance dichotomy has been deeply studied by musicologists, focusing on certain genres and subgenres such as rock, jazz, and electronic dance music (Butler, 2014, p. 59). This section seeks to contribute to that discussion from the perspective of poetry-music interdisciplinarity and sound studies.

If there was a moment when the prototyping team had to grapple with data modelling limitations, this is described in Section 2.2.4, "Singing voice vs reciting voice." Given that signal processing analysis tools are still not available for standard database modelling practices, we had to make a customized distinction between melismatic and meaning-oriented uses of the voice, corresponding to singing and reciting. This contributed to characterizing human voice for singing

as an instrument in itself, a decision that was backed by comments and opinions made by vocal artists in Mexico City, to be discussed in Chapter 3. In turn, it raises questions regarding the instrumentality of techniques and devices that, strictly speaking, are not instruments, yet are used as such. In this category we may also find loop stations (also discussed in Chapter 3), other effects units, as well as non-linguistic uses of bodily parts (such as hand claps, whistles, or tongue clicks).

As its title makes clear ("Individuals, Groups, and Collective Actions"), Section 2.2.5 details how the prototype characterizes collectivity and collective action in the context of a sound-based performance. This is another relevant topic in Chapter 3 for understanding how PoéticaSonora can contribute to both extending research on artistic groups and creative collaboration as well as to condensing and disseminating information about a particular recording or artist. In order to do so, I briefly sketch out some approaches to collectivity from the social sciences that have informed my previous research on the subject, particularly Antonio Melucci's notion of collective action, and contrast them with Bruno Latour's reticular approach to human-machine interactions.

I conclude this chapter with a reflection on David Lum's role in the project evidencing the need for a programmer's deeper commitment with the database's content, rather than just its infrastructure. Drawing from DH literature on the active role of research assistants in digital projects, I conceptualize Lum as a collaborator to the PSP rather than as a humanist-programmer interface, and I finish by listing some eligibility criteria for a programmer who may take on the necessary steps for the implementation of the project's Beta version using an open source software repository package.

The prototype's initial data sample, consisting of 429 tracks, helped us determine which data would be more freely available and which would be difficult to obtain. It implied making important decisions at the theory and methodology levels to implement necessary changes and solutions into the prototype. This, in turn, was a reminder of what was discussed in Chapter 1 about the prototyping process as a political act, and on the importance of validating data modelling and refactoring through fieldwork and archival research. In practice, such a heuristic approach meant that the initial model must be refactored anyway, a situation we had in mind remembering Frederick Brooks' mantra, "Plan to throw one away; you will, anyhow" (1975, p. 116).

In general terms, this chapter documents the prototyping process from a technical perspective by a humanities scholar and a junior programmer. It also evidences how the degree of freedom offered to research assistants in the development of a DH project empowers both them and the team as a whole, while at the same time poses new challenges for the deployment of a Beta version, a topic further discussed in depth in the Epilogue. In a great way, this chapter illustrates the path of two graduate students "messing up with data"—with due supervision from the project's coordinators—and learning through the process how to better cope with the limitations and affordances of the PSP's software stack. I quote and analyze Lum's interview so extensively in order to give him due presence while narrating this process. The PSP source code is just as his as it is a collective endeavor, and this must be acknowledged at every possible moment. Although the chapter may yield fruitful conclusions for specialists in computer science as well, it asks particularly important questions for social scientists and humanists who wish to engage in database design for continuing or advancing their own research. It also gives pragmatical advice to potential developers of similar archives documenting audio recordings in languages other than English.

2.2 Technical specifications and refactoring of the PoéticaSonora prototype

PoéticaSonora is a project-in-progress developed by students and faculty members from Universidad Nacional Autónoma de México (UNAM) in Mexico City and Concordia University in Montreal with an ambitious goal: to gather and disseminate most of Mexico's sound poetics recordings in digital audio format (see Introduction and Annex A). The results of archival research and fieldwork phases have been disseminated in the project's blog since long before the completion of the repository. In 2016, the year the project was kickstarted, the axes of Dissemination, Cataloguing, and Criticism were sketched out as the group's main fields of interest and action (Fig. 2.1). Very soon was the Criticism Axis dissolved into the remaining ones, so that Dissemination and Cataloguing would integrate the necessary critical and editorial tools to sketch out the history of sound poetics in Mexico, each of them according to their own mandates and objectives, and develop methodologies for their analysis based on case studies that helped each team assess their own needs (see Introduction). For this reason, during the prototyping phase there have been two main websites for the project; one is the blog (https://poeticasonora.mx) in which news, calls for participation, reports, and essays written by PoéticaSonora members are

constantly posted and circulated, while the other is a temporary site for the repository prototype (https://poeticasonora.me) which is the main object of study in this chapter and this dissertation. All the figures are screenshots from the latter URL address, particularly the refactored version; only where indicated do they come from the older, now discontinued version.

The Cataloguing Axis, to which the Montreal team mostly belongs, had to directly face the implications of linguistic and technological constraints during the code-writing process. In this section I will focus on the main changes the PSP went through after refactoring, clearing the way for more specific discussions on collectivity, instrumentality, and voice modulation in Sections 2.2.3 through 2.2.5.

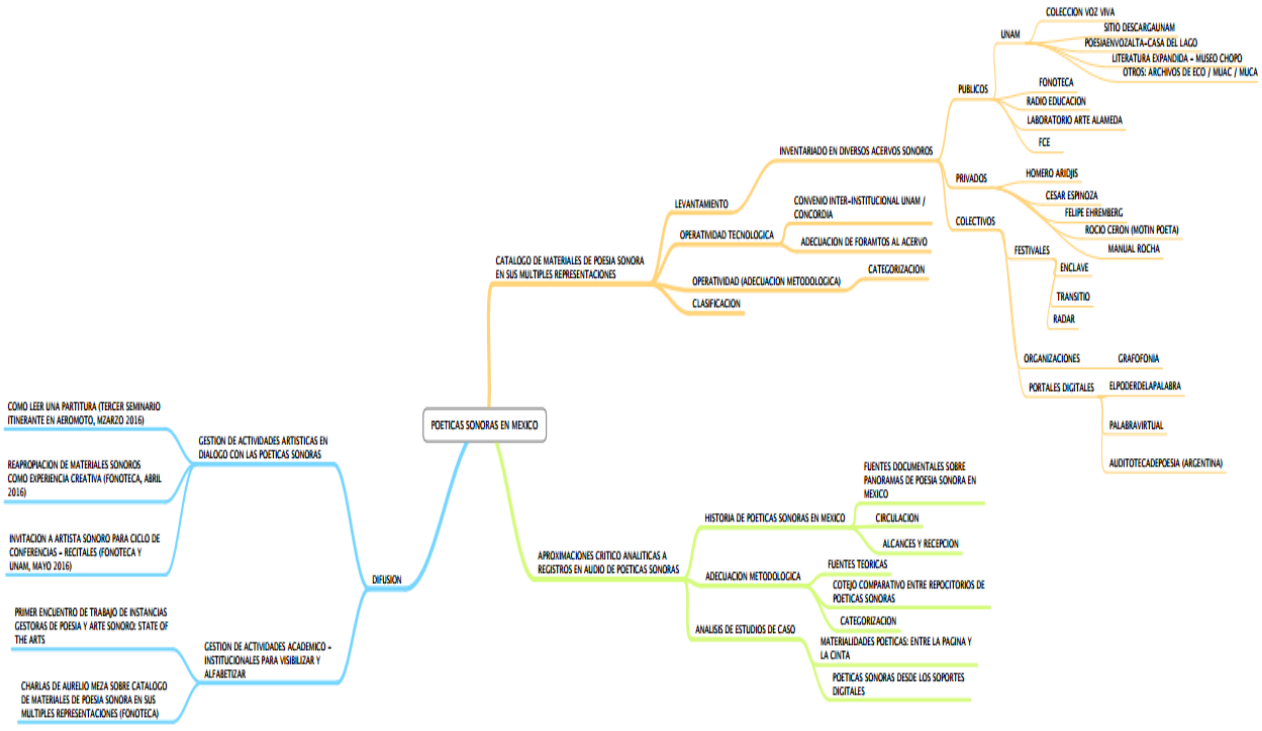

Figure 2.1 PoéticaSonora's early main research axes and fields of interest, 2016. Source: designed by Susana González Aktories.

In strictly technical terms, the PSP was created using a collection of programming, query, and markup languages aimed at mediating the interaction between users and data stored in the database, according to a well-defined scheme that was modified during the modelling and testing phases. Based on recommendations by data librarians and DH experts at the University of Victoria's Digital Humanities Summer Institute, the PSP architecture is built on a LAMP stack, a popular model for web service software bundles (Martin, 2016). The first version, funded by a

Hexagram research-creation grant, was developed on an Ubuntu operating system using NginX as an HTTP server, PostgreSQL as the database management system, and Python as the main programming language, using Flask as a web framework. Other programming, markup, and query languages used were JavaScript, SQL, and HTML, but their degree of importance dramatically shifted after refactoring[52] took place in fall 2017. This implied transitioning from an "idiomatic" (Lum's words) approach to relational database design to a less restrictive one:

> Previously, […] for almost each entity you can think of in your mind, there would be a table. So, if we have instruments, there would be a table. If we have groups, there would be a table […], and for artists themselves. We have compositions, that would be a table, and recordings, which would also be a table. And each of these things are tightly coupled and of course related. That means the number of tables for relationships between each of these entities would also explode. And while this is, I think, a very legitimate way to model certain data, I think in our case (which is in the case of an archive where data is not necessarily present) is not the best way because a lot of these tables might be empty, or might be just almost superfluous. Offering a kind of more denormalized (some would say) view of the data, where there are cases of duplicated data in columns—not duplicated but where we wouldn't break that out into a table—is what happened in the new version (Lum, 2019).

As Lum explains, necessary changes were evident after having some information stored in the first database deployment (using the initial sample of 429 audio files), since we realized some information would be difficult to obtain from already editorialized archives and collections. This would mean that donors and participating institutions would sometimes offer little or no relevant information at all for students to properly editorialize the recordings. This was particularly a problem in cases like the 2015 poetry slams organized by Rojo Córdova at Centro de Cultura Digital (CCD), in which some artists would introduce themselves using a pseudonym, or calling themselves only by their first name (see Annex B). During the editorialization process, this impeded the enforcement of field `autor` in any possible way. It also made it necessary to include field `pseudónimo` and make them both interact to avoid having blank fields regarding authorship. As in other cases in the refactoring, we merged both fields into `entity`, so that some data would have to be inserted every time a new recording is added (like series name, year, or place of recording)—which from a relational point of view would be considered data duplication.

[52] "Refactoring is the process of changing a software system in such a way that it does not alter the external behavior of the code yet improves its internal structure. It is a disciplined way to clean up code that minimizes the chances of introducing bugs" (Fowler & Beck, 2019, p. 9).

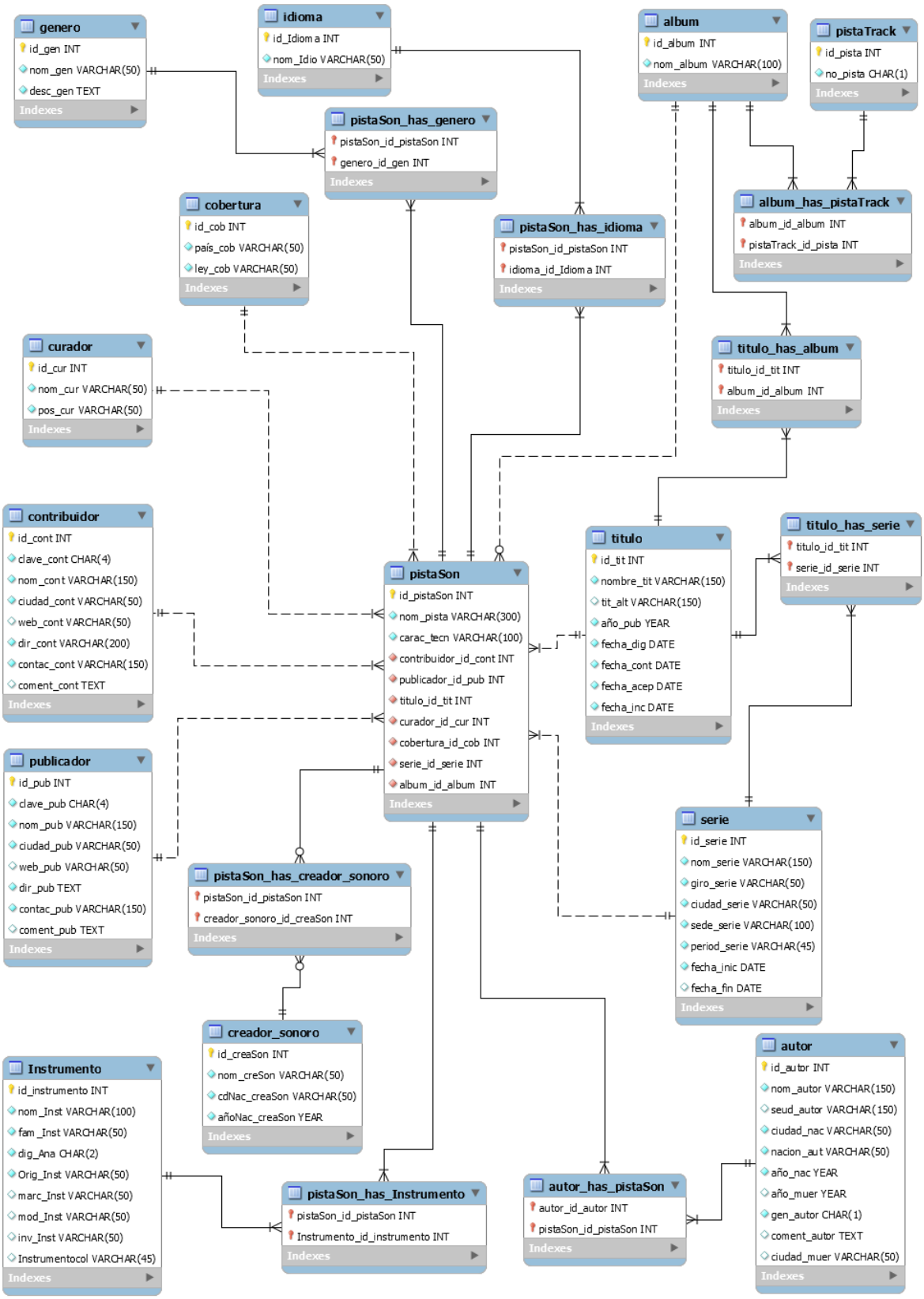

Figure 2.2 First PoéticaSonora prototype (PSP) data scheme, September 1st, 2016. Source: designed by Aurelio Meza using MySQL Workbench.

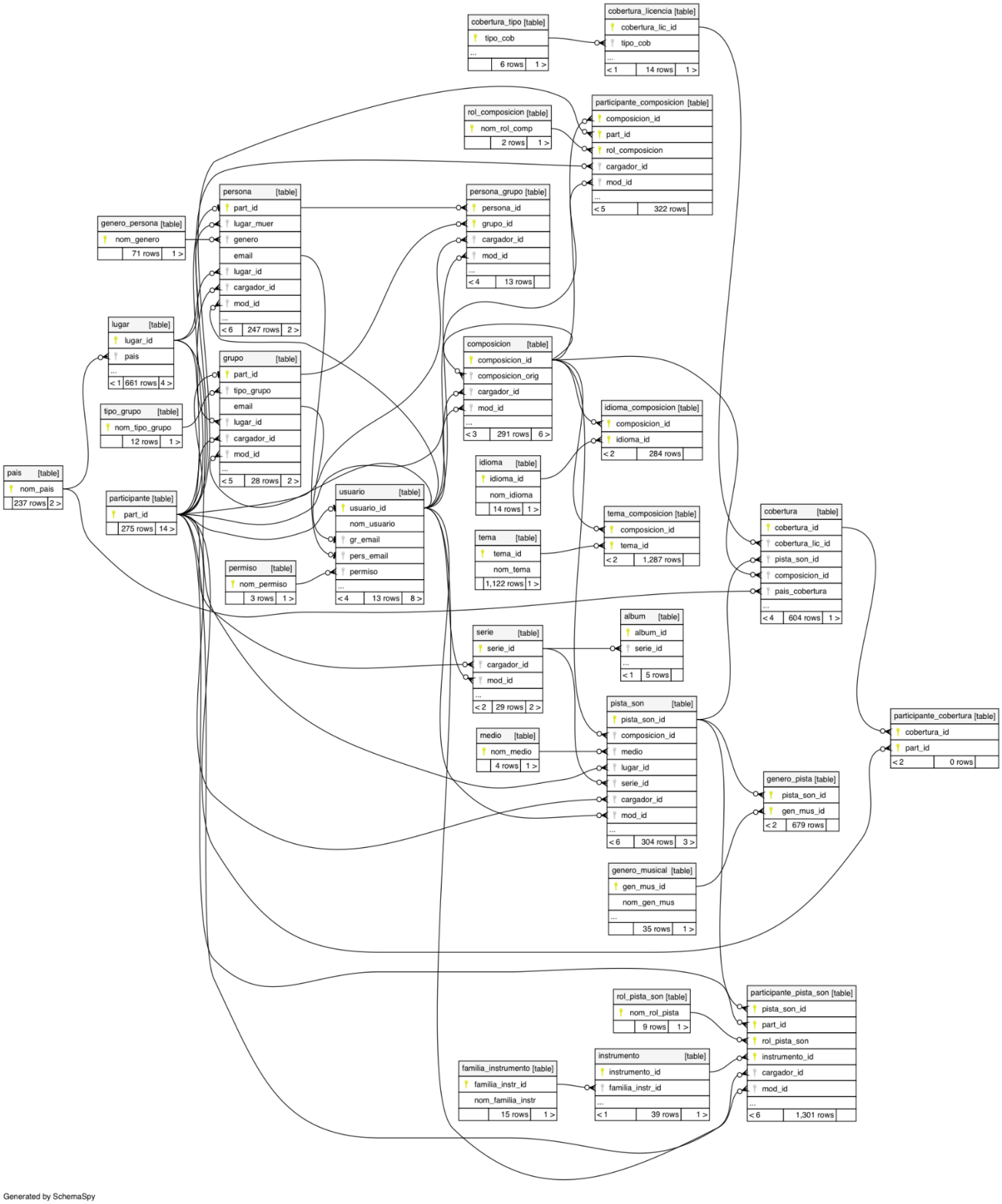

Figure 2.3 PSP data scheme after first deployment, September 28, 2017.
Source: designed by David Lum using SchemaSpy.

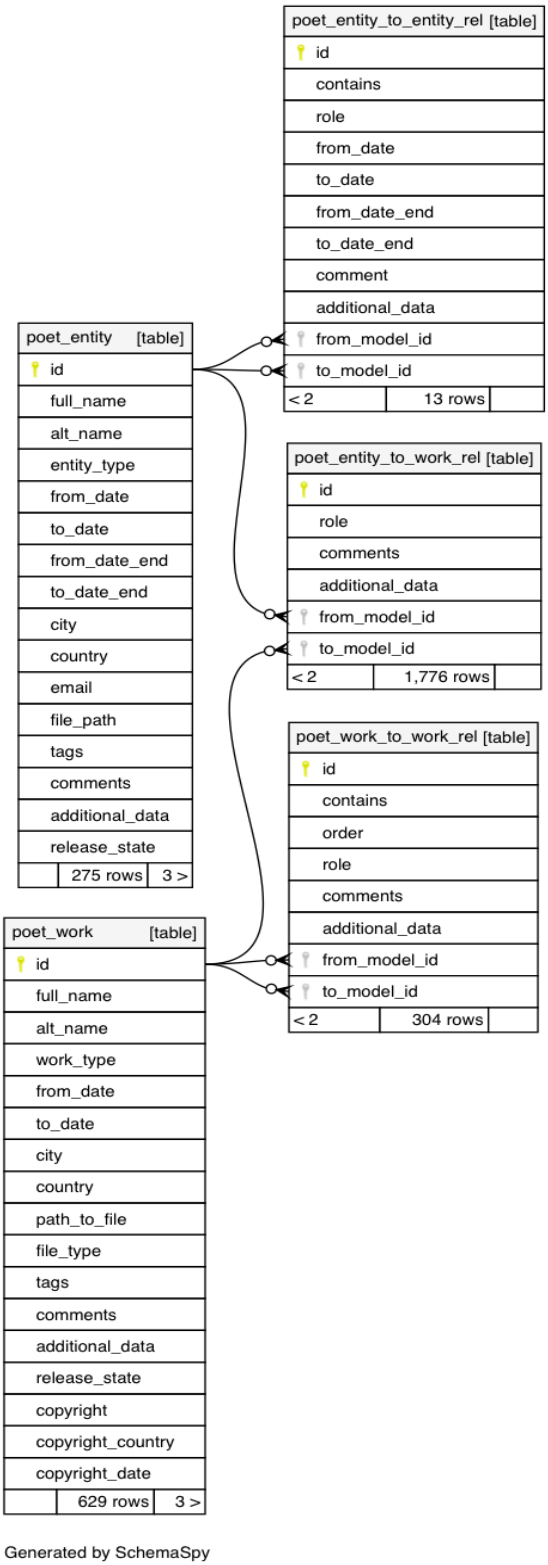

Figure 2.4 PSP data scheme after refactoring, September 20, 2018. Two other objects, `Groups` and `Users`, are part of the administrator level scheme, aimed at providing user-testers with editorialization and file management tools. Source: designed by David Lum using SchemaSpy.

However, this choice also made data insertion more flexible and turned `pseudónimo` and `autor` into optional fields, rather than composite and mandatory. This is a good example of how inductive modelling challenges the assumption that every data type to be stored in a database is known beforehand.

Figures 2.2 and 2.3 illustrate the proliferation of tables mentioned by Lum in the database design and first deployment, while Figure 2.4 shows their reduction after refactoring. Normalization, the process of breaking down information into different tables representing entities and relationships among them, makes it paradoxically difficult for a relational database to display relationships, an argument developed by Lum later on in the interview (see Section 2.2.2). A "denormalized view of the data" means that some information might run the risk of duplication, which is not recommended in relational database design. According to the four ACID principles for database transactions (Atomicity, Consistency, Isolation, and Durability), duplication compromises the second one, which ensures data is stored in only one place and retrieved according to defined rules. As Lum explains, however, denormalized data is not necessarily duplicated data. It is rather not automatically turned into an independent object, effectively inhibiting the proliferation of tables that might have just a small amount of data in them. As we will see in the following sections, this pragmatic learning on the limits of relational data modelling was key in understanding which kind of data was essential for the repository to be useful and functional and which could be enforced following traditional relational database design (neither situation excluding each other in a given case).

In practice, the PSP prototyping team has intuitively made similar conclusions to those by other digital repository systems, such as Fedora Commons's Islandora and SpokenWeb's SWALLOW, by switching from centralizing design around one data scheme to a container-based, more open-ended way to store information, in a path towards denormalization without fully becoming a nonrelational database.[53] In PoéticaSonora's case, we switched from heavily relying on SQL for both read and write functions to favor JSON for data entry and limiting SQL for retrieval. This is noticeable in Table 2.2, where we see the use of SQL was dramatically reduced from 6.1% in the first version to 0.5% after refactoring. The incorporation of JSON, an open

[53] Nonrelational (also known as NoSQL) databases are modelled in a way that avoids the tabular relationships imposed by relational and object-oriented databases, which in most cases are written in SQL—hence the term "NoSQL," actually an acronym for "Not *only* SQL." A key feature of NoSQL databases is that they do not need to have a defined data scheme before starting to build it, allowing for a more heuristic approach to data modelling.

source data transmission file format derived from JavaScript, allowed for the inscription of data not classifiable under the original scheme but that may be potentially relevant for the repository's target users. The importance and consequences of this decision will be discussed in depth in Section 2.2.2.

First version (2017)	Refactoring (2018)
Python (49.9%)	Python (55.7%)
HTML (37.2%)	JavaScript [including JSON] (23.5%)
SQL [PL/PostgreSQL] (6.1%)	CSS (18.1%)
CSS (3.5%)	HTML (2%)
JavaScript (3.2%)	SQL [PL/PostgreSQL] (0.5%)
Shell (0.09%)	Shell (0.1%)
Markdown (0.01%)	Dockerfile (0.1%)
Flask*	Django*

Table 2.2 Programming, markup, and query languages used in the PSP's first version and refactoring. Numbers in brackets refer to the percentage each language represents in the total source code script. Web frameworks are also included and marked with an asterisk; they do not have any percentage as they are not languages themselves (both are written in Python). Source: https://github.com/davlum/poetson and https://github.com/davlum/poet.

When classifying information using a data scheme, organizing criteria usually centers around one or two main concepts. As can be seen in the early PSP diagrams (Figs. 2.2 & 2.3), the way it was modelled suggested it was important to distinguish between composition (a rather abstract term) and interpretation (a concrete performance of a given composition, whose traces are found in an audio recording). [54] The distinction would become central for the database design,

[54] Our intuition was backed by some text-centric bibliographic classification guidelines and recommended practices, such as FRBR and BIBFRAME, which seek to distinguish between an abstract notion of a work and its different concretions. However, as Tanya Clement argues, a distinction should rather be made between recordings of a given performance and recordings that document an event, in which several different kinds of performances may also happen: "A model that could be either event- or work-centric could serve to help identify these kinds of hybrid situations in which an event gives rise to a work or vice versa, creating an entirely new, but related, entity" (Clement, 2016b). Cases like this exemplify why work-centric, text-oriented semantics such as TEI (see Introduction) are insufficient to describe audio texts, let alone sound works in general, in a digital environment: "For audio texts such

while obscuring the importance or recordings themselves, as noted by Lum. After refactoring (Fig. 2.4), both entities, which were like identical twins (each of them having the same relationships with authors, licenses, and other tables), were merged into one.

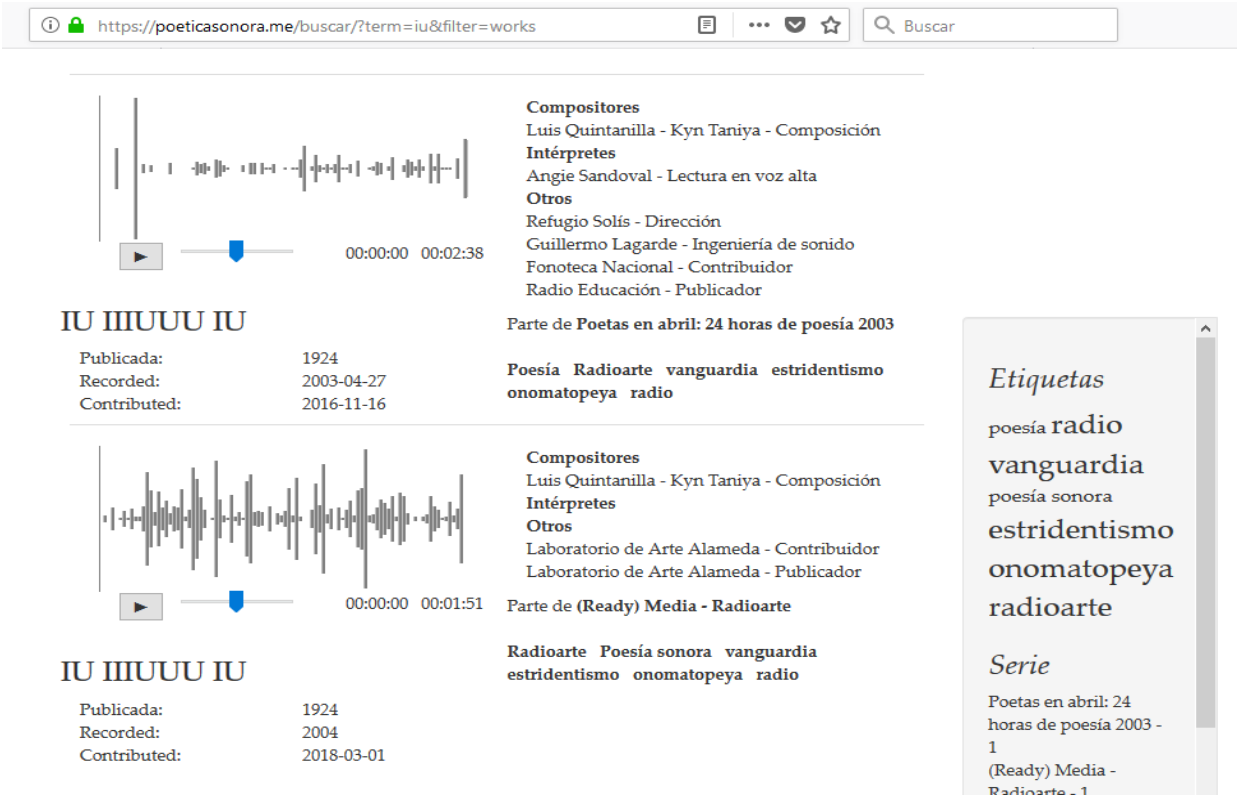

Figure 2.5 Two different audio versions of "IU IIIUUU IU", one of Estridentismo's most emblematic poems by Luis Quintanilla, a.k.a. "Kin Taniya," produced and curated by Radio Educación and Laboratorio Arte Alameda, respectively. Echoing dynamic, minimalist sound repository interfaces like FreeSound (https://www.freesound.org), each version in the prototype is distinguishable from the other by synoptically comparing metadata about different dates, place of performance, collection, and sound visualization. Full information is available by clicking on each version's hyperlink. Source: https://poeticasonora.me.

As a result of these changes, versions of a given composition are independent from each other. This essentially means that the composition's title must be typed in every time a new version is uploaded, making it possible for typos to occur, a risk we seek to undertake by

as recordings of poetry performances, an event-centric description could reshape processes for discovery and possibilities for research. For instance, poetry readings that are recitations of a written text could be marked differently than poetry performances […]. A marked difference between work and event would be salient in poetry performance studies where the performance of a poem that is also written could be very similar to or very different from the written text – either a new expression or a whole new work (that is the event)" (Clement, 2016b). This proposed difference would also be useful for other durational events, such as jams, poetry slams, sound installations, DJ sets, and so on.

providing data entry users with adequate guidelines and specific instructions for filling out each field. End users can distinguish each version by previewing the metadata, the recording's duration, and the audio visualization offered in the search results section (Fig. 2.5). While this means each version is not tied to another through the database structure itself, it is now possible to escalate the database without excessively complicating the data scheme. We may have lost some specificity on the leaf level, but we gained sustainability on the node level.

Lum's approach to data modelling is the inverse of how it is traditionally taught, in which the data scheme must predict all the information that will be stored in it, something that is rarely the case in social sciences and humanities research:

> And I think this kind of approach to database modelling is unintuitive; especially if you've followed any sort of training in database modelling or SQL, it's not what you're told. You're told that integrity of the data is the primary concern. Well, integrity of the data is only important *if* there's data. And in the case of disparate recordings, where we're finding recordings all over the place, and there could be so little [information] on the author that all you have is a pseudonym, what are you enforcing? What integrity are you enforcing on that data? There's not really much… So, I think that moving towards a more denormalized but more searchable database is basically what happened, but also [towards] a more manageable database. We moved down from something like thirty-three tables to I think seven, and it's no less expressive, and it's much easier to search (Lum, 2019).

Data integrity is a very important part of consistency, one of the aforementioned ACID properties of relational database design. By reducing the number of tables and therefore "duplicating" information on some of them (such as title, genre, place of recording, dates of production and donation), Lum designed a hybrid between a relational database and a nonrelational one, simplifying the data scheme and optimizing search while keeping on track with the ongoing standardization processes in web services infrastructure. This also gives the editorializing team the possibility to leave important fields empty which, as Lum indicates, might not be available for some kinds of recordings and collections (such as author or performer name in Rojo Córdova's CCD poetry slams, see Annex B) without compromising the database structure.

Lum's reflections on the prototyping process prove the need for a hands-on perspective on database modelling that is in line with PoéticaSonora's heuristic approach in its two different axes. They also tell the story of a computer science student in the process of graduating and starting his professional career, as well as his transition from academia to the digital industry:

> I started working in this project back when I was originally still in school and an academic. Of course, at this point in time, I've moved to working in the industry for almost a year […]. And definitely, just working in industry in terms of standards, I view the project is much more mature now, much more maintainable, and I feel like it should be from here very easy to continue to add features, which was the main point of what I wanted. My main issue is, when I looked at the old code base, I could see immediately from the technical notion that, just the way the code was written, continuing to advance with it would've been a nightmare, especially for somebody else to pick up. This has just got the kind of coding habits that you don't really have coming out of school, to work for a bit to know how to write maintainable, readable code (Lum, 2019).

Even though the PSP is a scholarly project as well, Lum considers it part of his professional, not academic, training. Questions of standardization and sustainability drove his decisions during refactoring which, as he says, were the result of his being in contact with industrial standard practices in database design and maintenance. It is interesting to notice how PoéticaSonora produces research spaces in the humanities that are in tune with the current job market in a technology-oriented city like Montreal. The lack of a similar market in Mexico is another leverage of the project being developed in two such different cities, while it pervades the conflict about how (and by whom) the repository will be maintained in the long term and where its servers should be located (whether at a Mexican institution, a Canadian one, and/or elsewhere).

2.2.1 "Where one language begins and another one ends": tracing the coloniality of knowledge in code writing

In the initial call for participation of a junior programmer, posted both in Spanish and English in PoéticaSonora's blog, Level B1 or higher in one language or another (depending on the applicant's mother tongue) was considered an asset, not a mandatory requisite (see Annex C). When Lum joined the prototyping team, in the summer of 2017, he had a low knowledge of Spanish language but expected to become more familiar with it as the project went by. Minutes before starting the interview which informs most of this chapter, conducted in Montreal in the winter of 2019, Lum confessed he had not actually learned any Spanish at all, except for some keywords used to name the main entities and relationships in the database. The domination of English in DH and elsewhere (discussed in Section 1.2.3), is aggravated by the way computer programming standards are developed. It is prejudicial not only to dominated languages but also to English itself, for as Glissant claims, it "risks being transformed into a technical salesman's

Esperanto, a perfunctory containerization of expression (neither Faulkner's nor Hopkins's language but not the language of London pubs or Bronx warehouses either)" (1997, p. 112).

Experiences like Lum's, in which the data modeler is largely detached from the database's content, are common in the tech world. The fact that we had to think about sustainability ("If none of the founding members was in the project anymore, who would take charge of it, and how?") is partly responsible for aggravating this detachment. But it also adds urgency to the question of how to avoid colonial practices at such deep levels of technical development. Not only do so called "hard" and "soft" sciences observe different discursive regimes, but the linguistic hegemony of English deepens their divide as well. If the programmer is not aware of the need for intersectionality, gender perspective, or language justice, how do the project coordinators make sure these are reflected in the database? For all the freedom and room for creativity given to the prototyping team, and PoéticaSonora members in general, the role of project coordinators switches from being gatekeepers of certain skills and achievable goals to that of facilitators between developers and the concerning artistic or academic communities.

The difference between how English-Spanish interaction is represented in the database before and after refactoring correlates with the programmer's interaction (or lack thereof) with the repository's content:

> LUM: In the first version of the database, it was almost itself completely Spanish, and how that interacted with the code, though, is that the programming language is in English, but all your database calls and your variables relating the database would be in Spanish. So, you end up with this English-Spanish interaction inside the code.
>
> MEZA: Yeah, you created functions in Spanish.
>
> LUM: Yeah, exactly. So, where one language begins and another one ends is very ill defined, and it makes for very difficult reading. So that was something that I decided was not the best idea. Despite the fact that data would always be in Spanish, that doesn't mean the tools surrounding the data had to be anything but English, because the reality is that you don't interact directly very much, you only present data. But in terms of manipulating the data, you just read it, you put it in the database, and you just go ahead. So definitely having all the logic in English was a big part of the re-write (Lum, 2019).

It is difficult not to wonder whether this linguistic distinction would have been kept by a Spanish-speaking programmer. Coining operational keywords such as functions in a mixture of English and other languages is a common practice in Latin America and elsewhere; it is a

mnemotechnic practice that helps programmers have a higher degree of familiarity with the data without having to know what kind of information it stores. While working on the data scheme's early versions, most of the elements' names were in Spanish, such as `pista_son`, which referred to recordings (*pistas sonoras*), or `composición`, referring to the sound work, poem, or performance recorded (both elements will be further discussed in Section 2.2.3). Refactoring led to models and functions being all changed to English, while their translations are managed by an internationalization and localization system called `gettext`, commonly used for multilingual websites in a LAMP environment: "`Gettext` is a really old, old translation library, it's dating back from the 90s. It's been iterated on to the point that it is quite mature, and it's become a standard at this point. `Gettext` is the framework for building up the translation and that's how we keep this logic purely in English, but then just place Spanish for the user" (Lum, 2019). This decision, motivated by the project's drive towards standardization, shifted the focus on when language contact should occur from data modelling to end-user interaction. Depending on a user's location and their browser's language settings, links and names of entities and relations are displayed in English or Spanish without them having to manually select a language. Metadata and most recordings, however, continue to be stored in Spanish.

This hegemony of English language is probably one of the most concrete knowledge-colonial manifestations enmeshed in the PSP source code. Lack of data interaction and of Spanish language domain skills indirectly perpetuate the need for any programmer to learn English (at least enough to read and write code) in order to maintain the database. In fact, the whole programming paradigm requires a basic knowledge of English, as instances of software based on other linguistic families are not standardized to the point of ensuring long-term sustainability.

The normalization process described in the previous section, responsible for the increasingly complex structure of a relational database, resulted in long SQL statements for elaborate queries. Refactoring made SQL statement much simpler by reducing the number of `JOIN` functions used to retrieve complex queries. The different types of `JOIN` specifiers (implicit, `INNER`, `LEFT OUTER`, `RIGHT OUTER`, `FULL OUTER` and `CROSS`), used to combine two or more tables to get specific data, are essential for relational database design. However, they must be properly written and applied to the correct tables in order to get the required information. Reducing the number of `JOIN`s in a statement also reduces the risk of data not properly retrieved and therefore not displayed. Most importantly, instead of having a distinct table for aggregates of

people, ascription and belonging of an individual to one or more groups or collectives is managed by a table that manages relations between different database entities (be them collectives or individuals).

As can be seen, it is almost impossible to avoid having instances of techno-creole in the source code, even after refactoring. If language contact is seen as an obstacle rather than as organic Relation, this could be deemed a mistake. But if, as Glissant said, "creole is a compromise" and pidgin "an aggressive will to deformation" (1997, p. 118), then instances of techno-creole should be seen as a commitment to Diversity (1999 [1989], pp. 99-102) rather than as signs of a badly traced boundary between Spanish, English, and computer languages.

2.2.2 Edge-case data vs structured data

Denormalized data (described by Lum as arbitrary, duplicated, or edge-case throughout the interview) is probably the most valuable kind that is stored in the refactored prototype. Unique, unclassifiable features of a particular document or entity are exactly the sort of information in which an art historian or a literary critic would be interested. As in other cases, the possibility of including this type of data transmission in the prototype came after data was actually stored in it and issues began to emerge—particularly which information was more easily available for editorializing. Lum's reflections on why he added the data transmission format JSON to the prototype, facilitating denormalization, confirm this procedure:

> It was just something I […] decided it was the appropriate choice after I looked at the data. And I guess that's a big part of database modelling in general. Of course, you're going to make a model for the database, but you don't really know if that's the appropriate model until you have data in it. And then you can start to see what works and what does not. It was on refactoring, noticing all these edge-case data that most of the time we did not have, that this looked like a better and better solution for this problem (2019).

Constant improvements in PostgreSQL, the database management system used for the PSP, allowed for interaction between SQL and JSON in a same database, even in the same table, thus partially introducing nonrelational logics into the scheme. This freedom from excessive structuring, Lum warns, must be used cautiously:

> [PostgreSQL] has these JSON columns [types], `json` and `jsonb`. JSON is a schema-less data structure, so enabling usage of that means that in every table we can add arbitrary data. Now, this has strengths and weaknesses. […] Definitely Postgres offering this ability to add this kind of schema-less fields is an advantage, but at the same time should be used with precaution. It is harder to display a

> column which is essentially JSON if you have no guarantee on the schema. But if you have the majority of your cases covered in the regular columns, then you start to realize that this JSON column is really for these edge cases of data that you want to capture but you do not want to pay the cost of storing (2019).

While normalization is at the core of relational database design, and despite the high degree of standardization SQL has reached in computer programming, there is a moment when information complexity surpasses the possibilities of this query language. Quamen acknowledges this limited capacity to represent complex data patterns: "Eventually we'll reach a point beyond which SQL isn't expressive enough for our needs. If I were busy querying patterns in data (family units, social networks, etc.), I'd already start supplementing SQL with a scripting language (PHP, Python, Ruby, Perl, etc.)" (Quamen, 2017). Lum's decision to use Python-based JSON fields aligns with these recommendations seeking to enhance the capabilities of relational databases for information retrieval, although in the PSP's case it is not for querying patterns but to include occasional data. It is also part of his realizing the limitations of relational databases after working on data modelling in academic and industrial contexts:

> In terms of relationships in a relational modelling, what makes it [data modelling] difficult is that the complexity of the database scales with the number of relations. The more your entities are related in your relational database, the more tables you have to add, which means the complexity grows and grows. As an example, we had recordings, and recordings in our old database had compositions, and our compositions were written by artists, and the artists also wrote recordings and compositions, and they also played instruments. So, we had many-to-many relationships on each of these entities, plus we had many-to-many relationships between artists and the collectives they are part of, and of course those collectives also had many-to-many relationships with all of these things. What this means is that every time you have highly relational data (i.e., they're related in a many-to-many way), it requires a table to model it. So, this kind of effect of the strict relational modelling actually being bad at relations was kind of my realizations: relational databases are not good at modelling many[-to-many] relationships (Lum, 2019).

Out of the three kinds of relationships in a relational database (one-to-one, one-to-many, and many-to-many), the latter is the most problematic, for it creates an intermediary table combining tuples or rows from other entities (Fig. 2.6). This means that for every complex relation—e.g., an artist can play several instruments, and an instrument can be played by different artists—there must be an additional table. Moreover, some artists would play different roles (as composers, as instrument players, as part of a collective). This was the main reason why the

PSP's first version had up to 33 tables, a good portion of which were many-to-many intermediaries.

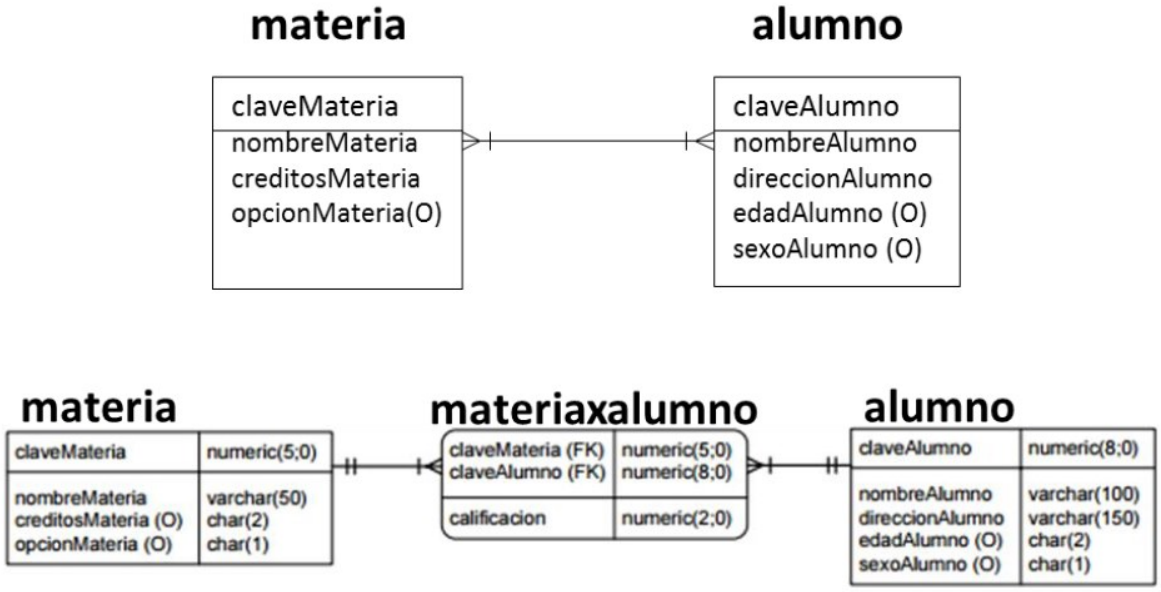

Figure 2.6 Conversion of a many-to-many relationship from the logical modelling phase (upper graphic), as indicated by the three-legged marks at each end of the connecting line, to a physical representation of it (lower graphic). In physical modelling, many-to-many relationships must be broken up into two one-to-many tables linked by an intermediate one. In this example, such table is used to determine students' grades by means of associating `claveMateria` and `claveAlumno`, the subjects' and student's ID numbers (or primary keys) with their corresponding grade. Source: *Introducción al diseño de bases de datos*, UNAM online course (Zamora Nunfio, 2016, p. 1).

An example of how normalized and denormalized data interact in the PSP is found in `entity`, the object in which individual artists, aggregates of people, and institutions were merged together. Given that these practices are relatively recent in time, most of the people or groups involved are still alive or active, so that their biographical information is in constant change, mostly regarding aspects such as artistic production, age, and affiliations. This does not mean, however, that we do not expect such information to be filled out eventually:

> For most of our authors, the date of death is actually nonexistent. And that's a great example of a piece of data that we'd like but that isn't there in 99% of the cases. So, maintaining a column just for data that's there in 1% in the cases is not necessarily a great idea. And that's just an example of a piece of data that we know about. There's also the possibility that there are future fields that we want to add to the database without having to incur the cost of actually refactoring the database. And most of the times this is going to be very low probability pieces of data, but

> you might just happen to have them. And in the case of an archive, any piece of data is valuable (Lum, 2019).

Lum's illustration with artists' date of death points toward two main challenges for the PSP scheme: updating metadata and adding new classification criteria. Such challenges are familiar to digital music streaming services and encyclopedias, such as Pandora or MusicBrainz. As metadata expert Jeffrey Pomerantz states, "It is easy to apply descriptive metadata to digitized music files, but it is difficult to do it well. In part this is because music both evolves rapidly and is a highly subjective experience" (2015, p. 190). He mentions genre classification as an example in which the development of controlled vocabularies is involved, but some others like biographical references (not only date of death but also belonging to a band or project, collaborations with other artists, works composed and interpreted), which are also part of a musicians' biography, prove that controlled vocabularies are not always the solution to all problems. "Thus Pandora—and presumably all other music services— face the challenge of constantly having to update their metadata" (Pomerantz, 2015, p. 190), implying in some cases the need to customize the scheme to their content's specificities.

`Instrumento` is an illustrative case of an element in the PSP that went from having an ever-growing controlled vocabulary and a strong presence in the data scheme (Fig. 2.7) to becoming a denormalized field embedded into another object, `role`. Given its unique positioning between music, sound art, and literature, PoéticaSonora struggled to get a standard controlled vocabulary for instruments that could fit all the potential collections we would ingest. It was initially thought that one of the PSP's contributions could be to provide such controlled vocabulary and cover that gap. Although in theory a controlled vocabulary means better searchability, this feature was not successfully tested in the first version, and the idea was abandoned when it was clear that control was the last thing we needed for this field. Once again, questions of scalability and sustainability drove Lum's changes in the data schema.

Apart from place of death, another field that has been temporarily "suspended" is gender; both are stored in an open field called `additional information`, waiting for development prior to the Beta version. Deemed a top priority in the first version, we created a controlled vocabulary for gender based on Facebook's list of 73 different choices. However, we soon realized that a person's gender would be difficult to both individually identify and collectively trace, because in most cases the chosen values would be "man" or "woman," assigned

subjectively by the editorializing team based on their own assumptions when they listen to the recordings. Given the fuzziness provided by so many options in the controlled vocabulary, and the high number of instances where only two of those values are chosen, it would be difficult to query information based on this field as we do with other parameters, such as title, name, or even dates (even when the latter are problematic in their own way).

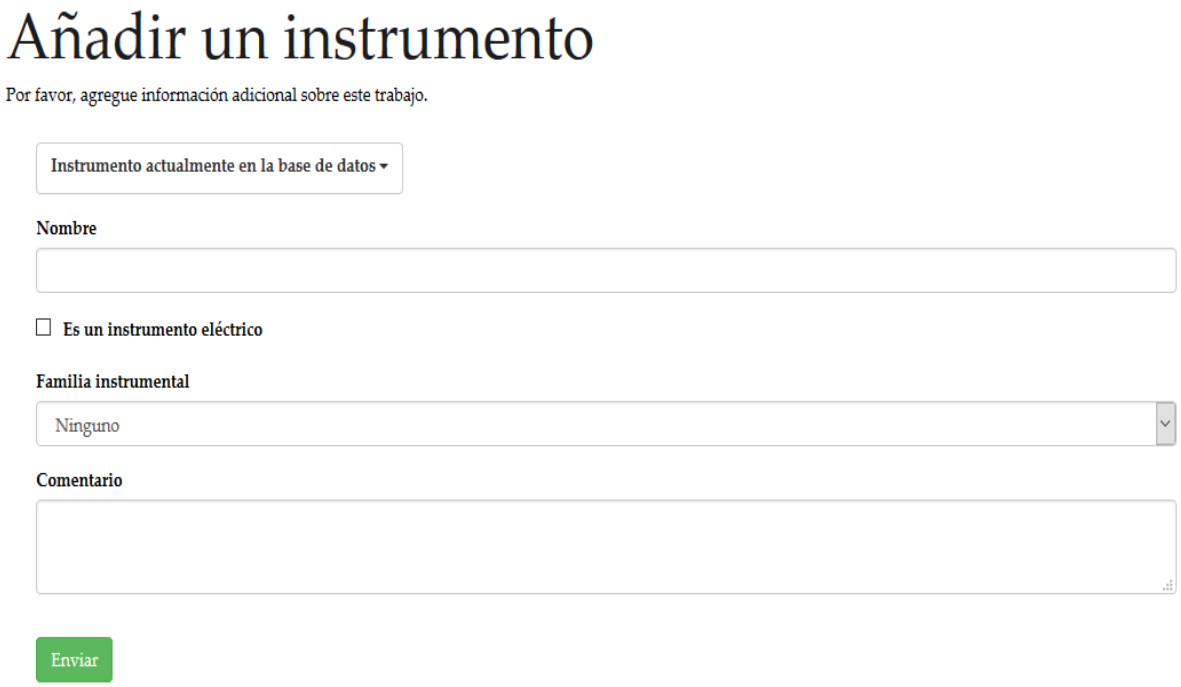

Figure 2.7 Form in the prototype's first version for element `instrumento`. Existing content in the controlled vocabulary could be accessed by clicking on the drop-down menu "Instrumento actualmente en la base de datos [Instrument currently in the database]." After refactoring, this field was assimilated into `role`, fillable only when "Interpretación musical" was selected. Source: first version of https://poeticasonora.me, now discontinued; see https://github.com/davlum/poetson.

Lum's realization about the limits of data modelling is hardly symptomatic of relational databases' disappearance in the near future as the main standard for data storage and retrieval. Instead, it provides a concrete case of how "an agonistic tension between data and modelling can be a very productive venue for digital humanities—and there are good reasons for *sustaining*, rather than *resolving*, that question" (Quamen, 2012, pp. 2-3). Quamen uses Willard McCarthy's model of personification tropes in Ovid's *Metamorphoses* as an example of the challenges faced in the paradigm shift heralded by DH. In the end such a model, Quamen says, is inadequate, but it is so in a productive way (as opposed to a concept or a map, both deemed useless if inaccurate):

"The data of Ovid—the specific details themselves—challenge the model, illuminating its flaws so that McCarthy can refine it" (Quamen, 2012, p. 2). Data determines how the model will store it and how relevant information may be obtained from it.

For Quamen, "the problems of humanistic scholarship are shifting under our feet" (2012, p. 13), bringing models much closer to their embedding world in ways that just a few generations ago were unimaginable. As can be inferred from Lum's reflections on designing, testing, and refactoring the PSP, this inductive approach was the fittest to all the project's motivations. The initial model changed as new data was incorporated and interacted with the database structure. PSP's case confirms that not only is humanistic scholarship shifting, but also data manipulation itself. Modelling is essential for scaling up our research questions and interests, but we must be careful not to make data fit our scheme without letting it modify the prototype itself. Testing does not mean, as in mathematical model theory, that we must make data correspond to the model (Quamen, 2012, p. 5), reaching instead a new balance between information abstraction (essential for both data modelling and cultural representations) and classification criteria, noting that previously "Humanists sacrificed the abstract model by privileging the individual semiotic sign—the clue" (Quamen, 2012, p. 9). Throughout this dissertation I talk about how different clues or symptoms in determinate moments of the prototyping process indicate the need for considerable improvements while they constantly bring the model back to the real world to which it must purportedly serve, a point made by Quamen as well: "Like readiness, context is all" (2012, p. 9).

In order to determine PoéticaSonora's data scheme, the modelling process depended on the recordings donated by private collectors and cultural institutions in Mexico, as well as on the information we could gather about them. We assume the model cannot by itself ingest the context it seeks to represent, so our fieldwork and archival research activities are focused on contextualizing as much as possible in terms of collectivity, instrumentality, and historical background—a process called "editorialization" (Bachimont, 2017; Treleani & Mussou, 2012, pp. 5-6; Treleani, 2014, pp. 33-47, 92-93). This makes it necessary to implement follow-up strategies in which information about an author or recording are periodically updated, a problem the PSP shares with music databases such as MusicBrainz.[55] The work of editorialization (Section 1.2.1) must therefore aim at bridging the gap between users' needs and technological

[55] In fact, the first two versions of the PoéticaSonora data scheme (Figs. 2.2 & 2.3) are heavily influenced by the MusicBrainz database, also built on PostgreSQL (MusicBrainz, s.d.).

infrastructure, pointing towards (and going back to) the phase of data modelling to better the schema. In turn, "theorizing models—in particular, models useful for humanists—is one way to investigate what lies at the intersection of the 'digital' and the 'humanities'" (Quamen, 2012, p. 11).

In the following sections, the most relevant consequences of this denormalization process are discussed. These are three cases in which modifications were performed due to fieldwork findings and archival period. This does not mean that other bugs and issues (such as error messages during the editorialization process) are not as relevant as these ones, a reason why technical issues are publicly available on GitHub.[56] However, Sections 2.2.3 through 2.2.5, dealing with the notions of composition (as opposed to performance or interpretation), voice modulation, and collectivity, are the most relevant in approaching the case study that will be analyzed in detail later on in Chapter 3.

2.2.3 Data integrity in the PSP before and after refactoring: composition vs performance

Quite early into the project, PoéticaSonora received audio collections and recordings as donations from different cultural institutions, artists, and private collectors who sometimes provided us with multiple versions of the same composition (as illustrated in Fig. 2.5), making cross-comparison an important aspect of data modelling. In the prototype's first version, there was a marked distinction between `composicion`, the abstract notion of a work of art, and `pista_son`, which was the recording of a composition's performance. This allowed us to relate all versions of a single poem, song, or sound piece into the same composition, as well as to finely distinguish when an author performs or composes a sound work. In the refactored version this approach became more materially oriented, as the most preservable materialization of a composition's interpretation—an audio recording—becomes the main unit of analysis in the database:

> LUM: Now the database is centered around the key idea of the recording. Before, in the old database version, we had compositions and a composition could have many recordings. And what this meant is that most compositions were the priority of the database, whereas recordings were sort of the second-class citizen.
>
> MEZA: It's true, the focus was [on] composition.
>
> LUM: Exactly. And I think the database is always going to be Spanish poetry [*sic*], so there is focus on text, but the focus is really on these audio recordings. Having

[56] See https://github.com/davlum/poet/issues.

> this relationship where you have potentially many recordings to one composition makes composition and text itself seem like the primary point of interest, when it's really the recording. Moving these compositions into the recordings and having them fused as one object to which we display and browse, I think [it's the best choice]. Because you also have to think of this from the point of view of search. When you're searching, are you searching the composition, or the recording? Well, really, you want the same thing, you're searching *that* entity. So, having this unified in one kind of view makes the whole database much more understandable (Lum, 2019).

Lum's depiction of recordings as second-class citizens is a reminder of how information is always given a political status in this information age. From being a key distinction in the first data scheme and a recommended practice in the normalization process, composition was conflated with interpretation into a same entity, `grabación`. This shift is representative of the path towards denormalization followed in the refactoring. It also contributed to better determine which recordings were being received from different private collectors, artists, and public cultural institutions (credited through element `contribuidor`, a translation of Dublin Core's `contributor`). By considering the material aspect of an interpretation (partially traced in an audio recording) as the most basic and important unit of analysis in the whole database, we found a way for it to encompass sound works which cannot be defined as "compositions" or are not usually called that way, as in the case of experimental electronic and electroacoustic music, or in sound art and radio art (see Introduction).

As in the case of instruments, making element `title` more flexible meant it would be more prone to having typos, which may result in end-users missing recordings that may be of interest for them. However, adding Elasticsearch (a search engine supporting real-time queries, making it suitable for NoSQL datastores) meant that we could offer "fuzzy" results which may not exactly match the word queried but show the most similar ones. In other words, even if users mistype the name of a sound work or artist, it is possible that they would get the desired result. And even though having all the versions of a given composition concentrated in the same page may be missed, it is true that such an arrangement privileges the notion of composition over that of performance.

We can see how changes due to refactoring led to changes in data characterization itself. If "metadata is a statement about a potentially informative object" (Pomerantz, 2015, p. 26), then simplicity in data modelling leads to easier accessibility. Instead of being extracted as composite

data from several different tables, the refactored scheme now offers a simpler Relation-system whose main nodes are audio recordings, around which predicates or relationships of different kinds are established.

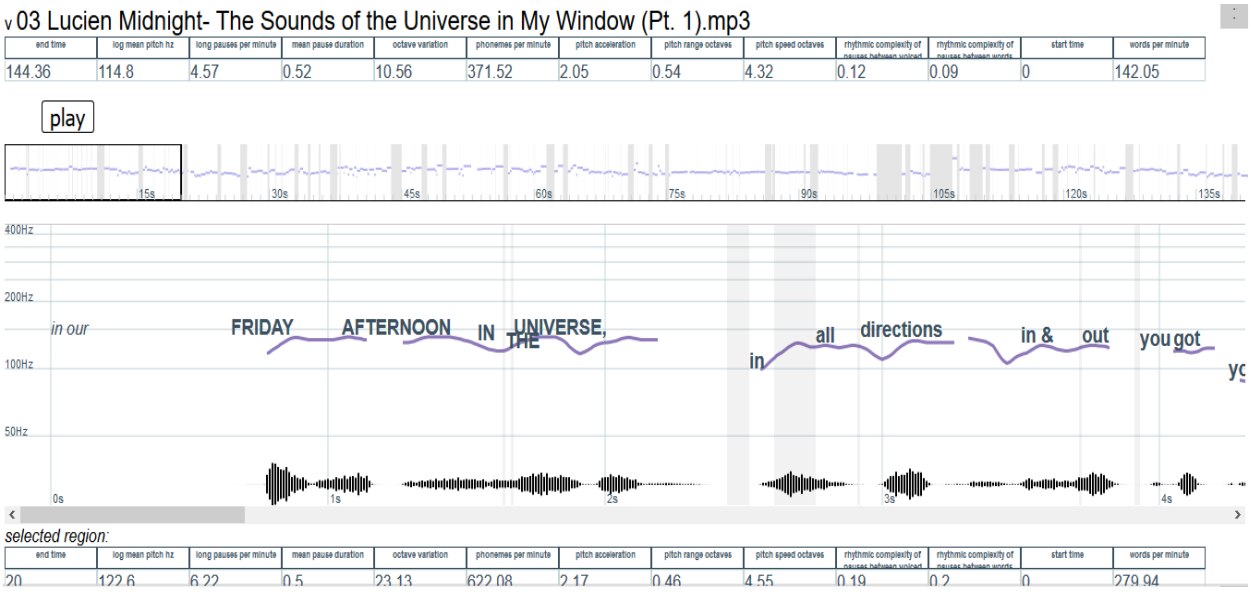

Figure 2.8 A reading by Jack Kerouac ingested, transcript-matched, and run through Gentle-Drift 3. Prosodic measures for both the whole recording and selected fragments can be downloaded in CSV and Matlab formats, thus paving the way for future integration to DBMS. More information about earlier versions of these programs can be found in MacArthur, 2016b and in MacArthur, Zellou, & Miller, 2018. Source: http://drift3.lowerquality.com

2.2.4 Singing vs recitation

Although the affordances of descriptive metadata for characterizing the aural features of a poet's or artist's voice are quite limited, they are the only resources available to PoéticaSonora at the moment. It will take a while, for example, for any DBMS to integrate data obtained from Gentle and Drift, two cutting-edge programs that measure prosodic values in literary audio recordings without musical accompaniment. In their third version, which merges their main functions into one single interface, Gentle-Drift calculates 12 prosodic measures from human voice audio recordings, ten of which are based on signal processing analysis, such as pitch range, octave variation, and rhythmic complexity patterns, while the remaining two are extracted from the file itself (duration) or from the provided script (words per minute). If the user selects a recording's section, its specific values are shown and can be synoptically compared with the recording's total values in real time (Fig. 2.8). As powerful as these tools are for English language recordings, and

despite the fact that they are presented as language-agnostic, transcript matching and even playback have proven to be difficult to perform, if not impossible, in Spanish language recordings (see Epilogue).[57]

Due to the fact that data offered by these innovative programs will take a while to be integrated to standard DBMS software, and for a Spanish-language repository to be actually able to use them, a solution to distinguish singing from recitation must be found at the level of descriptive metadata and editorialization. Such a distinction must be informed about debates in the instrumentality of human voice before making any decision. The PSP addresses this issue by considering a certain prosodic use of the voice—termed "melismatic" after Mladen Dolar (2006)—as a form of musical interpretation. Because value "Interpretación musical" in field `role` requires specifying which instrument is played, melismatic uses of the voice are tagged as "Voz," considering them *de facto* an instrument. As previously explained, denormalizing certain elements such as `instrumento` or `título` led to a greater freedom for data entry, albeit making it more prone to editorialization problems. In the PSP's first version, the distinction between "Lectura en voz alta" in `Roles` and "Voz" in "Interpretación Musical" resulted in more many-to-many relationships and to unnecessary, bulking complexities in the data scheme. Assimilating `instrumento` into `role` after refactoring alleviated this situation, turning it into a schema-less value.

When it comes to meaning-oriented uses of the voice, such as poetry readings and other literary audio recordings, they are classified under value "lectura en voz alta," whereas melismatic performances are classified using "voz" as an instrument. Neither of them both excludes each other, though, so that if a performer alternates between reciting and singing, this can also be captured in the role list. The accuracy of this classification will be determined by the editorializing team's expertise in classifying the many voices present in recordings with different degrees of audio quality, as well as their ability to implement and follow adequate editorialization guidelines.

---

[57] Even if prosodic values like those offered by Gentle-Drift were already available for recordings in languages other than English, there is still much research to be done before using this kind of tools in more explicitly melismatic recordings. Which values for pitch range and pattern complexity will a sung performance yield? How to use this composite software to discern between musical accompaniment and singing or other melismatic uses of the voice (for example, rhythmic vocal accompaniments in pieces by Harlem collective The Last Poets, overloaded with meaning yet having a clear musical function)? Will we find fixed or constant values in measures across many different recordings of a particular genre or subgenre (such as spoken word, or poetry slams) that would contribute to our definition of sound-oriented literary styles?

2.2.5 Individuals, Groups, and Collective Actions

Special attention is given to different degrees of collectivity in the PSP. As the repository's area of study stands in between the borders of music, sound art, and poetry, many creative projects are made by aggregates of people who do not necessarily perceive themselves as bands or collectives. Moreover, cultural and educational institutions, such as museums and universities, are frequently responsible for producing or disseminating these sound works, so it made sense both to make collaboration more easily discernible and to give a more detailed account of all the people, groups, and organizations involved in the creation and dissemination of an audio recording.

The first, clearest manifestation of such discerning is between individuals and aggregates. There is considerable research in the field of sociocultural studies on collective actions, identities, and movements that contribute to conceptually shaping this dimension in the prototype (Melucci, 1996; Giménez, 2004, pp. 91-94). The sense of belonging to a particular group or collective (both self-ascribed and by others) in order to create a sound work is essential for assigning values in this field. After seeing how this distinction boomed the number of many-to-many relationships in our first data scheme, the strategy changed to creating a more general, abstract main object called `entity`, in which a field called "tipo de identidad" would determine if it is a person, a group, or an institution such as a university, a museum, or even a streaming service company. This field is determined by a one-to-many relationship displayed as a drop-down menu, with the possibility of adding new entities or modifying existing ones (Fig. 2.9).

There is, however, another degree of collectivity that is not conceptualized in terms of ascription or affiliation,[58] which is manifest during performance itself. Musicians who might have not played together before, or who belong to other bands, may collaborate in the context of a jam or any other kind of improvisatory event. In a similar fashion, interdisciplinary artists may join forces in the development of a specific installation, performance, or time-based artwork. This more pragmatic, looser degree of collectivity was originally described in the `pista_son` table, which means it was reflected at the interpretation level, not in the abstract sense of a composition.[59] In the refactored version, performance-specific collaboration is captured through

[58] After refactoring, in fact, relationships among entities were called `afiliaciones`.

[59] Notions of collectivity and collaboration in artistic contexts require complex and complementary analysis methods. Even if artists are officially part of a group or organization, they may also work with other colleagues in casual, informal ways (for example, during a jam session or a performance). They can also make solo appearances in the

the relationships between entities and recordings, which are still called `roles` but now encompass all kinds of involvement in the creation of a sound work—not only by individuals and collectives, but also cultural institutions, archives, radio stations, publishing houses, and others contributing to their production and circulation.

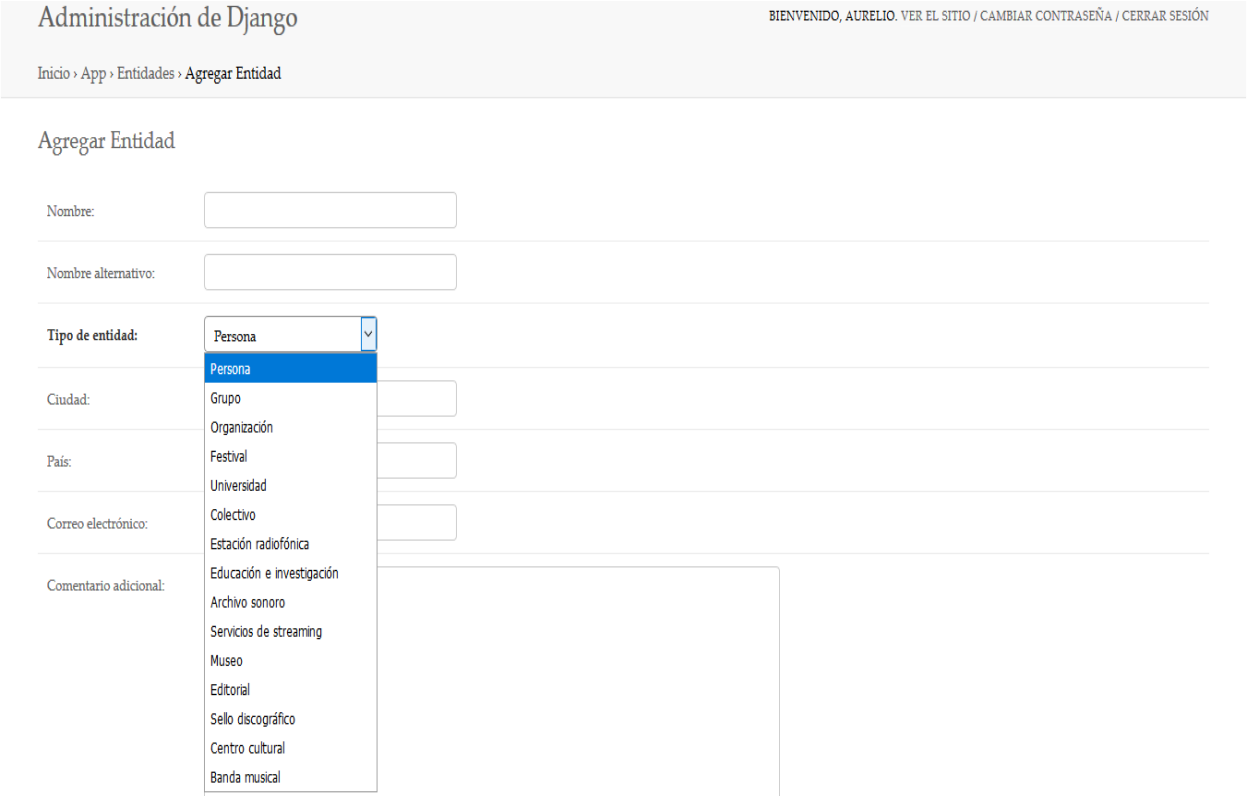

Figure 2.9 Form used to add a new entity to the database and "tipo de identidad" drop-down menu. Source: https://poeticasonora.me

The use of markup, query, and programming languages for classifying and analyzing audio recordings has facilitated new takes on collectivity, begging for a reconsideration of artistic

context of poetry readings, slams, and festivals; such activities are independent from their group affiliations. If these events are recorded and uploaded to the PSP, the repository must be flexible enough to identify different degrees of collective participation. Consider the case of Ánuar Zúñiga, a member of Los Kikín Fonsecas y el Gringo Castro (KFGC). While being a founding member of this literary collective, he created his own multimedia project, Sector 7-G, in which he has produced his own pieces and collaborated with other poets as well (Hernández Incháustegui, et al., 2017). Zúñiga has also performed his own texts in poetry readings and slams, and some of these recordings are part of the PSP due to his participation in a CCD slam in 2015, so that a query on KFGC would only show the files where Zúñiga participated in the collective, whereas a query on Zúñiga will also display his solo readings and collaborations. The role list included in every recording (having a similar paratextual function to that of an album booklet) parses in more detail not only who participated in every creative aspect of the work (composition, translation, interpretation) but also in the life cycle of the digital file (producing, recording, transmitting, preserving).

and literary events as assemblages of both human and non-human agents. This approach, akin to actor-network theory, contributes to our understanding of artistic practices as "collaborative networks," a concept that will be further developed in Chapter 3. Jams and site-specific performances are neither movements nor collectives in the way Alberto Melucci considered both terms (Melucci, 1996). Rather, as Bruno Latour writes about the agency of objects (2008), databases contribute to conceptualizing art and literary collectives as reticular structures of relations (see Chapter 1) and performances in which artists and their instruments actively engage in the creation of sound works.

Most data schema standards for digital collections actually include fields and sub-fields that help distinguish between individuals and aggregates of people, either informally or institutionally organized.[60] If we combine this information with the field `role`, assigning specific roles to every participant in the interpretation of a piece, we get more fine-grained results of an array of collective actions that are not circumscribed to person-oriented values. In other words, the PSP allows for queries on both collective ascriptions (as in group membership) and collective actions (as in a jam). While this "flattens out" the agency of individuals, instruments, collectives and other forms of organization into the same general category, it also allows us to give due credit to anybody who participates in publishing, editing, producing, and/or otherwise circulating these audio recordings.

As will be discussed in more detail in Chapter 3, the distinction between group affiliation and collective action becomes relevant in the context of specific art scenes in which the relational aspect of sound works is central. It allows for comprehensive editorialization even for genres currently having a limited presence in the PSP but which can potentially grow in the future, such as radio art and theater. This feature also helps to give due credit to every participant in a work or performance, not only authors, composers, or project coordinators, but also donors, curators, and any other person or institution that has contributed to the editorialization process.

2.3 Interfaces or collaborators? Shaping profiles rather than projects

Throughout this chapter I have analyzed some aspects of the design, testing, and refactoring of

[60] Dublin Core, for example, has the term `agentClass` to distinguish between different groups of people, while elements `contributor` and `creator` can refer to both persons and organizations (DCMI, 2009). Object `agent` in METS, another metadata transmission standard, also features attributes `type` and `otherType` to make this distinction (METS, 2010).

the PSP by closely looking at different stages in the data modelling process and discussing programmer David Lum's comments about it. From the coordinators' point of view, prototyping implies a continuous negotiation, before every single change, between findings made in the field or in archives in Mexico City on the one hand, and the skills and expertise in data modelling and audio classification from the Montreal team on the other. Apart from initially sticking to LAMP architecture guidelines, Lum had complete freedom on which software to use, where to temporarily store the server, and how to implement the website's refactoring. This did not mean, however, that he was conceived of as "an interface" between the project's technical and humanistic elements, as Janelle Jenstad and Joseph Takeda do when they theorize about the empowerment of research assistants in the context of the University of Victoria's Map of Early Modern London (MoEML). Building up on Alexander Galloway and Johanna Drucker, Jenstad and Takeda ask, "How do we ensure that the RA is not simply a membrane between systems? […] When RAs as human interfaces have agency and autonomy, they 'are not simply objects or boundary points' […]. The RA is an agent 'in constant formation' […], inhabiting a zone where new skillsets and relationships emerge" (2017, p. 77). As explained in Section 2.2, Lum's newly developed skillsets are not reduced to his work on the PSP alone, but to his postgraduation professional experience in Montreal's tech market as well.

It is true, however, that a research assistant's role in a DH project leverages and is leveraged by the need for "translation" (or what is called "interpretation" in Chapter 1) between technological affordances and humanistic research questions:

> What is really valuable is the *labor process* that invites Takeda [former research assistant to the MoEML and current junior programmer] to "map the thinking from one labor process onto another experimentally" […]. He wields both the programmer's hammer and the humanist's idea of a hammer; he can see both the nail and the idea of the nail at the same time. Takeda's position as interface between systems invited him to become something new: a humanist programmer or programming humanist (Jenstad & Takeda, 2017, p. 78).

Despite Lum's background as an amateur musician, essential for adequately representing collectivity and instrumentality in the PSP's data scheme, his knowledge of Spanish language, literary genres, and expanded literary/musical experimentation mitigated the effects this project may have had in his professional career. We cannot say he became a humanist programmer nor a programming humanist, as he continuously reminded us that all the questions about database content were PoéticaSonora's concern, not his. It is nevertheless undeniable that his labor was

focused on how to make data entry (and thus the editorialization process) as efficient as possible for user-testers providing them with as little preliminary training as needed. This drive towards simplicity, increased after refactoring, is even visible in the PSP's frontend, whose web design is kept to its minimum functional features. The focus is clearly on content rather than aesthetic display—except for the recordings' descriptions, which are the most detailed aspect of the prototype.

Unlike the MoEML, the PSP is not officially part of any university or institution yet, even though efforts are being made to make it part of UNAM's Red de Acervos Digitales (see Interchapter 1). This decision will be made when the prototyping phase is over, in preparation for the Beta version. Due to this, standardization and sustainability were key elements throughout the process—practically the only constrains Lum faced at decision-making moments. However, this meant fewer opportunities to foster new collaborative relations *within* academic institutions (such as those discussed by Jenstad and Takeda, echoed in Glissant's notion of internal relationships), rather than *across* institutions (external relationships), as it has been PoéticaSonora's practical approach due to the lack of economic resources for digital academic projects in Mexico (see Section 1.2.3). The PSP as a digital product is not part of Hexagram, Concordia, nor the Fonds de Recherche de Québec-Societé et Culture, even though all of these institutions have funded research that resulted in the repository's deployment.

Since refactoring took place, Lum has graduated from Concordia, a fact that ended certain privileges he had as a student, such as free licenses and other resources from software companies. His involvement in the project has considerably diminished, although he is still the only programmer in the project, and the one with the most knowledge about its technical aspect. His profile, however, simply does not fit MoEML's characterization. What feels uncomfortable about metaphors such as *making the RA* and *the RA as humanist-programmer interface* is the high degree of reification to which the human behind the institutional role is subject, a point Jenstad and Takeda partly acknowledge when they claim (however rightful their reasons are), "We do not want students to be the new (derogatorily named) 'ENIAC girls'—essential but unacknowledged" (2017, p. 76). It is true that both a computer science research assistant and an interface "are placed at the intersection of people and technology" (Ruceker, 2016, p. 399), yet the latter "exists primarily as a means of enhancing the communication between people, the technology, the content, and the abstract concept being experimentally investigated" (Ruceker,

2016, p. 399). That is, interfaces are mediators, whereas programmers can do much more than just mediate—they are indeed those Shakespearean "makers of new manners" evoked at the beginning of Jenstad and Takeda's essay (2017, p. 71), or rather makers of new mediations. Notwithstanding this difference, PoéticaSonora agrees with the MoEML that research assistants' "ownership of the project means that they become collaborating agents, in charge of not just domains of expertise but also their own willingness to become" (Jenstad & Takeda, 2017, p. 82).

The research assistants' agency perceived by Jenstad and Takeda is framed within certain parameters according to MoEML's needs, and its effects become less visible as we view the project from a certain epistemic and temporal distance. As with the "ENIAC girls," a reference to the unacknowledged labor force extracted from women, indigenous communities, and other vulnerable groups that has shaped the history of Western technology (Chun, 2011, pp. 29-41; Nakamura, 2014), software is ambiguously "visibly invisible or invisibly visible" (Chun, 2011, pp. 1, 15-18, 57, 98, 120, 125). Chun observes how graphic user interfaces (GUIs) "offer a simpler, more reassuring analog of power, one in which the user takes the place of the sovereign 'source,' code becomes law, and mapping produces the subject" (2011, p. 10). From this perspective, the interface becomes a negative, radical example of software's (in)visibility:

> GUIs have been celebrated as enabling user freedom through (perceived) visible and personal control of the screen. This freedom, however, depends on a profound screening: an erasure of the computer's machinations and of the history of interactive operating systems as supplementing—that is, supplanting—human intelligence. It also coincides with neoliberal management techniques that have made workers both flexible and insecure, both empowered and wanting (e.g., always in need of training) (Chun, 2011, p. 59).

Likewise, DBMS are based on the idea of taking away the process of storing and classifying information from the user's view. Ever since the publication of Codd's foundational article on the relational model, improvements with respect to trees and graph data structure models have been precisely aimed at hiding the normalization process from users, who "should not normally be burdened with remembering the domain ordering of any relation" (Codd, 1970, p. 380). The solution implemented by Codd to solve this burden, primary keys, obscures the database's internal arrangement mechanisms in a similar way to GUIs.

This technological paradox, both empowering and obfuscating users and testers in a prototyping process, is tangible in the constant training students must take in order to be competitive enough both for the academic and the tech job markets. In PoéticaSonora, this is

reflected in the lack of job stability for temporary members (*servicio social* students, research associates, and teaching assistants). It also evidences the growing interaction among technology, social sciences, and humanities students in the context of a collective research endeavor, as well as an increasing desirability for profiles with certified interdisciplinary backgrounds, as well as professional experience in both "hard" and "soft" sciences. Finally, it is an example of the tendency in software development to hide administrative and operative tasks from the user's perspective, a constant topic in both Codd and Chun, as well as in computer programming in general.

Whether we conceptualize research assistants as agents, interfaces, or collaborators, from the perspective of actor-network theory (Latour, 2008; Ruceker, 2016, p. 400) their products, materialized in code writing and deployment, are actors themselves. Lum's "willingness to become" was focused on delivering such product-actors, not so much in changing his professional profile or creating a new one, even though he actually made an innovative, ground-breaking contribution to Latin American DH. It must also be said that the experimental nature of the project did not offer an attractive job opportunity for Lum, as it is usually the case in emerging digital research projects, especially when funding is over. [61]

Lum's experience in PoéticaSonora proves that projects themselves, particularly in their earliest phases, shape the profiles of incoming members.[62] Despite rightful claims for granting more autonomy to research assistants and student members in the context of a DH project, their empowerment is always restrained by decisions made earlier in the process and by the possibilities for change or expansion in the platforms and infrastructures they use. In PoéticaSonora's case, there have not been many changes to the profile for a leading programmer

[61] Julia Flander's reflections on her job experience in the early days of the Women Writers Project are illustrative of the precarious labor conditions pervading cutting-edge digital research projects in the Global North: "It is worth noting that this job, like many jobs at the time in what was not yet being called 'digital humanities,' had no discernable career trajectory. The project's directors had other 'real' jobs (as faculty, as permanent staff in the IT organization), and the project's programmer could, by gaining further experience and skills, advance to other more senior programming jobs; but the managing editor position (for a graduate student who was still in principle planning to become a faculty member at some point) did not look like part of a track of professional advancement, at least not within the academy" (2012, p. 295).

[62] This is particularly true at the undergraduate level, in which students become familiar with theories and methodologies for listening, editorializing, and learning to verbalize sound features for critical analysis. For graduates and other researchers who join the project with a certain level of expertise beforehand, the process may be the other way around—it could contribute to shape certain "trends" and research opportunities not considered until now. And then there are researchers-creators, such as Rocha Iturbide, who have also curated and critically written about these topics.

who would take on the next phase of the project—preparing the Beta version and deploying it on an institutional server—except for a mandatory proven fluency in both English and Spanish, not as an asset anymore (see Annexes C & D). This new profile aims to engage the programmer(s) with the database's content in a way that seeks to palliate the coloniality of knowledge, path dependence, and other possible obstacles the project may face. The selected candidate must also find a way to dynamize the display of information coming from schema-less columns in a predominantly relational environment.

Interchapter 2
In search of a *Vocable Code*: Speculating on how code and sound work together

Software artists have long looked for paths to bend their way into the pervasiveness of linguistic and knowledge-colonial prescriptions in current English-based programming paradigms, set and reinforced by the mathematical logics and industry standards behind them. Denmark-based artist-researcher Winnie Soon is one such artist, whose work *Vocable Code* is both a piece of software art—"software as artwork, not software to make an artwork"—and codework—"where the source code and critical writing operate together" (Soon, 2017). *Vocable Code* is centered around the idea of generating and embodying "queer code," that is,

> examining the notion of queerness in computer coding through the interplay of different human and nonhuman voices. Collective statements and voices complete the phrase "Queer is…" and together make a computational and poetic composition. Through running *Vocable Code* on a browser, the texts and voices are repeated and disrupted by mathematical chaos, creating a dynamic audio-visual literature and exploring the performativity of code, subjectivity and language (Soon, 2017).

The program-performance displays several different, rotating phrases (both in audio and text format) completing the sentence "Queer is…", placed on a computer screen right next to its source code—the "script" which generates the program's actions (Fig. 2.10). The fact that it plays with both inscriptions and aural traces of each sentence, randomly selected to appear on a minimalist background screen and heard on a headphone set, is not the only aspect of this piece appealing to PoéticaSonora. Equally relevant is the way source code itself acts as both a text prone to analysis (grounded on the perspective of critical code studies) and as a fundamental yet independent element of the art work, facilitating pedagogical and critical approaches to both pieces of art and source code.

While coding, Soon explicitly sought to avoid any function or condition that forced binary distinctions in the way of a yes/no or true/false statement—something which, as anyone who has written code can tell, is not an easy thing to get. For example, `IF` statements are common in most programming languages, like JavaScript (the one used for *Vocable Code*), and true/false statements are usually the norm for sorting out actions from the program depending on different case scenarios, creating a loop in which a given action is constantly performed (or not) until a certain condition is met as in, "If this is true, do this. If false, don't." Functions `THEN` and `ELSE`

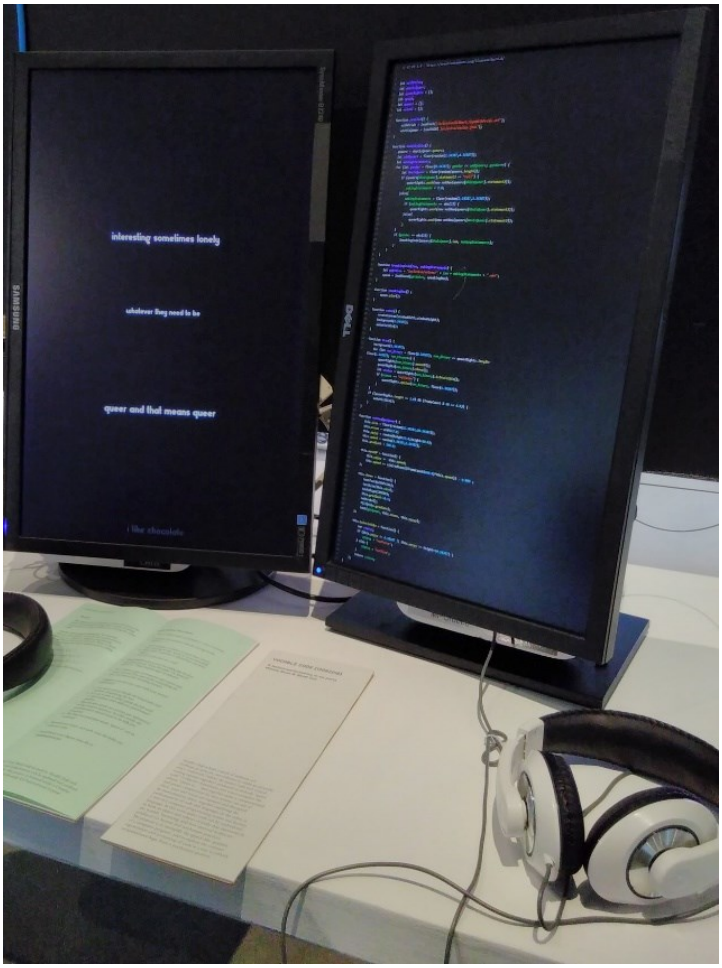

Figure 2.10 *Vocable Code*, by Winnie Soon, as displayed in the 2018 Electronic Literature Organization Festival (Montreal, Canada). Codework, computer, two screens, headphones, and printed manual. On the left screen, several phrases randomly complete the sentence "Queer is…", which are also heard on the headphones. On the right screen, the program's source code is displayed as part of the art work itself. Source: Photo by Winnie Soon on Flickr.

help to manage cases and situations other than the one(s) chosen. The importance of looping as a technique for creating continuity through modular repetition is a key concept in Chapter 3, but for the time being let us focus on its use in computer programming. The way Soon wrote this code is highly pedagogical, in the sense that the name of each function is descriptive and performative at the same time—it can be "read" by both the computer and the human eye, showing in turn how the programming language's syntax and functions work. See for example the last module of `notNew(getQueer)`, a function used to invoke random definitions through another function called `makeVisible`:

```
this.isInvisible = function() {
    let status;
    if (this.yyyyy <= 4.34387
    || this.yyyyy >= height+10.34387) {
        status = "notFalse";
  } else {
        status = "notTrue";
  }
  return status;
};
```

In this module, Soon is defining and declaring the values for `status`, a function that will determine how and when sentences will be displayed on the first screen. To do this, Soon invents two values, `notFalse` and `notTrue`, and although this might seem like a true/false statement in disguise, the criteria for each of them is somewhat arbitrary. Both the module `isInvinsible` and its containing function `notNew` deliberately generate "noise" through random values provoking unpredictable outcomes during performance, both in time and frequency. This "calculated randomness," so to speak, is responsible for long silences that are sometimes followed by several "Queer is…" sentences overlapping each other. *Vocable Code* and its source code play with the "unforeseen circumstances" and "buggy repetitions" of computer programming (Chun, 2011, p. 48) mentioned in Chapter 2. Furthermore, only `notFalse` is actually used in other program modules, and the way conditions are determined is not dichotomic, but rather depends on random values. The program certainly seeks to identify certain aspects of the speakers' identity (such as `Queer.gender`), but the values attributed to it are fluid, that is, contingent upon each particular performance of the computer program.

Through her program's vocalizations, Soon seeks to eschew the discrimination process set in motion by the modularity of Western computer programming, perfectly summed up in Tara McPherson's question, "if we are always already complicit with the machine, what are we to do?" (2012, p. 152). Soon's answer leads to the destabilization of the programming paradigm itself by the assertion of difference amid the centripetal forces of standard compliance and path dependence (see Interchapter 1), and in part she does so through the use of loops. As we will see in Chapter 3, loops have been historically tied to both the causes and results of technological limitations but can also become their way out.

Vocable Code is a very pragmatic example of how to overcome dichotomies inside a structured, mature programming language, in which even asking about language justice and non-

binary modes of thinking may seem out of place. The adjective *Vocable* ultimately refers to vocality, a topic discussed throughout this dissertation from several different perspectives, echoing the almost mythical idea of an utterable code (the sound of words making things happen), undoubtedly one of the promises of the "internet of things" (Pomerantz, 2015, pp. 201-202), as well as of virtual assistants like Siri, Alexa, or Cortana. As in the case of Glissant's oral languages for computer programming experiments (see Section 2.1), Soon's work serves for speculative more than problem-solution reasons, and yet resonates with PoéticaSonora's prototyping process as it shares some questions that both of them address. How can difference and Relation be stored in a database management system (DBMS) that favors homogeneity? Can the tools we use be repurposed for other means? In doing so, are we favoring or delaying the integration of audio recordings to wider spectra of knowledge instrumentalization, such as the internet of things? Will textuality ever be as performative as sound and voice are (or vice versa, if we see it from a programmer's rather than a sound scholar's perspective)?

Among the many lessons learned by PoéticaSonora from Glissant and Soon's *Vocable Code*, we recognize how it is nearly impossible to eschew some of the toughest constraints in today's computer programming paradigms, such as the linguistic hegemony of English or the intrinsic limitations of query languages such as SQL. We also notice how repetition is the linking factor between sound and text, either on type, sound, or code. In the case of *Vocable Code*, additionally, the way source code is placed at the same level of the resulting program during performance is a powerful metaphor for the kind of approach followed in cutting-edge tendencies such as critical code studies (Marino, 2006), critical making (Sayers, 2018), and research-creation (Manning & Massumi, 2014), all of them important for PoéticaSonora and for the speculations developed throughout this dissertation.

Chapter 3
Instrumentalizing Voice: Collaborative Networks among Women Vocal Artists and Loop Stations in Mexico City

3.1 Voice, instrumentality, and loop stations

When vocal artists use effects units such as loop stations, they have the possibility of employing self-generated riffs and grooves as a decidedly musical or textural base while venturing into poetic and performatic experiments. Far from being repetitive, these performances have become increasingly complex in terms of artistic output, ranging from highly musical pieces to rhythmless sound textures interacting with lyrics that may or may not have formal metric structures but are predominantly vocal. In order to give an example of loop stations units allow them to use their voices as if they were musical instruments, and how this is characterized by PoéticaSonora,[63] in this chapter I will focus on a particular group of vocal artists that I call "the *Frágil* cluster" whose main work is the eponymous album produced in 2011 and released in 2015. This project challenges simplistic classifications in terms of voice modulation[64] and the collective dimension of music making and literary performance. I will rely on metadata and digital audio recordings stored on the PoéticaSonora prototype (PSP), an open access digital audio repository whose ultimate goal is to make available online the total production of sound poetics in Mexico from 1960 to the present. My methodological toolbox for this chapter also includes semi-structured open interviews conducted by me and other PoéticaSonora members, interviews and reviews from third-party websites and podcasts, field notes, and an instrument log describing my learning process with a loop station (the TC Helicon Ditto).

While this chapter's methodological shift implies a change in tone and scale as compared with previous ones, it keeps the dissertation focused on the topics of sound, voice, and listening. It seeks to contribute to our understanding of the role played by instrumentality not only in the establishment of collaborative networks in Mexico City, but also in the creation and employment of PoéticaSonora as a digital tool for sound-oriented art and literary criticism. Except when

[63] PoéticaSonora is a research project by students and faculty members from Concordia University in Montreal and UNAM in Mexico City whose main areas of interest are voice, legibility, and aurality. For further details about the project, see the Introduction and Section 1.1.1. For a full list of participants per year, see Annex A.

[64] Modulation in music is usually related with transitions or changes in tonality. When it comes to voice modulation, however, it is immediately associated with singing (or prosody) and mood, i.e., the emotionality, expressiveness, character or "soul" that this kind of "vocal figuration" evokes. In that sense, prosodic modulation is opposed to monotony and lack of expressiveness, associated with tone, speed, pitch, and volume.

indicated, most of the recordings I discuss are temporarily available on https://poeticasonora.me/inicio.

In summer 2016 and fall 2017, the PoéticaSonora cataloguing team conducted fieldwork and archival research in Mexico City in order to editorialize the prototype's initial sample of 429 audio recordings, which included the *Frágil* album and other pieces by their members and associates. This provided not only feedback to consolidate the PSP's inner workflow but also contributed to finding blind spots in the first data schema leading to its refactoring (a process largely described in Chapter 2). The collaborative network built around loop stations by these artists is an extreme case study in which the PSP's capacity for classification was put to the test. It was particularly important to refine data elements dealing with the notions of vocality, instrumentality, and collectivity.

As a theoretical framework I understand the notions of "technology," "technique," and "repetition" in their broader meanings. Based on Mark Butler (2014, pp. 9-11, 174-175), Bruno Latour (2008), and Ursula Franklin (1999, pp. 2-6), I conceptualize *technology* as a system of agents, material infrastructures, standards, and formats both affording and operating around certain *techniques*, which in turn I define, following Sterne, as "a learned skill, a set of repeatable activities within a limited number of framed contexts" (2003, p. 92). As Franklin states, "technology is a multifaceted entity. It includes activities as well as a body of knowledge, structures as well as the act of structuring" (1999, p. 5). By considering it as practice (strongly influenced by Kenneth Boulding's writings), Franklin defines technology as "ways of doing something" (1999, p. 6), using the term either in its abstract, uncountable noun form or in its concrete, countable one. (This pragmatic definition is also implicit in the word's etymology, stemming from the Greek *techné*, often translated as "craft".) A technique, in this sense, is a methodological concretion of a given technological system. If "there is a technology of praying as well as of ploughing" (Franklin, 1999, p. 6), then the Christian Lord's Prayer and tractor-powered ploughing are two techniques within such systems. Sample-looping is therefore one of many repetition *techniques*, facilitated by loop-based *technologies* such as delay stations and loop stations.

As for the notion of repetition itself, in the face of the many different expressions that have been catalogued under this term, here I wish to focus on *musical* repetition as a specific technology for music making in which sample-looping is an essential technique to the creative

production of numerous artists and trends (Butler, 2014, pp. 177-199). I am interested in how this apparently inherent aspect of musical composition is not a limitation or regression to early sound practices, but rather a space for liberation and creativity which, due to the artistic activity of a group of women artists, has flourished in Mexico City during the last decade.

Throughout this dissertation I have followed a new materialist approach to instrumentality, in which the role played by man-made tools and devices in the collective production of knowledge is given more detailed attention (Sterne, 2014; Tresch & Dolan, 2013). It was particularly fundamental to understand how loop stations worked in this specific collaborative network. Strictly speaking, loop stations are peripheral units aimed at filtering or modifying sounds made by an instrument or captured by a microphone. Yet they are given such centrality by some vocal artists in their "performance ecology" (see Butler, 2014, p. 93) that they become as fundamental to the performance as an instrument would be for a musician. Even if we consider that voices themselves can be instruments (a recurring topic during fieldwork), this departure from or "de-scription" (Akrich, 1992, pp. 208-209) of the loop stations' intended uses confers on them a degree of agency that was not planned at the moment of designing and producing them. In this respect, sample-looping echoes other techniques in the PoéticaSonora prototyping process where a technique intended to better perform a task ends up modifying it altogether.

The study of loops has contributed to shape some considerations on instrumentality and inscription frequently discussed in the design and deployment of the PSP. The main query language used for retrieving data, SQL, uses programming functions such as `IF`, `THEN`, and `ELSE` which have an inherent loop structure in their functionality: a certain task must be constantly repeated until a condition is met, so that another different task is performed (see Interchapter 2). `IF` commands are also present in many object-oriented programming languages, such as Python, which is also part of the PSP software stack. In the field of audiovisual multimedia, Lev Manovic (2000) has also noted that loops are behind the history of limitations and affordances of cinema and early computer programming. All of this makes loops a prime example of how a relational technique can operate as an "enabling constraint" (Manning & Massumi, 2014, p. 93), a definition highlighting the bidirectional flux of affordances and limitations set in motion by the use of determinate techniques.

There are actually two different techniques involved in what is commonly referred to as

"live looping," an artistic practice usually performed with the use of an effects unit, such as loop stations and delay stations (Morris J. W., 2008, p. 83 n. 26). One of these techniques is sampling, defined as "the insertion of previously recorded and traceable sound objects inside a musical composition" (Woodside, 2009, p. 1915; Woodside, 2005, p. 21; López-Cano, 2018). It has been fundamental for many Western musical genres in the last few decades, ranging from concrete music, experimental music, and electronic dance music to hip hop, trip hop, and even pop music.

When they are manipulated through the use of effects units, audio samples are usually repeated through traceable patterns which, depending on playback delay (that is, the amount of time spent between the uttering of a sound and its repetition), can produce several different yet closely related sound techniques—some authors (Doyle, 2005) prefer to call them "devices"—such as echo, reverberation, delay, and looping. While echo observes the shortest delay time between utterance and iteration, almost to the point of unnoticeability, loop technologies refer to a periodic, immediate kind of repetition (Butler, 2014, pp. 192-193) happening only after the previous iteration is over. This combination of long delay and repetitive succession makes loops (i.e., isolated sound instantiations) particularly prone to generating rhythmic patterns, usually on a 4/4 beat. After being initially *form*, in the sense that sounds are formed at the moment of performances, these patterns become *background* for new juxtaposing "textures," as some interviewees have described them (García, 2016; Cuacuas, 2018a). Out of all the possible uses of the term "repetition" in music making, I will use the concept "sample-looping" to refer to the strategy of capturing sounds and repeating them with the intention of creating rhythmic patterns and/or textures.

As a composite technique, sample-looping has occupied a special interest for sound experimentation since it was first explored by Pierre Schaeffer and Karlheinz Stockhausen in the 1930s (Baumgärtel, 2015, pp. 53-111). Their creative experiments with magnetic tapes, made in high-end laboratories largely inaccessible to most people, cleared the groundworks for the development of two important loop-based technologies: sample-looping (Schaeffer) and sound synthesis (Stockhausen). Loop-based technologies would find a way toward mass production through the bringing forth of two different technologies: effects units (either built into sound amplifiers or constituting separate gadgets) and pedals. First to be found in Western music in pianos, pedals became a common feature in modern instruments, such as the Trautonium in the 1930s, which had one pedal in its first prototype and up to three in the three-voiced version

(Patteson, 2015). Technical innovations in the use of pedals for musical purposes, as well as the introduction of electric instruments and amplifiers in the 1950s, set the conditions for the creation of modern effects units in later decades. Whereas pedals in keyboard-operated instruments modify sound qualities such as volume, timbre, and color, the main function of pedal-operated units is bringing to the stage many of the audio editing techniques that are typical of recording studios, contributing to further blurring the differences between liveness and recording (Butler, 2014, pp. 39-40).

A media archaeology of modern effects units in the Western hemisphere traces back to analog tape loop technologies. The Echosonic, one of the first guitar effects devices in the American continent, was built on a tape loop. Custom made by Ray Butts in the mid-1950s for Elvis Presley's guitarist Scotty Moore, the Echosonic could generate and sustain echo effects as well as modify bass, treble, and echo volume levels from microphone and instrument input. As Tilman Baumgärtel explains, "Es ist eine einfache Konstruktion, die in die zahlreichen *Tape-Delay*-Echogeräten, die nach diesem Vorbild in der 50er un 60er Jahren gebaut wurden, verbessert wurde [It is a simple design that was improved in the numerous tape delay-echo devices that were built according to this model in the 50s and 60s]" (2015, p. 129). In Europe, the first commercially successful loop-based effects unit was the Watkins Copicat, later relabeled as WEM Copicat and popularized in the late 1950s by the British surf rock band The Shadows. Also built around a tape loop that recorded sounds and instantly reproduced them, like the Echosonic, the Copicat generated echo, tremolo, and reverb effects (Rusell, s.d). In one of its early advertisements it was marketed as fit for both singing and playing an instrument, so it is not surprising that similar units are nowadays used by vocal artists. Other pioneering amplifiers were the Echoplex, the Fender Twin Reverb, and the Binson Echorec (Baumgärtel, 2015, p. 250; Doyle, 2005, pp. 225-226). Many of them could be plugged in to a footswitch to operate it without detaching the performer's hands from the guitar. As new units became smaller and smaller, this footswitch ended up being part of the device itself.

While both reverb and loops are linked to certain instruments (particularly stringed ones), their value for vocal expression has gradually begun to be recognized in many musical and experimental works. One of the forerunners in this respect is Laurie Anderson, also credited with virtues that lie between the literary-narrative dimension of the spoken and sung voices (Kaiero Claver, 2013), a sort of ventriloquism that will be later discussed in the context of sample-looping

in *Frágil* (Section 3.4). Related techniques have also been used by well-known sound artists Pauline Oliveros and Kaffe Matthews (Rodgers, 2012, pp. 27-42), but loop genealogies in the case of women vocal artists in Mexico City do not trace directly back to them. Rather, they are due to transfers from music performers and students to more decidedly interdisciplinary scenes, and in this respect the case of Leika Mochán within the *Frágil* cluster is particularly illustrative of how such transfers ultimately change lives and careers.

The fundamental problem with which sample-looping technologies have had to deal is latency, that is, "the period between a directed action on the part of the musician (e.g., initiating a program, turning a knob) and the achievement of the intended result" (Butler, 2014, p. 71). Latency particularly affects isochrony, as explained by another *Frágil* member, Edmeé García "Diosa Loca"—who donated this album and several other recordings to the PoéticaSonora prototype (PSP). In the following fragment, García discusses some more recent loop station models with trans guitar player and producer Alda Arita:

> GARCÍA: A mí este pedal [TC Helicon VoiceLive] me gusta un chingo. El Line 6 siempre era amor-odio. Era posibilidades, pero me dejas tirada, y no puedes hacer esto o aquello, y pierdo nitidez cuando hablo…
> ARITA: ¿Te dejaba tirada?
> GARCÍA: Sí, esa madre me dejó tirada un par de veces de no encender, el puto Line 6. Así, un día antes de estrenar un pedo que estaba hecho para "Poeta y Line 6", ¿sabes? Era horrible. […] Y entonces esto ya no me satisface. Pero, por ejemplo, ahora me compré otro looper [TC Helicon Ditto] que me van a traer a fin de mes, y creo que si ese lo conectara al Line 6 todavía podría sacarle algún provecho.
> ARITA: Pero este [Line 6] no es tanto looper, ¿no? O sea, sí se pueden hacer loops, pero es más delay.
> GARCÍA: Pero es otro pedo. Y aparte, no puedes grabar estos efectos y loopear al mismo tiempo. Como que no me encanta, la neta.
> ARITA: Una amiga tenía una como esta, pero tenía una looper aparte.
> GARCÍA: Exacto, ya conseguí un Ditto y voy a ver qué pedo.
> ARITA: Y todos los delays que le puedes sacar están chidos. […] Ve, este delay en reversa está chingón.
> GARCÍA: Ajá, exacto, para aprovechar esas cosas. Por ejemplo, cuando puedes voltearlo aquí y octavarlo, está chido. Sí tiene cosas chidas, pero lo que yo sentía que le faltaba, ahora se puede resolver con el otro [VoiceLive]. Pero pues es lo que ha pasado de 2011 para acá en cuestión de *devices* (Arita & García, 2017).

> [GARCÍA: I like this pedal [TC Helicon VoiceLive] a lot. Line 6 was always love-hate. It was possibilities, but you let me down, and you can't do this or that, and I lose clarity when I speak...
> ARITA: Did it let you down?

GARCÍA: Yes, that thing let me down a couple of times by not turning on, the f--g Line 6. Just like that—one day before releasing a show that was planned for "Poet and Line 6," you know? It was horrible. [...] And then it no longer satisfies me. But, for example, now I bought another looper [TC Helicon Ditto] that I'm going to get at the end of the month, and I think that if I connected it to the Line 6, I could still get something out of it.
ARITA: But this [Line 6] isn't so much of a looper, is it? I mean, you can loop, but it's more for delay.
GARCÍA: But that's another issue. And besides, you can't record these effects and loop at the same time. Like, I don't love it, to be honest.
ARITA: A friend had one like this, but she had a separate loop station.
GARCÍA: Exactly, I got a Ditto and I'm going to see how it works out.
ARITA: And all the delays you can get from it are cool. [...] See, this reverse delay is great.
GARCÍA: Uh-huh, exactly—taking advantage of those things. For example, when you can flip it here and turn it into octaves, that's cool. Yes, it's cool but what I felt was missing can now be resolved with the other [VoiceLive]. But that's what has happened from 2011 to nowadays in terms of devices.]

Both García and Arita compare the affordances of some brands and models, particularly the Line 6 DL4 and the TC Helicon VoiceLive. García tells of her disenchantment with the Line 6 DL4, a delay station that initially was crucial for her work, to the point that one of her performances had the unofficial subtitle "A Piece for Poet and Line 6" (which will be further analyzed in Section 3.4.2). Due to the limitations it imposed on her performance (such as being unable to record delay effects and sample-loop at the same time) she was forced to complement it with another model, the simpler TC Helicon Ditto, or to substitute them altogether for the VoiceLive, more oriented to singers and instrument players who use a microphone to amplify their sounds.

This example shows how, while tape loops have been fundamental in the development of effects such as sound synthesis (Fantinatto, 2014), echo, and reverb (Doyle, 2005), it was not until the appearance of digital loop stations and delay stations[65] that their functions became more stable, allowing for a more precise delivery during live performances. García's story with the DL4 and the VoiceLive illustrates how choosing certain models over others, even in this

[65] Interviewees refer to these devices using many terms, all of them anglicisms: "loopers" (Mochán, García, Arita), "las loops" (Noriega, Cuacuas), even the pet name "loopitas" (Cuacuas), a pun on the popular Mexican nickname "Lupita." Throughout this chapter I favor the term "loop stations" instead of "loop pedals" because it allows me to account for both the device and its involved techniques and not just the material interface used to operate it (buttons, knobs, LEDs, screens). For the sake of clarification, it must be noted that the Line 6 DL4 is actually a delay station, which means it explicitly favors other loop-based effects like echo, delay, and reverb. However, I analyze it as a loop station because all the interviewees consider it so, and ultimately because it also works for sample-looping.

predominantly digital age, is related to their affordances and limitations, among them their degree of latency.

In the following section I will analyze how these artists relate to the technique of sample-looping and which technologies facilitate their use as musicians, singers, and writers. At the same time, I will show how fieldwork led to significant modifications in certain aspects of the PSP data scheme involving collectivity and instrumentality.

3.2 The birth of *Frágil*

In 2010, vocal artist Leika Mochán and jazz songwriter Iraida Noriega joined forces in an interdisciplinary sound project dealing with women's empowerment and vulnerability. In several different occasions they have told the story of how they met spoken word artist and audiovisual producer Edmeé García, a.k.a. "Diosa Loca," and how she joined the project (Mochán & Noriega, 2017; Mochán & Noriega, 2015). Mexican jazz bassist Aarón Cruz invited Noriega to a music-and-poetry event organized by him and García in the Mexico City neighborhood of Condesa. On the day of the show, Mochán was at Noriega's home with her, so they went together. Both related so deeply to García's performance, and were so fascinated by her familiarity with jazz music, that they immediately invited her to participate in their project. This collaboration would modify their creative methods afterwards; Mochán and García even claim it became a life-changing creative event (Mochán & Noriega, 2017; García, 2016; Mochán & Noriega, 2015). All these elements make it difficult to classify *Frágil* as "jazz poetry" or "sound poetry," terms that none of the interviewees used to refer to their creative output.

So, what exactly is *Frágil*? It is an album, to be sure—that is, the residual product of a series of performances recorded and produced in a studio. However, it is also a set of relations between three artists, their instruments and devices, as well as a producer (Juan Sosa Rosell), an audio engineer (Salvador Tercero), and some collaborators (Juan Manuel Torreblanca y Nico Maroto Noriega). Despite its title, or maybe because of it, the whole project is about feminine empowerment (Mochán & Noriega, 2015; Mochán & Noriega, 2017). The *Frágil* cluster's presence among sound-oriented collectives in Mexico City addresses important debates on the intersections of genre, gender (both called "género" in Spanish), instrumentality, and the embodiment of music (Akrich, 1992; Rodgers, 2012; Tomlinson, 2015). The album also represents a breakthrough moment for sound-oriented vocal experimentation in Spanish, drawing

its force from the tension between song and salmodic voice, between *melos* and *logos*,[66] and also from voice distortion using a peripheral effects unit that became the center of this creative hub.

Notwithstanding the fact that *Frágil* can be characterized as a group or a band, having booked shows in several different venues across the country, they do not recognize themselves as such (Mochán & Noriega, 2017). For practical reasons it has been categorized as a collective in the PSP, but its very existence challenges this notion. *Frágil* is ultimately a spectacle, a performatic concept in the tradition of cabaret, according to Noriega. The technical skillset needed to operate a loop station was crucial for their creative work then and afterwards, turning these devices into another set of crucial nodes in this creative agent network. Moreover, the effects of such skills in performance were felt even beyond the *Frágil* cluster, reaching one of Noriega's students, Victoria Cuacuas (discussed in Section 3.4.3), even further problematizing the notion of collectivity. In face of the challenges posited by this album to the concept of collective action as proposed by Alberto Melucci (1996), I recur to the notions of actor-network theory (Latour, 2008) and network society (Castells, 2005) to propose the term "collaborative networks."[67] I use it to understand collectivity as comprising both human and machinic agents within a given creative cluster, such as the one giving birth to *Frágil*. From this perspective, every jam session, every improvisational performance can be seen as an "ephemeral collective," a conceptualization that takes academic definitions of collectivity to the limit by confronting them with real-life examples. It is undeniable, however, that many other bands and groups already in the PSP, or which may eventually be part of it, do define themselves in collective terms, so that both approaches (collectivity as ascription or as collaborative network) must be complementary

[66] I use the noun *melos* and the adjective *melismatic* to refer to aural instrumentalizations of the human voice (particularly singing, but not limited to it), and *logos* and *meaning-oriented* to refer to recitation, declamation, reading out loud, praying, and other performance techniques which favor linguistic meaning over sound qualities of the voice. On the definition of *logos* and *melos* and their use in this dissertation, see the Introduction. On how the tension between singing and recitation is characterized in the PSP data schema, see Section 2.2.4.

[67] The PSP seeks to store, classify, and display these collaborative networks, relying on questions such as how different participants interact in the creation of a sound work (and which degree of involvement they have), how the presence of musical or sound-generating devices is characterized, and how to distinguish between declamation and song or, rather, between meaning-oriented and melismatic uses of the voice. This focus on collectivity is partly due to my interest on that topic for the last ten years. My research on the Tijuana-San Diego border region emphasized the collective dimension of artistic practices that are usually conceived of as solitary, such as writing or painting (Meza, 2012; Meza & Nieto, 2014). By reexamining this topic to develop the PSP, I wanted to show how its data schema could offer insightful contextual information on aural traces that can contribute to existing areas of research. From this perspective, I conceptualize the PSP as an instrument for empirically assessing the collaborative networks surrounding a given sound recording.

rather than opposed to each other in the repository's data scheme.[68]

As can be inferred from interviews, narratives, and documented anecdotes, these artists learned to use loop stations from each other. Leika Mochán was the one who introduced it to the rest of the network while collectively composing the pieces that would become part of *Frágil*. García learned to use the models Line 6 DL4 and TC Helicon VoiceLive Touch from Noriega and particularly Mochán, who has been described by the others as the "master looper" (García, 2016; Mochán & Noriega, 2015; Mochán & Noriega, 2017), and even "the Mozart of loops" (Arita & García, 2017), two affectionate ways to highlight her vital role in disseminating this technique.

In order to understand how devices occupying relatively peripheral positions in a musician's performance ecology came to utterly alter undergoing creative tendencies in music-literature experimentation, I will discuss two representative pieces included in *Frágil*: "Tibio" and "Lunática." The first one is a broken-heart story by Mochán to which García added her own texts, while the other is one of the most dynamic and technically complex works of this combo. Both illustrate different aspects of the composition process in this project, such as the customization of jazz song structures to add a literary or poetic "bridge," the importance of repetition in establishing rhythmic patterns, and the instrumentalization of the human voice through the use of loop stations.

"Tibio" follows a typical jazz song structure. It begins with Noriega playing the piano while she and Mochán sing a theme, a chorus, and some variations. Around minute 2:10, however, there is an additional "solo" bridge in which "Diosa Loca" reads a fragment of her poem "Poebestia 2," part of her book *El Red Bitch Project*, a nod at the film *The Blair Witch Project*:[69]

Se llamaba Tibio
Tibio como sus acciones
Cáncer como su aliento
Mío como nadie
Mentira por su nombre […]
Nos mató el tráfico
Porque el amor muere en periférico
Nos mató el dinero

[68] It is for that reason that the field `grupo` still exists to lump several individual artists into a project to which they ascribe either officially or unofficially, but not as a data element anymore. Notwithstanding its importance, the specific participation of each individual in a single composition is recorded in every recordings' role list, so that this information usually complements each group's or artist's individual profile.
[69] For a discussion on typographic variations in García's written creative work, see Section 3.4.2.

O más bien la inexistencia del mismo
Nos mató el secreto
Porque nadie podía saberlo (García, 2010, pp. 4-5).

[**His name was Lukewarm.**
Lukewarm as his actions
Cancer as his breath
Mine as no one
A lie instead of a name [...]
Traffic killed us
Because love dies on Periférico expressway
Money killed us
Or rather its non-existence
Secrecy killed us
Because no one could know.]

As the song goes on, Noriega plays the piano while Mochán makes vocal accompaniments and commentaries to García's poem. For example, after the latter reads the line "Nos mató el dinero [Money killed us]," Mochán half sings the next one as if imitating opera's recitative mode. According to Noriega, this song is illustrative of how most *Frágil* songs were composed: "Empezar por una estructura de pensamiento muy jazzística y poco a poco irla también como rompiendo y quebrando y [tener] de pronto sus momentos de más *free* [To start with a structure with a very jazzy way of thinking and gradually breaking it and suddenly having some freer moments.]" (Mochán & Noriega, 2017). It is hard not to notice how even Noriega's terms for freedom are constrained within the realms of jazz, as in her oblique reference to free jazz. Noriega herself recognizes there was not a single piece in the album that was created out of a textual source:

> En realidad, también hubo mucha adaptabilidad por parte de Edmeé, en el sentido de que no hubo una gestación de una rola [canción] a partir de un texto […]. Siempre era la onda de [que teníamos] esta rola, y entonces Edmeé decía: "Ah, a huevo, este texto mío está, pero puestísimo". Y en donde no existía pues aparte se lo inventaba […], y ahí como que era muy impresionante su capacidad de responder al estímulo, el que sea que nosotros [*sic*] le planteáramos (Mochán & Noriega, 2017).
>
> [Actually, there was also a lot of adaptability on the part of Edmeé, in the sense that there was not a single song that was based on a text [...]. It was always the process of having this song beforehand and then Edmeé would say, "Ah, of course, this text of mine is just perfect for this!" And where it didn't exist, then she'd write it down [...], and her capacity to respond to stimuli was very impressive, whatever it was that we proposed to her.]

As Noriega explains, usually she and Mochán would first propose musical arrangements for a standard or original song, to which García replied with a text of her own with a similar topic. These texts could either be part of her repertoire already, as in the case of "Tibio" (a poem that will be further analyzed in Section 3.4.2) or an immediate response to Noriega and Mochán's musical stimuli.

García also proposed some relational dynamics that ended up being an important part of *Frágil*'s live and studio versions. This was the case with "Lunática," a piece entirely composed using their voices and a Line 6 DL4 loop station. Once again in the fashion of a jazz song, there is a recitational bridge beginning around minute 3:11. The relational dynamics performed by the three of them after this bridge was the result of an exercise proposed by García which offered a notion of freedom quite different from Noriega's—that of telling what one truly needs. Noriega reflects: "Y luego hubieron estos espacios que fue como: 'Bueno y aquí yo digo que estaría chido que cada quién dispare lo que le dé la gana ¿no?' Como que ella [García] ponía una dirección y luego habiendo planteado la dirección, ora sí cada quién dispare lo que quiera [And then there were these moments which were like, 'Well, here I think it would be cool for everyone to shoot whatever they want, wouldn't it?' Like, she [García] would set a direction and once having set that direction, then let everyone shoot with whatever they want]" (Mochán & Noriega, 2017). Here Noriega uses the verb *disparar [to shoot]* as a synonym for *saying something*, a metaphor that illustrates the unpredictability of this exercise when it was performed on a live stage, even in terms of duration:

> MOCHÁN: Un día Edmeé dijo: "Les propongo un ejercicio", y fue de: "Ah, está increíble", el de "Lo que yo necesito de ti" […]. Pero eso fue como terapia ahí, que ya en los conciertos se volvió muy divertido.
> NORIEGA: Por ejemplo, esta [pieza], así en el estudio, fue de dos vueltas y ya. ¡Pero en el escenario era todo lo que necesites decir!
> MOCHÁN: Y se ponía muy divertido, la verdad (Mochán & Noriega, 2015).

> [MOCHÁN: One day Edmeé said, "I propose an exercise to you," and we thought, "Ah, this is incredible," the "What I need from you" dynamics [...]. But that was like therapy there, and it was so fun at the concerts.
> NORIEGA: For example, as it stands in the studio version, this piece has two rounds and that's it. But on stage it was about all the things you needed to say!
> MOCHÁN: And it got really fun, actually.]

As Mochán and Noriega explain, during their live performances "Lunática" was extended

to as many rounds (*vueltas*) as needed, according to the rapport they would have with the audience. Each participant would use their turn in the round to say what they needed from someone else ("Lo que yo necesito de ti es…"). This exercise would many times end up being cathartic for both concertgoers and performers.

During the years they performed *Frágil* across Mexico, from 2011 to 2015, some of those shows were recorded and uploaded to YouTube by fans and friends. These "unofficial" recordings evidence how, despite the sound works evolved through time, this process is not necessarily reflected in the crystallized form of the studio recording. "No me hallo," which in the end was not included in the album's final version, corroborates this argument. Mochán and Noriega have talked about their rendition of an El Personal song—one of Guadalajara's most iconic rock bands—both during the album's premiere and in an interview for PoéticaSonora (Mochán & Noriega, 2015; Mochán & Noriega, 2017) in a way that suggests they were not entirely satisfied with having a recording of that song because it was not well rehearsed enough. Maybe under different circumstances, Noriega considers, or had they been aware that the performance was being recorded, they would not have said some of the things they did: "Eso fue un poco […] como volver público un ejercicio que estábamos dándole forma y que era que cada quién pensara en sus no-hallamientos [*sic*] existenciales, pero pues eso no lo habíamos refinado […] y alguien grabó video y fue así de: ugh… [That was a bit [...] like making an exercise public to which we were still giving shape, and it was that everyone should think about their existential doubts, but we hadn't refined that [...] and someone recorded a video and it was like, ugh...]" (Mochán & Noriega, 2017). Using the original song's chorus as a rhythmic base for their improvisations, the *Frágil* cluster confessed their "no-hallamientos" or existential doubts (roughly translated, "No me hallo" is slang for "I don't know what I'm doing here"). Some things they would talk about each time they reached their turn may be related to their work, family, or romantic relations. In the process, both performers and the audience shared highly intimate insights among each other (Mochán & Noriega, 2015). As can be inferred from Noriega's closing onomatopoeia *ugh*, denoting something bad or serious has happened, the result (or rather its recording and dissemination) was completely unexpected.[70]

In structural terms, the "Lo que yo necesito de ti" dynamics and the "No me hallo" cover

[70] This points towards a constant paradox in sound-performance studies—how to discuss certain performatic features if there is not any recording or register left (as partial and arbitrary as it could be).

are very similar. The difference lay not only in the number of previous rehearsals and the existence of a recorded, "depurated" version in the case of "Lunática," but that they were also more in control of the "Lo que yo necesito de ti" dynamics so as to prolong it as long as possible (or endurable). As Mochán reflected, "Así andamos que necesitamos la libertad de decir qué es lo que necesitamos [That's how things are nowadays that we need the freedom to say what we need]" (Mochán & Noriega, 2015). The answer to many questions about the differences between recorded and live versions lies in the blurry borders of human and machine agencies, but also in the fact that, as I have said, a recording is always just a faint trace of what the live performance can get to be in front of a real, responding audience.

Shortly before the release of *Frágil*, García traveled around the world and quit her job as a radio host in Horizonte 100.9, the same local jazz station where Noriega still hosts her show *Mariposa*. In a way, this was their departure from the *Frágil* project as well, but they continued using loop stations and transmitted this knowledge to other artists. Mochán perpetuated her reputation as a loop master, and was asked by the magazine *Music: Life* to offer a tutorial on the TC Helicon VoiceLive (Mochán, 2013). Sample looping keeps on being a pervasive technique in Mochán's solo albums, *Kaleidojismos* (2010) and *Trenzando* (2017), as well as in her multidisciplinary project *Kaleidocleta*. Meanwhile, loop stations became so important in García's performance *Chilanga habla*, that she decided not to publish the print version of that work, as it would not reflect its full scope and reach. Noriega, on her part, continued influencing the jazz scene with her combos Infinito (with jazz and rock player Alex Otaola), La Groovy Band (with rapper Eric El Niño), Lichttrio, and Cancioncitas (once again with Leika Mochán), all of which feature sample-looping as an important creative technique.

Noriega has also taught workshops on voice and instrument playing, one of which was essential for singer and writer Victoria Cuacuas to get in touch with loop stations for the first time. By that time, Cuacuas was already known as "Victorian Tyler" in some local poetry slam series, particularly the one organized by Rojo Córdova at CCD, which she first attended in May 2015. These performances were uploaded to the PSP when their audio files (previously broadcast on the CCD online radio station and temporarily uploaded to their Soundcloud account) were donated by Córdova, before any member of the project was aware of Cuacuas's presence in them. Indeed, the name change somewhat contributed to the confusion. It was therefore a pleasant surprise to confirm while doing fieldwork that she was already part of the PSP. In a way, the

repository itself contributed to our quickly realizing about her importance in this nascent scene (Cabrera, Jimeno, Medina, & Meza, 2019; see Annex B). It is an example of how aural memory-Traces left without notice in the repository can be later identified by other user-testers through the emergence of recurring names, venues, and other patterns (see Section 1.2.2). These patterns are the real outcome of editorialization, produced by PoéticaSonora's cataloguing and dissemination activities.

As the years have gone by, the legacy left by CCD slams has become increasingly evident. Both established and emerging artists, such as Iraida Noriega, Hebe Rosell, and Victoria Cuacuas participated in them, either as invited artists or as contestants. The latter endeavored to use loop stations after watching and listening to performances by members of the *Frágil* cluster, questioning previous notions of collectivity and participatory creation in the process. Cuacuas narrates her first contact with loop stations for vocal composition was in April 2015 (a month before her first CCD slam), while she was attending both Escuela del Rock a la Palabra's jazz program and UNAM's National School of Music's opera program. It was then that she took a course by Noriega on vocal improvisation at Dim school of music. Cuacuas recalls, "Y me enamoré de todo. O sea, de las cosas improvisadas que hacíamos colectivamente. Y de un aparato [el Line 6 DL4] que llevó Iraida, que decía: '¿Qué está haciendo? ¡Me encanta!' [I fell in love with everything, I mean, the improvisations we did collectively, and this gadget [Line 6 DL4] that Iraida brought. And I said, 'What is she doing? I love it!']" (2018a). In that same workshop, Cuacuas came in contact with Rojo Córdova, who invited her to the poetry slams he was organizing at CCD. This is the reason why some of her early sound works are available in the PSP initial data sample (see Annex B). Another milestone moment which decisively drew Poéticasonora's attention towards her work was the release of an interview and two performances recorded and produced by García at Diosaloca.mx. These videoclips feature a self-assured Cuacuas performing with two loop stations that will be shortly discussed at large (Section 3.4.1).

Rather than passive consumers of digital devices designed by industrial masterminds, each member of the *Frágil* cluster is a highly creative kind of *prosumidora* [prosumer], "que al mismo tiempo que consume su música favorita, produce nuevos discursos a través de ella [who, while consuming their favorite music, produces new discourses through it]" (López-Cano, 2018, p. 31). Likewise, their act of "playing liveness" is an example of re*play*duction, that is, "la audivisión de un contenido desde un vinilo, cinta, archivo digital, streaming, etc. [the audiovision

of a content via vinyl, tape, a digital file, streaming, and so on]" (López-Cano, 2018, p. 31). To understand the role of loop stations in the creation of new collaborative networks, the PSP data schema must be flexible enough so that extreme cases like *Frágil* can be easily integrated without deforming the resource's features by attempting to make them fit in standard classificatory standards. The next section offers contextual information stemming from PoéticaSonora's fieldwork and archival research that contributes to our understanding of why the sample-looping technique has thrived in this particular network.

3.3 Hebe Rosell and the context behind *Frágil*

Elsewhere in this dissertation I have claimed that only fieldwork-based research, such as that of Tara Rodgers (2012) or Mark Butler (2014), can resolve biased assumptions in the international distribution of knowledge and digital labor in current DH and literary studies (Chapter 1), as well as in standard compliance and path dependence constraints for the development of digital projects in Latin American countries (Interchapter 1). In the following sections, while I frame the *Frágil* cluster within Mexico City's sound-oriented collective art scene, I will show how conducting fieldwork and archival research has informed the PSP data schema, particularly regarding the distinction between singing and recitation and the use of instruments and sound-generating devices. I will seek to demonstrate how knowledge about a topic can be enhanced or modified through querying it on the PSP, as well as how the editorialization workflow, mainly carried out by undergraduate students at UNAM's Mexico City campus, determines the way these recordings are initially perceived by target users.

A quick survey on *Frágil*'s background will help us better understand how a group of women vocal artists and musicians altered the local spoken word scene in the early 2010s with a multidisciplinary work somewhere in between a cabaret, a poetry reading, and a music concert. This section seeks to contextualize part of the cultural effervescence in which the *Frágil* cluster was formed and why it is relevant to such a scene. Further discussions on specific cluster members will be part of the chapter's last section.

I have also said that the emergence of patterns in the PSP is one of the expected "archival effects" (Manoff, 2010, p. 386) caused by the creation of this repository. One of the patterns that almost immediately emerged during the prototyping phase was the prominence of Argentine singer Hebe Rosell in Mexico's sound poetics scene. Her work as a performer and vocal trainer

have strongly influenced several generations of artists who are interested in the aural aspect of voice and language (Rosell, 2019). Coming from a family of musicians—songwriter Andrés Calamaro is her half-brother—Rosell's courses and workshops on voice control were fundamental for Noriega and García separately, as well as for many others. It has been interesting to notice how different invited curators, such as Cynthia Franco, Érika López, Bárbara Lázara, and Rojo Córdova have independently included pieces by Rosell in their respective collections.

Partly due to her exile, Rosell migrated from one art scene to another out of necessity. Although she also has training as a jazz musician and was well-known in the 1980s rock scene, in the 1990s she became a storyteller and worked as a musical and vocal therapist (Rosell, 2019). It was through this shift that she got in contact with artists who were looking for a niche to develop their vocal styles, not exactly seeking therapy or singing classes but a hybrid, exploratory space that, back then, was still of an informal nature in Mexico.[71] The existence of this sort of background "orphanhood" for sound poetics in Mexico was one main reason why new artists would empirically and intermittently get in contact with Rosell to attempt to fill out those gaps in their training.

In 2018, Rosell organized a conference series in Mexico City's southern neighborhood of Coyoacán, in which she brought together some of the most representative Mexican vocal artists. As reported by Isabel Alcántara Carvajal (2018),[72] this event had a retrospective feeling, reinforced by the fact that it was meant for a broader audience, thus having informative rather than training purposes. Most of the panelists were former students of Rosell's who brought their own students in an explicit effort to introduce new generations to vocal art and "crear una comunidad más consciente, abierta y receptiva [to create a more conscious, open, and receptive community]" of vocal artists (Alcántara Carbajal, 2018). It is worth noticing how, despite the fact that Rosell does not use a loop station, it was reportedly "una de las herramientas técnicas más frecuentes entre los artistas que se presentaron [one of the most frequent technical tools among the artists who performed]," among them the *Frágil* members, Sarmen Almond, and Juan Pablo Villa, "cada uno empleándolo con intenciones y efectos muy diversos [each of them using it with

[71] Spanish vocal artist and researcher Fátima Miranda, for example, gave some conferences and workshops at UNAM's National School of Music in the 1990s, as well as Spanish sound artist and musicologist Llorenç Barber, but each of them was committed to diverging projects and academic circles.

[72] A member of PoéticaSonora, Alcántara Carvajal is a graduate student at UAM-Iztapalapa who editorialized Cynthia Franco's collection *Mujeres en su lengua* in the PSP, and whose research project is about women writers in Mexico City's poetry slam scene.

very different intentions and effects]" (Alcántara Carbajal, 2018).

As several interviews conducted by PoéticaSonora confirm (Mochán & Noriega, 2017; Cuacuas, 2018a; Rosell, 2019), as well as some invited curator collections, Rosell's influence has been fundamental to the development of vocal experimentation in Mexico during the last thirty years. The fact that so many of her acknowledged learners use loop stations is also symptomatic of their interests for expanding the affordances of their own voices. In the next section I will more specifically address how three vocal artists coming from the extended *Frágil* cluster (Mochán, García, and Cuacuas) use sample-looping techniques to instrumentalize their voices.

3.4 Loop stations and vocal art across the *Frágil* cluster

So far, I have summed up key moments and figures of Mexico City's sound-oriented collaborative practices, from the *Frágil* cluster to Hebe Rosell's legacy. Now I will look at how voice instrumentalization has led to alternative forms of artistic creative collaboration involving non-human agents, such as effects units. I will focus on how loop stations enable vocal artists not only to play (with) their voices but also to dispense with a supporting musical band for the creation of a sound-text project. Their relevance for PoéticaSonora's cataloguing process is largely due to how they expand the spectrum between traditional declamation or individual "a capella" performance and vocal experimentation as a vital component of many genres that partly draw their creative drive from sample-looping techniques. While artists coming from jazz, sound poetry, and spoken word may have diverging interests and reasons to approach loop stations, as well as embrace their related constraints and affordances, through these collaborative networks they offer insightful feedback to each other and enrich their creative perspectives and horizons. Their connection is not made through the abstract notion of genre but, beyond interdisciplinary dialogue, through the device's materiality. This classificatory shift and the emergence of new patterns among existing sound works are reminiscent of PoéticaSonora's cataloguing efforts, in which the archival effects of building a digital repository have led to unheard-of creative and productive associations. That is, in fact, one of the very reasons for the project to exist.

This section offers narratives in the history of sample-looping that are framed on decolonialist approaches[73] to sound studies and the digital humanities (see Chapter 1). They

[73] While I do not forcibly use decolonialist terminology in this chapter to explain these artists' creative process, it must be noted that focusing on this particular cluster of women artists contributes to changing the terms of how Mexico's current interdisciplinary art scene is discussed. That being said, it is undeniable that the diffuse

substantially diverge from those offered by North American and European studies, in which there is a constant, significant absence of non-English speakers, vocal artists, and women in general (Baumgärtel, 2015; Fantinatto, 2014). This absence has been challenged since the turn of the millennium, when digital loop stations became cheaper, more stable, and increasingly popular. In the early 2000s we notice a growing number of spoken word, sound, and vocal artists using this device for their performances, such as Dirk Huelstrunk in Germany or Juan Pablo Villa in Mexico. As stated in Section 3.1, loop stations were brought into existence by combining two technological innovations: the intertwined techniques of sampling and looping on the one hand, and the use of pedals to play instruments and effects units on the other. While sample and looping were frequently developed together and are interdependent of each other (the reason why I call it sample-looping in this dissertation), pedals joined this story much later, in the 1980s and 1990s. However, their development as an integral part of modern instruments started more or less at the same time as sample-looping.

Although loop stations are not instruments per se but rather peripheral units aimed at modifying or controlling aural features (such as timbre and rhythm), these artists use them as if they were instruments, and as such they are editorialized in the PSP. They delegate not just some features of liveness to the device, as Jeremy Wade Morris observed in guitar players using the Line 6 DL4 (2008, p. 80), but also the rhythmic and textural possibilities of their own voice, enabling them to perform live without the need to rely on the collective matrices they come from.

Peter Doyle explains how using effects such as echo and reverb (closely related to sample-looping) dramatically modified the aural affordances of electric guitars and voices in 1950s U.S. popular music:

> As it had with the steel guitar in the thirties, electrification of the instrument represented a distancing of the sound from the body. In a sense it also indicated an abstracting of subjectivity from the body, as though the instrument itself had adopted a persona [...]. But something slightly different occurs with the singer/guitarists [in the fifties]; some aspect of the singer's "consciousness" is projected into the instrument. The instrument is not primarily the voice of that which is other to the singer, but rather is a kind of ventriloquist's dummy (2005, p.

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characterization of collectivity suggested by the term "collaborative networks" is strongly influenced by Glissant's Relation (see Section 1.2), and that the intervewees' sound works and their reflections specifically contest the colonialities of gender, knowledge, and being (Section 1.1.2). For a discussion on the history of sound synthesis from a feminist perspective, see "Tinkering with Cultural Memory: Gender and the Politics of Synthesizer History" (Rodgers, 2015). On the racial politics of voice distortion in English-language popular music, see "'Feenin:' Posthuman Voices in Contemporary Black Music" (Weheliye, 2002).

172).[74]

Here he uses *voice* both in the sense of a melodic level and in the musicological sense of "a line or separate strand of music in a harmony or counterpoint" (Doyle, 2005, p. 242 n. 76), evidencing how the notion of voice-as-instrument is often associated with that of melody.

Instrumental ventriloquism is even more noticeable when loop stations are used by artists whose instrument is their own voice—a statement that every *Frágil* member has said at least once (Mochán & Noriega, 2017; Mochán, 2014; García, 2016). In the following sections I will focus on some instances of how these and other artists "ventriloquize" their voices for different reasons: it could be to explore their aurality, musicality, and plasticity; it could be to compose, record, or perform new sound pieces; to experiment with sound "textures," or to compose clearly differentiated musical structures. While I discuss the role of sample-looping in the work of some artists from the *Frágil* cluster and beyond, I will explain how some of their recordings have been editorialized in the PSP and how the technical-theoretical implications and engagements raised in Chapters 1 and 2 are reflected in the PSP editorialization process.

Through this analysis I seek to understand how a sound-based approach to interdisciplinary forms of literature substantially modifies our knowledge of these authors and their works. In this sense I draw from aurally oriented approaches to expanded vocal performances, such as Tara Rodger's interviews with women sound artists and electronic music producers, as well as Ainhoa Kaiero Claver's study on the use of reverb by Laurie Anderson in her concerts of the 1990s. The sense of space and location suggested by this effect, studied in depth by Doyle, is for Kaiero Claver an index (and trigger) of the ghostly connotations of voice: "The reverb effect concerns not the instantaneous direct impression of the voice, but the temporal delays related to the spatial distances of the room. Consequently, these temporal delays render the traces of a past utterance: they make us hear different reflections of a gesture that is already gone" (2013, p. 170). The co-occurrence of both the performer's body and her past utterances creates an eerie sense of "unaufhörliche Gegenwart [incessant presence]" (Baumgärtel, 2015, p. 26), similarly obtained by extending "the reverb effect to a loop treatment of her voice […]. In

[74] Such ventriloquism is defined by Mladen Dolar in completely different terms. He proposes that it be interpreted as the instrument's agency, based on Lacanian psychoanalysis and a story of a chess automaton by Edgar Allan Poe (famously quoted by Walter Benjamin and Slavoj Žižek) in which Poe concluded that the automaton could not but be operated from the inside by a hunchback: "The puppet appears to be controlled by the hunchback, but in the second stage it is endowed with its own intentionality; it is supposed itself to pull the strings of its master, enlist his services for its own purpose" (Dolar, 2006, p. 5).

loop sequences, her singing voice is shown to be an imprint (or sign), decomposed in the numerous recorded traces of an utterance already disappeared" (Kaiero Claver, 2013, p. 171).

This aural "non-presence" (in a way resembling Chun's "visibly invisible or invisibly visible," discussed in section 2.3) is also framed in both spatial and temporal terms by Pauline Oliveros and Kaffe Matthews. Oliveros conceptualizes delays as expanding time machines, responsible for "the coloration of sound that happens in a space" (Rodgers, 2012, p. 29). As for Matthews, space is as indispensable in her performance as the time needed for it to happen: "Essentially I make music by being in a place with an audience and playing with the sound and the atmosphere of the event, and I need physical gesture to be able to do that" (Rodgers, 2012, p. 38). In the case of vocal artists, gestures and bodily presence are also essential for loops to coalesce, even if the voice and its body are actually detached from each other through the use of loop stations.

Several different generations have found a way to speak their minds through the limitations and affordances of sample-looping techniques. In *The Language of New Media*, Lev Manovic considers the use of loops in the early history of both classic and digital cinema as an example of how a technique is continually responsive to contemporary technological limitations (2000, p. 265). As previously noticed by some of his critics (among them Mark Hansen and Alexander Galloway), Manovic's excessive focus on cinema obscures the contribution of music and sound to digital genealogies in general (Galloway, 2011, p. 380). Yet sound sample-looping can offer fresh perspectives on topics such as standard compliance and path dependence (Interchapter 1). These vocal artists have responded to this conundrum by willingly imposing the device's limitations upon themselves, learning in the process how to drive them towards their own creative purposes.

Loop stations allow vocal artists to play (with) their voice as if it was a musical instrument (and for Sarmen Almond, the instrument is not the voice but the body).[75] Yet García also notes how this possibility "te limita al concepto de loop. Es decir, primero, qué tanto puedas grabar en esta cosa en cuanto a duración; después, si esto que ya grabaste lo puedes salvar o no, o el crear un nuevo loop hace que lo demás ya no exista, o sea si lo puedes poner en diferentes canales, o sea, qué posibilidades hay o no con respecto a eso; y luego el elemento de efectos

[75] While playing with one's voice has been possible since before effects units became so popular, loop stations have allowed singers to create harmonization effects that are different from pure vocal techniques, such as overtone (i.e., generating harmonics) or other rhythmic-vocal splits.

[limits you to the concept of the loop. I mean, first, how much you can record in this thing in terms of duration; then, whether you can save what you already recorded or not, or creating a new loop erases the rest, that is, if you can record in different channels, so which possibilities there are with respect to that or not; and then the effects element]" (García, 2016).

When used as the main supporting device for a performance, loop stations also condition how performances will be delivered. As Morris explains, the possibilities for building different musical structures seem suddenly reduced:

> Rather than conceiving of a song as a series of musical sections (verse-chorus-bridge, ABABCCAB), the device prescribes units that resemble A-A^{I}-A^{II}-A^{III}. As the song develops linearly (the loops repeat), it is the layers that take on added significance (variation comes from new layers of existing loops). The song's very structure depends on the material encoded in the original loop and the variations played upon it (2008, pp. 85-86).

More recent studies about sample-looping argue that loop structures are neither linear nor circular (two popular characterizations) but rather spiral, and that repetition in itself makes each iteration unique because it takes place in specific, unrepeatable moments of time (Butler, 2014, pp. 200-207). Moreover, in the hands of experts such as Mochán and Noriega, loop stations are able to produce verse-chorus-bridge structures as well.

German sound artist Dirk Huelstrunk, who participated in the Mexican 2015 Enclave festival, thinks sample-looping prescriptions can be bypassed through the technique itself:

> Of course the loops are a limitation. But artistic work usually profits from self-imposed rules and limitations. To cross a border, you have to see or feel it. But the loop also creates familiarity, a feeling of "security." It may sound paradoxical, but the limitation of the loop gives me freedom to improvise. The loops create "space." You record something, repeat it, lay back and "think" or just wait until a new idea comes up. Otherwise there would be silence (Huelstrunk, 2014).

The apparent paradox of getting a continuous, therefore analogic, result using a digital device is reminiscent of its early stages when tape was the predominant format. Generating a fixed sound base and giving time for the artist to improvise is also the principle of one-person bands and other collaborative musical projects in which a single node is fundamental for the network to exist, a phenomenon I have called "collaborative individual projects" in the context of art-literature multidisciplinary collectives, the "zero degree" of group classification (Meza, 2012, pp. 35-36). We must not forget that even "solo" artists are rarely isolated from collectivity. First of all, they usually interact with nonhuman agents (in this case loop stations, but also other

instruments, mixing consoles, microphones), which already makes it "collective" if considered from the perspective of actor-network theory; secondly, as can be seen in the case of Cuacuas, an artist can be part of a broader collaborative network even without explicitly ascribing herself as part of it. For these reasons, an artist is never alone when she uses a loop station.

Within this series of polarities (voice and guitar, recitation and song, collaboration and collectivity, variation and iteration), vocal artists utilize the loop stations' "technically delegated prescriptions" (Akrich, 1992, p. 211) for creative rather than training purposes, modifying in the process their devices' intended uses. Sample-looping also makes it possible for them to assemble their own work without relying on a music band, except for those features willingly assigned to other collaborators during their performances (Morris J. W., 2008, pp. 87-91; Butler, 2014, pp. 47-48). By inhibiting the inertia of the devices' intended uses, they alter their built-in features leading towards their "de-scription" (Akrich, 1992, pp. 208-209), in which advanced users help less experienced ones explore the device's affordances instead of recurring to sellers or distributing companies. Given that these artists participate in the same broader collaborative network, some forms of knowledge are shared through creative interaction (that is, while making a piece of art) whereas others are learned through intensive, sometimes seclusive practice and engagement with an effects unit. It might also be that both forms are not restrictive to each other, and that learning involves peer interaction and solitary practice to the same degree. Due to this transmission by domain knowledge and word of mouth, some loop station brands and models have been favored over others, due to the affordances they offer to play with the voice—not only sample-looping but also delay, reverb, sound synthesis, and distortion effects in general.

In order to discuss specific models used by the *Frágil* cluster, it will be useful to categorize loop stations according to how the device is activated, whether using one's foot or hand.[76] Foot-oriented pedals like the Boss RC-30 (Fig. 3.1), the Line 6 DL4 (Fig. 3.2), or the TC Helicon Ditto (Fig. 3.3) are ideal for guitar players, but are commonly used by singers as well. Building up on Morris's central argument about the Line 6 DL4, a performer delegates not only her performance's "liveness" to the effects unit (2008, pp. 88-89) but also the potential to manipulate her voice as if it was an instrument. For their part, hand-oriented pedals like the TC Helicon VoiceLive Touch (Fig. 3.4) are intended for both singers and players whose instruments

[76] Another possible classification could be guitar-oriented and singer-oriented, but it obscures other possible uses for the device, e.g., to amplify bodily generated percussions, or other types of instruments (brass, percussive).

can be recorded using a microphone and are therefore operated using their hands—not only acoustic and electroacoustic guitars but also accordions, or brass instruments, for example. The difference is important because it determines how the user approaches it, operates it, and also how their role during performance influences their creative process.

Figure 3.1 Boss RC30 Loop Station.

Figure 3.2 Line 6 DL4 Delay Station.

Figure 3.3 TC Helicon Ditto Mic Looper.

Figure 3.4 TC Helicon VoiceLive Touch Loop Station.

Regardless of the attention the DL4 has received as a guitar-oriented device, making it a common component of many rock band players' pedal boards, it is telling of its affordances that vocal artists have also used it for singing and other forms of vocalization. The first informant to have deeply engaged with it is Mochán, who taught it to both Noriega and García while they were recording *Frágil*. This was a groundbreaking moment for them all, especially García who even reconfigured part of her creative processes and activities afterwards, as discussed further below. Mochán also taught them the basics of the VoiceLive Touch, a loop station going beyond the simple definition of an expression pedal. The DL4 is not a loop pedal but a delay station, as

opposed to the simpler Ditto, also by TC Helicon, truly a loop *pedal* which can only record one track and has almost no built-in effects, except for delay and echo (which, as has been said, are time-altered variations of sample-looping).

In the next sections I will focus on the collaborative networks established around loop pedals by three members of the *Frágil* cluster: Leika Mochán, Edmeé García and Victoria Cuacuas. There is a good reason not to focus on founding figures Hebe Rosell and Iraida Noriega. For all the former's influence in Mexico's current vocal art scene, and despite many of her acknowledged pupils use loop stations, Rosell did not endeavor to use them as creative tools for the purposes of vocal performance. Noriega, for her part, has not restrained her creative work to vocal art or singing. Despite being an indispensable node in the *Frágil* cluster, after having explored the plasticity of her voice through the use of loop stations she created amazing collaborative projects with other musicians and performers, some of which do feature these devices.

The artists on which the following sections are focused are the ones most engaged with vocal experimentation and loop stations in this collaborative network. It was Mochán who brought awareness and expertise about them to the others (particularly the Line 6 DL4), whereas García and Cuacuas represent two heirs of her legacy with sound works solidly built on both musical and literary grounds. García's work as an audiovisual producer, mostly through her websites Diosaloca.mx and Spokenword.mx, has been key in circulating information about many spoken word artists in Mexico City, such as "Josuelfo," "Gran Dao," and Cuacuas herself, releasing videoclips and interviews for each of them (Josuelfo, 2018; Cuacuas, 2018c; Dao, 2018). García also participated in the planning and direction of the 2017 Circuito Nacional Poetry Slam MX, a national slam competition that gathered all the regional and local leagues for the first time.[77] As for Cuacuas, she already had a solid formal training in music when she participated in her first poetry slams in 2015. The work of these artists represents an extreme case study for editorializing information about different types and degrees of collectivity, the role and function of individual artists within a recorded performance, as well as their use of instruments or other sound-generating devices to modify their voices' affordances. This will imply a discussion on the instrumentality of loop stations, considering how they went from being a popular gadget for guitar players to becoming crucial for these artists and their vocal performances.

[77] The second edition was organized in 2019 (Mendoza Gómez "Comikk MG", 2019b).

3.4.1 Off-key mantras: Leika Mochán

Mochán had prominent singers as instructors, among them Iraida Noriega, Ana Gloria Bastida, and Isabel Tercero. Noriega has been particularly important for Mochán's musical career, as it was the latter's a capella ensemble Cuicanitl which convinced the former to move from Cuernavaca to Mexico City to study music, instead of going to Europe or elsewhere (Mochán & Noriega, 2015). Mochán got involved with loop stations for the first time during her undergraduate years in the jazz program at Escuela Superior de Música, in Mexico City:

> Me pasó con el *looper* que empezó siendo como un material de estudio. Cuando me lo encontré, justo estaba estudiando. Siempre me han gustado mucho las cosas vocales, pero yo no soy instrumentista, no toco el piano así bien, y a la hora de estar haciendo arreglos para bandas o así, era padre probar y decir: "Ah, bueno okey, pues el bajo va a hacer esto y quiero que un sax haga esto. Y a ver." Pues ya lo cantaba todo y decía: "Pues sí, sí suena [bien], o no tanto" […]. Pero ya después, como también es muy divertido para viajarse, para hacer cosas y experimentar y jugar, se vuelve adictivo […]. Empiezas como a buscar sonoridades y encontrar cosas, pues ahí es donde uno empieza ya como a agarrar [la onda], que al final es como la mejor manera de estudiar, ¿no? Cuando algo te apasiona y realmente no es como que te sientes a estudiar, sino que te dan ganas de estar ahí, está chido. Y siento que ahí es donde el *looper* se puede explotar (Mochán & Noriega, 2017).
>
> [It happened to me with the looper that it started out as study material. When I first came in contact with it, I was in fact a student. I've always liked vocal things a lot, but I'm not an instrument player, I don't play the piano that well, and when it came to making arrangements for bands and so, it was cool trying and saying, "Ah, well, okay, the bass is going to do this and I want a sax to do this. And let's see." Then I would sing it all and say, "Well, it does sound [good], or not so much" [...]. But then, as it's also much fun to trip with, to do things and experiment and play, it becomes addictive [...]. You start looking for sonorities and finding things, because that's where you start [getting it], which in the end is like the best way to study, isn't it? When you're passionate about something and it's not really like you're sitting down to study, but it makes you want to be there, that's cool. And I feel that's where the looper can be exploited.]

Mochán explains she initially used loop stations for training purposes, but after tinkering with its sounds and understanding how the loop station operates (that is, after *agarrar la onda [getting it]*) she went from practicing vocal performance to exploring the device's affordances and creating new sound works.

In 2003 she became nationally known after founding the all-female a capella ensemble Muna Zul with Dora Juárez and Sandra Cuevas, whose first record was produced and released by

John Zorn's record label Tzadik. While Mochán did not use loop stations during this stage, most of Muna Zul's rhythmic patterns are heavily based on sound fragmentation and repetition, two essential sample-looping formal procedures that provide sound with a sense of stability and continuity. Collaborations between Mochán and Noriega date back to this period, the latter having made arrangements for "Voto de silencio," the first song in Muna Zul's debut album. It is highly representative of what would become Mochán's signature style: a steady rhythmic pattern entirely made out of body-generated sound effects (tongue clicks, hisses, clapping), and a leading melodic voice. Around minute 1:20, Mochán uses her hands and mouth to improvise a brass instrument, a technique drawn from beatboxing. Her leading voice dominates the piece, except for a musical section jointly sung by her and Cuevas, and the final one led by Juárez. Another song that foretells what will be Mochán's solo style is "Water Sculptures," entirely sung a capella. Two different choruses are sung several different times, sometimes alternating one another; on every repetition, a new layer of sound effects and vocal variations is added. This gives a feeling of circularity and iteration that is typical of sample-looping techniques, although loop stations were not used in any Muna Zul recording.

Kaleidojismos, Mochán first solo production, was released by Intolerancia, one of the most influential Mexican independent labels nowadays. A wordplay between *kaleidoscopio [kaleidoscope]* and *espejismos [mirages]* in Spanish, the title also hides a reference to Mochán herself, given that "*Kalei-*" is the *verlan* or inverted spelling of her surname *Leika* (Mochán, 2011b). The CD's first edition includes a do-it-yourself paper kaleidoscope, symbolizing Mochán's own creative output, generated out of discrete units of sound which, after being ensembled and repeated under a specific timespan, become a coherent unit. This album is imbued with the lessons learned by Mochán during her Muna Zul years:

> Desde que estaba en Muna Zul compuse canciones que nunca montamos. Con el tiempo me di cuenta que ya tenía un buen repertorio y decidí llevarlo al escenario. Al inicio me daban muchos nervios, estaba tan acostumbrada a interactuar con músicos, que al presentar las primeras veces *Kaleidojismos* en vivo invitaba algún guitarrista para que me acompañara, pero después me di cuenta que podía hacerlo yo sola, y ahora lo disfruto mucho (Mochán, 2011b).
>
> [Ever since I was in Muna Zul, I have composed songs that we never made. As time went by, I realized I already had a good repertoire and I decided to take it to the stage. I was so used to interacting with musicians that when I first presented *Kaleidojismos* live I would invite some guitarist to accompany me, but later I realized I could do it alone, and now I enjoy it a lot.]

Most songs in *Kaleidojismos* do not have any musical accompaniment. However, this does not mean she does not rely on technology or collaborative networks to realize her projects, but rather that every aspect of the song (rhythmic, melodic, harmonic, and timbral) must be performed using the human voice via loop stations. In turn, this implies some of the devices' restraints—Akrich's "technically delegated prescriptions" (1992, p. 211)—must be accepted, particularly the stiffness of playback and sound effects. Using them, however, allows for juxtaposing a single voice in different sound layers, freeing the performer from repeating a rhythmic pattern during the whole song by herself, one of the bases of Muna Zul's a capella technique.

In 2013, after having recorded *Frágil* and before releasing her second album, Mochán began working on *Kaleidocleta* (another wordplay, this time between *kaleidoscope* and *bicycle*), a relational performative project stemming from *Kaleidojismos* which further blurs the line between liveness and recording, particularly at the moment of performance. It basically consists of her DL4, a loudspeaker, and a microphone attached to a bicycle basket, allowing her to bike around different areas, creating in the process loops and textures out of words and phrases uttered by some curious passers-by. Two YouTube videos document her performances, one in the 2013 Cumbre Tajín Festival in the state of Veracruz and another in Mexico City's neighborhood of Coyoacán in 2015. Drawing from Morris's morphology of sample-looping, we can say the audience in *Kaleidocleta* contributes to the performance with an initial sample (A), which can be any utterance or sound they make. Mochán then adds on other sound layers (A^{I}, A^{II}, A^{III}…) until the sample becomes utterly different from the original source. In an interview with PoéticaSonora, Mochán understands this distortion of original sound as "mantric," referring to the way mantras are constantly repeated:

> MOCHÁN: Es una cosa como mántrica, y pues eso que la repetición por una parte de la voz, "*mantreando*", tiene una cosa como de…
> NORIEGA: Hipnótica.
> MOCHÁN: Hipnótica, y además regresas a las afinaciones no tradicionales […]. O sea, como una afinación más natural, en el sentido de que no es la quinta del piano, sino que se vuelven como estas armonías… A mí me pasó en el primer disco que hice con loopers [*Kaleidojismos*] que, a la hora de separarlo y hacer cada capa de sonido, como que [había] algo en el encuentro de los armónicos […]. Siento que ya es una cosa medio físico-abstracta que no se puede explicar tanto con la armonía tradicional occidental. Algo pasa a la hora de sumar capas de voz y de voz y de voz, a nivel armónico sutil y de cosas así, que te pone en otro estado. Es un poco como, me acuerdo, una vez [alguien] en un taller de música árabe que decía: "Hay una

> como flautita que se usa en bodas porque está tan sutilmente desafinada que te libera no sé qué endorfinas de la líbido". Siento que eso pasa a la hora de *mantrear* con voz (Mochán & Noriega, 2017).
>
> [MOCHÁN: It's a mantric thing, and so that the repetition by part of the voice, "mantra-ing," has a thing like...
> NORIEGA: Hypnotic.
> MOCHÁN: Hypnotic, and you also return to non-traditional tunings [...]. In other words, as a more natural tuning, in the sense that it's not the fifth of the piano, but they become like these harmonies... It happened to me in the first album I made with loopers [*Kaleidojismos*] that, when it came to separating it and making each layer of sound, as if [there was] something in the encounter of the harmonics [...]. I feel that it's already a half physical-abstract thing that can't be explained so much with traditional Western harmony. Something happens when it comes to adding layers of voice over and over again, at a subtle harmonic level and things like that, getting you to another state. It's a bit like, I remember someone in an Arab music workshop who once said, "There's a flute that's used at weddings because it's so subtly out of tune that it induces I don't know which endorphins into your libido." I feel that's what happens when it comes to "mantra-ing" your voice up.]

The interplay of overdubbing with the textural qualities of her voice allows Mochán to reach some harmonics that, she considers, are no longer describable through Western traditional music theory. By evoking both mantras (words and phrases that are attributed a spiritual power in Buddhism and Hinduism, constantly repeated while praying) and Arab musical instruments, Mochán reinforces the idea that sample-looping harmonics can be interpreted from a *locus* of enunciation detached from a Western-centric perspective of musical theory.

While touring *Frágil* and preparing *Kaleidocleta*, Mochán announced she was working on a new album (Mochán & Noriega, 2015). It would not be until 2017, however, that *Trenzando* was finally released. In terms of the use of sample looping as a structural element, the evolution from her previous work is surprising, even knowing about Mochán's talent and potential. It might be that the relational aspect of *Kaleidocleta*, a mobile performance based on the same tenets as the album that originated it, had a significant weight on this dramatic change.

As with *Kaleidojismos*, every song in *Trenzando* contains sample-looped vocalizations at a higher or lower degree. Among them, "Día de muertos" is particularly relevant for this discussion, as it is entirely made with voice samples. It begins with the same kind of rhythm basis typical of Muna Zul, but steadily modifies existing layers and adds new ones, sometimes removing and reincorporating samples at will. The presence of jazz in *Trenzando* is also more prominent than in any other previous project by Mochán. The renditions of well-known jazz and

blues standards show a progression in terms of how voice is sample-looped as an instrument to generate a capella rhythmic patterns ("Mercedes Benz"), then set to interact with sax and double bass ("Round Midnight"), and finally with a full jazz combo ("God Bless the Children").

From mantras to kaleidoscopes, Mochán's mastery of sample-looping techniques is difficult con conceptualize beyond its own terms. That is why her works imply so many challenges for editorialization, as well as for properly assessing its value from a truly interdisciplinary perspective. This is where PoéticaSonora comes in handy as a digital tool for the accumulation of archival effects—and their generation as well. Rather than attempting to divide Mochán's recordings in different taxonomies (jazz, vocal art, spoken word), this section has provided contextual information about how she arrived to such mastery and how she shared this knowledge with other artists through her creative and educational activities. This allows to contrast different phases in her artistic career that may not otherwise be evident, mostly in relation to sample-looping techniques and how to critically engage them.

3.4.2 "A piece for poet and Line 6:" Edmeé García, a.k.a. "Diosa Loca"

In García's performances there are almost no traces of the monotonous performative style known as "poet voice" (MacArthur, 2016a, p. 44). Hers is rich in pitch range and expression, able to imitate other vocal personae for dramatic or parodic purposes. More than any other artist analyzed here, we can speak of her sound works as "poetry performances," as she has gradually detached from the written text towards more markedly aural and vocal terrains. In late 2008, before being widely known as "Diosa Loca," García was invited to her first poetry slam by Javier Raya, then a figure of the emerging slam scene. The event took place at Universidad del Claustro de Sor Juana, a private school on Regina street in downtown Mexico City. Retrospectively, García understands the size and magnitude of that show was gigantic in comparison to previous efforts—let us remember the first slam in Mexico was not organized until 2005 (Pascaud, 2013, p. 22). The jury had been previously selected and featured cultural center Casa del Lago's director Pacho Paredes. This prearranged jury was a clear diversion from traditional slam rules which, García considers, would later become detrimental to the nascent movement in Mexico. It was nevertheless a neuralgic moment for different stakeholders of the growing scene, and worked as an initiation rite for many of them: "En ese primer slam conocí a 'Ewor', a Rojo [Córdova], a Mauricio Jiménez Morocco (que aparte creo que, curiosamente, también era su primer slam),

estaba Adolfo [Guzmán-López], que es otro individuo que también hace cosas cercanas al spoken word aunque no propiamente dentro de un slam, y así [In that first slam I met 'Ewor,' Rojo Córdova, Mauricio Jiménez Morocco (who apart from that, I think, curiously, was also having his first slam), there was Adolfo Guzmán-López, another individual who also does things close to spoken word although not properly within a slam, and so on]" (García, 2012). García won that day's competition with "Poebestia II," a poem that she would later use for the *Frágil* song "Tibio" (García, 2010), discussed in Section 3.2. Her experiences in this particular slam were decisive for her artistic career afterwards, as she acknowledged a few years later:

> Y bueno, hice mi poema; primero grité como si me fueran a matar, después calmada ya leí mi poema. Para mí lo sorprendente fue que realmente yo iba a *rantear*, a gritar mi verdad porque no podía pagar terapia, y sucedió esta cosa mágica que es cuando conectas con el público y te das cuenta de que no eres un hongo sufriendo aislado de todos, sino que sufres al lado del resto de los hongos. Y hay una línea que decía que el amor sí muere en Periférico, y recuerdo que todos los *vatos* dijeron: "¡Sí!" Y yo así de: "¿Te cae? Órale, ¿neta?" Y pues me gustó eso, para mí fue una experiencia catártica y taumatúrgica, sanadora, y lo seguí haciendo. […] Mi proceso fue muy parecido al de los primeros slammers, que aprendieron por ensayo y error en el escenario, viendo qué pasaba. De todo ese primer año se desprendió un poemario que se llama *El Red Bitch Project* (García, 2012).
>
> [And then I made my poem; first I screamed as if they were going to kill me, then I calmly read my poem. For me it was surprising that I was really going to rant, to shout out my truth because I could not pay for therapy, and this magical thing happened when you connect with the public and you realize that you are not a suffering mushroom isolated from everyone else, but you suffer next to the rest of the mushrooms. And there is a line that said that love does die on the Periférico expressway, and I remember all the guys saying, "Yes!" And so, I liked that; for me it was a cathartic, thaumaturgical, healing experience, and I kept on doing it. [...] My process was very similar to that of the first slammers who learned by trial and error on stage, seeing what happened. From all that first year came out a collection of poems called *El Red Bitch Project*.]

It must be emphasized that García tells how she first *hizo* [made] a poem, only to read it *after* screaming; the sound work is materialized in her own body and in her performance. The experience made her feel part of a community, and the way audience members related to her poem motivated her to continue participating in the nascent slam scene. The symbolic importance of this event, as well as of her poem's reception, prompted García not only to compose her first book, but also to include a fragment of this poem in *Frágil*'s "Tibio," as piece that under this light stands out as an amalgam of new and previously composed texts and sounds.

García's artistic trajectory provides us with some great examples of how the written and aural dimensions interact in a same composition, even if she does not arrive at the extremes of Ursula Rucker, a poet who has released her entire oeuvre exclusively in audio format (Meza, 2011, pp. 80-122) mentioned by García as a reference to her own work (García, 2012). Indeed, García's pieces are usually first known in their aural version, and they are mostly recorded during live performances and interviews. Unlike Rucker, however, she has made an effort to publish some of them as texts as well, although it has sometimes proved to be insufficient, if not impossible, for a text to fully convey the reach of her creative impulse. I will now analyze both the textual and aural dimensions of some of her pieces, illustrating in the process how instrumental and melismatic aspects of a performance are classified and represented in the PSP.

"Autorreferente (soy su fan)" is representative of "Diosa Loca's" early stage as a vocal artist. Out of her first, unpublished poetry book, *El Red Bitch Project* (2009), she performed the poem in different poetry slams and venues in Mexico City for several years. It is actually the first composition that was uploaded to the PSP, of which three different versions were initially added. The oldest one first appeared in *eSLAMex: primera antología de espoken word mexicano* (2013), and García was one of the few women featured in the first volume of Rojo Córdova's compilation of spoken word in Mexico, spanning from 2005 to 2010. This performance was recorded during the Slam Bicentenario, commemorating the 200th anniversary of Mexico's independence. Another version also comes from a slam organized in 2011, and the most recent was recorded in 2013 at Doctor Destino's recording studio. García claims this is the last one she will make: "quería tener una grabación decente de esa cosa antes de dejar de decirla porque ya eran años [de interpretarla constantemente] [I wanted to have a decent recording of that thing before I stopped saying it because it's been some years now that I've been constantly performing it]" (personal communication, 2016). This proves that, in the end, recording and archiving are both seen as closing or final stages of a creative process, both of which allow for contemplation and reflection at a different pace and temporality.

It is impossible to trace any progression from one version to another, chronological or otherwise. The ones recorded in poetry slams are more similar to each other and register a higher pitch range, but the earliest has a faster tempo and includes screams and interjections in a very suggestive stanza:

No deseo enterarme de neorevoluciones de ningún tipo
Ni de condones que te hagan sentir más para que termines en tres

SE-GUN-DOS

¡¿Por qué si tú tienes más yo estoy recibiendo menos?! (García, 2010, p. 27)

[I don't want to hear about new revolutions of any kind
Or condoms that make you feel more so you can come in
THREE SE-CONDS

Why am I getting less if you're having more?!]

Notice how the textual version includes typographic variations seeking to reproduce the poet's performance, yet they do not necessarily correspond to actual instances of poem performance. It is as if a musician would not follow a given score. The written and aural versions were created more or less at the same time, and even if the text did exist before its performance, they both undeniably influenced each other early in the composition process to the point of altering the typographic display. These "deaf spots" in the textual version, therefore, do not mean they are an "incomplete" rendition of the poem, but rather that inscription formats (particularly text-oriented ones) are flawed by definition, as there is always some kind of loss. Just like a musical score, a text is a somewhat abstract map of a much larger event. The fact that words and phrases in bold are sometimes sung and sometimes just read with a different pitch is another aspect potentially missed by a reader as opposed to a listener of the piece. This includes interjections, finger snaps, or other sounds recorded in a performance (intentionally or not) that are part of "paraphonotextuality," understood as "the paratextual aspect of a poem as performed during a live poetry reading […] including but not limited to what Peter Middleton calls 'unplanned sound,' 'obtrusive failures of attention,' and the like" (Filreis, 2015).

The slam performances of "Autorreferente" are rich in pitch range and contain several sung fragments. The definitive version contains considerably fewer melismatic moments, as can be heard when comparing the lines "La bestia es la palabra y el silencio / escuchen bien su sincopado aliento [The beast is the word and silence / listen well to her syncopated breath]" (García, 2010, p. 27). In every version she raises her pitch when she gets to the word "sincopado," keeping the note high on the *a*, then quickly reciting the rest of the line—a vocal reproduction of a syncopation. The version that García finds more "decent" has the best recording quality and sound definition of the three, but it lacks most of the paraphonotextual elements that made it interesting in the first place. The 2013 version has no substantial variations when

compared to the slam versions. At best, she changes a "knock-knock" by a "Hey," but generally speaking it is more compliant with poetry performance conventions in Spanish.

Frágil was foundational for García, who integrated loop stations to her creative process shortly after participating in that project, utterly transforming the way she would perform onstage from then on. While collaborating with Mochán and Noriega, García altered the composition process of her second book, *Chilanga habla* (2011), in which the Line 6 DL4 became increasingly important:

> Yo bromeaba con Leika y le decía: "Es que esta es una obra para poeta y Line 6" [...]. Lo leo y me doy cuenta que hay unas cosas que si las piensas como poesía están como muy "acá," pero que si lo piensas como obra para poeta y Line 6 [...], te das cuenta de que, claro, la letra era una guía de lo que tenías para trabajar y el Line 6 era una guía de posibilidades por las cuales podías procesar tu voz para las diferentes partes. Y cómo utilizabas eso era como la respuesta, una propuesta, digamos, [de] lo que yo hice al momento de ejecutarlo. […] Había algo en mí que no quería publicarlo porque sentí que era una cosa que más bien se tenía que escuchar ejecutada, como obra para poeta y Line 6 más que sacar una cosa que ni siquiera era un score, nada más eran las puras palabras (García, 2016).
>
> [I joked with Leika and told her, "This is a work for poet and Line 6" [...]. Now I read it and realize there are some things that if you think of them as poetry they sound weird, but if you think of them as a work for poet and Line 6 [...] you realize that, of course, lyrics were guidelines to what you had to work with, and Line 6 was another guideline of possibilities by which you could process your voice for different parts of the work. And how you used it was the answer—a proposal, let's say—of what I did at the time of performing it. [...] There was something inside of me that didn't want to publish it because I felt that it was something that had to be heard on performance, as a work for a poet and Line 6 rather than taking out something that wasn't even a score—they were nothing more than just words.

Other poems in the unpublished digital version of *Chilanga habla* (2011), such as "La chilanga" and "El teatro de la Ciudad," show the same typographic particularities as "Autorreferente" in *El Red Bitch Project* (2009). These will appear again in *Bombón Vudú* (2012). Her only book with traditional casing, font style, and letter size is *Respira poesía* (2016), perhaps because this edition included each poem's translations to Portuguese and English. As the anecdote above illustrates, the function of typographic variations in these poems' textual versions—we cannot say "written" because some are only accessible in digital format—is precisely to reproduce García's "vocal persona" (Tagg, 2013), implying that simply putting words and letters on a page was not enough.

García presented *Chilanga habla* as a live performance, just like she did with Aarón Cruz and *Frágil*. It was in 2011 at Mexico City's Gran Hotel. García wore a custom-made paper dress designed by interdisciplinary artist José Alberto Patiño which, through the very materials it was made of (recycled newspaper and plastic), evoked the convergence of print and bodily dimensions in her sound performance (García, 2011). It is particularly appealing to this argument that she uses the Line 6 DL4 to add expressivity to her voice, especially when she turns a knob to make her voice pitch range go up or down in a way that could not be reached in natural speech.

For all the interesting information it offers about García's performance, this video only documents memory-Traces of a much larger event. A definitive version of this show would never come out, but we can get an idea of how it could have sounded like by paying attention to the aural version of "La chilanga," another well-known piece from García's early repertoire, included in the PSP as well. Drawing on a somewhat polemical term to refer to a person born or living in Mexico City, "La chilanga" also inspires the title of to her book *Chilanga habla* and is mostly accessible through video and audio recordings instead of print or performance. The earliest version included in the PSP was uploaded to YouTube in 2011 while the second was recorded in an interview in 2012. There are some differences among them, most of them related to her use of the DL4 to alter her vocal expressivity, as when she raises and lowers down her pitch in the line "navego entre lo sutil y lo vanal [sic]," ascending the tone in "*sutil*" and descending it in "*vanal* [sic]" (García, 2011, p. 16), probably with the aid of the same effect described above in the Gran Hotel performance.

The textual version observes a special alignment with stanzas distributed all across the page and a generous use of bold fonts. The last few verses of the poem provide a good example:

Chilanga
Mi planeta
Es una ruleta
Apuesta guajira
Insuflada de azar

Retumbo enamorada de la libertad del tercer mundo
Ese que desafiante aún osa volar bajo el radar (García, 2011, p. 16).

[Chilanga
My planet
Is a roulette wheel
An unreal bet
Insufflated by chance

I rumble in love with the freedom of the third world
The one who defiantly still dares to fly under the radar.]

In both aural versions of the poem, just before uttering the word "Chilanga," García resets all the sound effects she had been building up with her DL4, and she reads the rest of the stanza without altering her vocal pitch. There does not seem to be any relation between print and performance whatsoever. When she gets to "Retumbo [I rumble]" she adds a pronounced delay effect, causing a steady repetition of the last two syllables (-*tumbo*). Before we start noticing any decay in the sound she reads the rest of the line, adding once again the delay effect on "mundo [world]", so as to emphasize the assonant middle rhyme. Then she lowers the device's volume so that once again the last line is read without any sound effect. The fragments in bold and the use of the DL4 do not exactly match in either version, so the question remains about what the passages in bold can mean *for the textual version*. While this may sound anecdotic, the dislocation between the aural and the textual forms not only confirms the material independence of digital and analog formats, but also suggests the advent of more challenges for the characterization and comparison of different versions of the same sound work.

García feels the best way to perform *Chilanga habla*, as well as her following book, *Bombón vudú*, would have been to organize a properly recorded live event:

> Tengo ganas de grabar algo como yo siempre he escuchado estas cosas en mi cabeza que deberían sonar, que generalmente no es como han sonado. Ya en la vida real, cuando llegas y ves a qué te vas a conectar, y cómo suena el lugar, dices: "Exactamente no era así como yo quería que sonara". Entonces me quiero sacar esa insatisfacción personal que tengo [risas] y grabar algo para finalmente escucharlo como se supone que yo creo que debe de sonar, o si puedo llegar incluso a eso (García, 2016).
>
> [I want to record something like I've always heard in my head how these things should sound, which is usually not how they actually sounded. Already in real-life situations, when you get there and see where you're going to plug your devices, and what the stage sounds like, you say, "That's not exactly how I wanted it to sound." So, I want to take out that personal dissatisfaction I have [laughs] and record something to finally hear it the way I think it's supposed to sound, or if I can even get there.]

The difficulties described to transform the sounds in her head into a concrete performance echo Kaffe Matthews' notion of playing (with) one's body, discussed in section 3.4. García's final confession ("si puedo llegar incluso a eso [if I can even get there]") is telling of her position

towards voice and instrumentality. Her doubts about how to imagine and carry out this performance tell us a lot about the reach and limits of a loop station's affordances. They also remind us about how archival effects echo and resonate behind every step taken by vocal artists when it comes to modify, record, and listen to their own voice, either at the moment of performance or in retrospective as a sort of closing remark for a piece in an artist's repertoire. It can be inferred that, for García, it is not enough to technically delegate voice distortion to the DL4. The way voice is distorted, either through the performer's or the device's agency, must meet the performer's expectations of her own creative capabilities, as well as her intentions for engaging in their inscription through digital media.

The two versions of "Los sonidos que me guardé," another composition included in the PSP, are ideal for observing the potential for modifying vocal textures through the use of the DL4. One of her best-known poems off *Bombón vudú*, "Los sonidos…" contains alliterations and wordplays with consonants *t*, *r*, and *p* that make it susceptible to rhythmic effects. The most evident differences between both versions are in terms of duration and instrument use. The a capella version, produced by Colectivo La Piedra in 2011, is one minute shorter than the one with a DL4, recorded in 2013. Besides considerably enhancing vocal pitch and timbre, the loop station enables García to generate a rhythmic pattern to sing or perform atop of it, as when she sample-loops the word "punchis-punchis" (García, 2016 [2012], p. 21), an onomatopoeia used in Mexico to evoke the sonic ambience of an electronic music rave.

During the years separating one version from the other, García met Mochán and Noriega, learned to sample-loop, and briefly toured the country with *Frágil*. All these experiences are reflected in the constant use of loop stations and the growing importance of live performances in her work. The inference of these instruments in a vocal artist's performance further questions the live/recorded dichotomy, as the sampled fragments become part of the performance itself as it goes (Butler, 2014, pp. 39-40). In the concrete case of effects units, they are the closest thing to an instant recording studio onstage that a performer will ever have. Although the loop's operation range seems both limited and limiting (almost always used to generate rhythmic patterns), the DL4 built-in functions for modifying sound textures allow artists like Mochán and García to explore both their voices and devices at the same time, and to do so in innovative, unexpected ways:

> Me di cuenta que, si iba moviendo las perillas de ciertos efectos, y al tiempo que ejecutaba como que jugaba con los sonidos, ya fueran cerrados o las vocales, de

> ciertas maneras se creaban ciertos afectos en el pedal. Por ejemplo, si yo decía: "Mmmúuuuusica", y movía ciertas cosas, sonaba como un [pedal] wah-wah [...]. Eso creaba variaciones (García, 2016).
>
> [I realized that if I moved the knobs of certain effects and at the same time played as if I was playing with the sounds, whether they were closed or vowels, in a way certain affections were created on the pedal. For example, if I said, "Mmmuuuuusic," and moved certain things, it sounded like a wah-wah pedal [...]. That created variations.]

While tinkering with its on-the-go audio editing techniques, García finds in the DL4 a "timbral distancing" from her voice's "acoustic 'roots'" just as Peter Doyle conceives the electric guitar in relation to its aural predecessor, a "subtle but highly significant schizophonic alienation occur[ring] around the live deployment of the electric guitar" (Doyle, 2005, p. 136).[78]

The striking parallels between vocal and guitar sounds when they are modified by effects pedals also show how techniques altering timbre and volume contribute to attributing expressivity to sound. García's anecdote about the wah-wah effect (whose name refers to the whining-like sound generated by this pedal) is relevant to Doyle's perspective on instrumentality because it evidences the DL4's expressive affordances, allowing vocal singers to reach a timbre that is no longer recognizable as human. It also relates it to the experimental origins of previously existing effects and techniques, albeit unintentionally. In the hands of García, the loop station becomes a device for questioning formal definitions of what counts as an instrument, whether voice is an instrument in itself, and which techniques and practices are associated with it.

3.4.3 "Singing is a great power:" Victoria Cuacuas

The ideas of loops as mantras and as generators of both rhythmic structures and sound textures resonate in the work of Victoria Cuacuas, the youngest of the three artists here analyzed (and for the same reason the one with less sound works to analyze). Having met writer and spoken word artist Rojo Córdova in 2015 during the same workshop where she learned about the DL4, she

[78] Doyle discusses this timbral alteration while figuring out the techniques used in Floyd Smith's "Floyd's Guitar Blues" (1948), a song with a distinctive electric guitar as it had not been played before. Doyle focuses on Smith's use of "swell", a technique consisting of "the manipulation of the volume control to counteract the natural decay of the note" (2005, p. 136). Steel guitar players began using similar techniques in the U.S. around the 1940s, Doyle says, "by means of a volume pedal […] to produce an early version of the wah-wah effect […] used to tone-shift sliding chords, to alter the sound of the note while it was being voiced, in a rough analogy to the way human mouth and throat might be used to alter sounds produced by the voice" (2005, pp. 136-137, his emphasis). Throughout his study on early popular music recording, Dolye frequently uses vocal metaphors and similes to explain the timbral effects of guitar electrification in the development of new genres during the first half of the twentieth century.

quickly became well known in the city's spoken word scene, clinching the third place in the highly competitive 2017 Poetry Slam MX, which gathered all the country's slam leagues and collectives for the first time.

Her early interest in loop stations drove to transcend the devices' prescriptions (based on loop iterability) by means of what Cuacuas calls "sound textures:"

> Para lo que hago, cuando llega a haber poesía nada más, lejos de canción y eso, tiene un propio ritmo. Lo leo o lo digo en un ritmo; o sea, ya tiene un ritmo interno. Aunque tú no marques el beat ahí está, hay un ritmo interno. Entonces, por ejemplo, en la loop, claro que se puede, por así decirlo, que el ritmo no sea una onda marcada sino [que] esté heterogénea, como un manto. Lo veo así, de texturas. No necesariamente del *crunch*, o el *punch* [hace con la boca ruido rítmico de *punch*]. […] Cuando voy a iniciar a crear algo en las loops, por lo general, tengo ya el texto ahorita. ¿Y qué me evoca ese texto? Estoy ahorita en procesos de componer una pieza que habla acerca de la poesía, del verso. Como una especie de rezo o mantra. Entonces, bueno ahí ya viene la onda de empezar a imaginarme para mí qué es eso de rezo y mantra. Entonces exploro, primero con texturas, voy hablando el poema, voy sintiendo, si decido meterle ya algún tipo de beat marcado, lo hago. Si no, sólo que se quede como atmósfera. Tomo, por supuesto, varios elementos de lo que he leído o he escuchado (2018a).
>
> [For what I do, when there comes to be only poetry, without music and all that, it has its own rhythm. I read it or I speak it with a rhythm; that is, it already has an inner rhythm. Even if you don't set the beat it is there, there is an inner rhythm. So, for example, in the loop, of course it's possible, so to speak, that the rhythm isn't a paced thing but it is heterogeneous, like a mantle. I see it that way, in terms of textures. Not necessarily from the *crunch*, or the *punch* [makes rhythmic punching noises with her mouth]. [...] When I'm going to start creating something using loops, I usually have the text before. And what does that text evoke for me? I am now in the process of composing a piece that talks about poetry, about verse. Like a kind of prayer or mantra. Then there comes the issue of imagining what that prayer-and-mantra thing means to me. So, I explore with textures first, I say the poem, I feel it, if I choose to set some kind of beat in it already, I do it. If I don't, I only leave it as an atmosphere. I take, of course, several elements from what I have either read or heard.]

Like Mochán, Cuacuas relates loops with mantras and praying, seeking to understand in the process what these concepts mean for her, and how to sonically reproduce them. Like García, she finds the way of exploring sample-looping techniques in a more "open" way than the one prescribed by the $A\text{-}A^{I}\text{-}A^{II}\text{-}A^{III}$ structure. Sometimes a loop station creates a rhythmic pattern out of an iterated sound, but others it remains as the sound work's fabric. This is particularly possible when echo and delay are combined, generating a saturating, surrounding sound that, despite

being based on repetition and periodicity, does not sound repetitive at all. In an interview for Spokenword.mx, Cuacuas explains it in the following terms:

> El papel que juegan las loops que utilizo en la poesía en voz alta es porque me gustan mucho las atmósferas. Me gustan mucho los paisajes que pueda crear con mi voz, con los ritmos. […] Es para dar también como el realce de la palabra misma, que ya lo tiene, sólo poder integrar estos otros juegos para que de alguna manera converjan y puedan dibujar otros mundos, de acuerdo a lo que estoy diciendo, de acuerdo a mi temperamento (2018b).
>
> The role played by the loop stations I use for poetry out loud is because I really like atmospheres. I really like the landscapes I can create with my voice, with the rhythms. [...] It is also useful for the enhancement of the word itself, which already is wide, only to be able to integrate these other games so that in some way they converge and can draw other worlds, according to what I'm saying, according to my temperament.

Sound textures provide a feeling of continuity and static contemplation, even though the background is constantly changing as newer sounds obliterate the older ones until they become unintelligible. Visual metaphors such as that of the mantle have also been used by other interviewees (such as Mochán and Arita) to explain how exploring the device's built-in effects contributes to bypassing the apparently stiff structures it prescribes for creation.

In the same Spokenword.mx interview, Cuacuas further develops her thoughts on her creative process using loop stations:

> Algunos poemas, claro, los utilizo sin [loopers], me gusta que quede como la voz [solamente], y estoy explorando más como la onda de mi cuerpo. Con relación a las loops, hay algunos textos que decido ponérselos por la mera onda intuitiva de que quisiera poder escuchar esos otros sonidos o paisajes que me evoca lo que escribí, o poder impregnar lo que tengo en mi mente, otros mundos (2018b).
>
> [Of course, I perform some poems without loop stations, when I like it only with my voice, and I'm exploring things related with my body. In relation to loops, there are some texts in which I decide to use them for the mere intuition that I would like to be able to listen to those other sounds or landscapes evoked by what I wrote, or to be able to impregnate what I have in my mind—other worlds.]

Intuition and unpredictability, as well as the will to listen to herself, are important creative factors that do not seem to be inhibited by the device's prescriptions. As previously quoted, Cuacuas openly talks about the absence of improvisation not during performance but while composing the work: "por lo general, tengo ya el texto [I usually have the text before]" (2018a). It is interesting, though, that her four participations in the CCD slams give the impression of

being highly improvised in terms of pitch variation and pronounced switches from recitation to singing. These four recordings, coming from slams organized in April, May, and August, 2015, are currently the only traces of her performances stored on the PSP. Among these participations, "Otro origen," "Soy árbol," and "Nos volvimos a mirar" feature melismatic emphases on certain key words and phrases, fundamentally altering the meaning-oriented intention of her otherwise standard recitative style. She does not read a text out loud on stage, giving the impression that there is not a previously written source, an aspect that is part of her performance as well. In "Ahora el dólar alza el vuelo," Cuacuas sings a quatrain with a rhyming pattern ABBA as a refrain followed by recitative stanzas in *décima espinela*, a metric structure coming from *huapango arribeño* with a rhyming pattern ABBAACCDDC. Cuacuas came into contact with this Mexican folk musical genre through writer and storyteller Jesús Antonio Rodríguez, a.k.a. "Frino," whose course on music, literature, and vocalization at Escuela del Rock y la Palabra was crucial for her to formally learn and master metric structures (Cuacuas, 2018a; 2018b). By acknowledging this course as her introduction to literary creation she evidences how she has managed to approach literature in strictly aural and vocal terms throughout her creative career.

A videoclip produced by Diosaloca.mx in early 2018 featured Cuacuas and two loop stations (a Line 6 DL4 and a TC Helicon Ditto) performing the piece "El canto es un gran poder." This piece illustrates how the melismatic experiments she did when participating in poetry slams found a fertile ground in the loop station to explore the instrumental possibilities of her voice. For example, throughout the following stanza she switches from recitation to singing and back to recitation, adding loops and effects on the go:

> A ritmo de jazz o blues,
> de hip-hop, polka o huapango,
> en un set, sobre un tarango
> o a bordo de un autobús;
> como estallido de luz
> de una galaxia al nacer,
> como *flow* que hace entrever
> nuestro sentir más profundo
> para iluminar al mundo,
> el canto es un gran poder (Cuacuas, 2018c).
>
> [To the rhythm of jazz or blues,
> of hip-hop, polka or huapango,
> on a set, on top of a shelf
> or aboard a bus;

as a burst of light
of a galaxy at birth,
like a flow that glimpses
our deepest feeling
to enlighten the world,
singing is a great power.]

This, in fact, is a *décima espinela*, but the presence of musical and paraphonotextual elements surrounding it somewhat palliates the repetitive effect of rhyming words. After reciting this stanza, Cuacuas adds a loop-based vocal arrangement that will work as the rhythmic scheme for the rest of the song, alternating each *décima* with vocal improvisation, solos, soft howls and hoots. As with Mochán, successive layers of sound occlude the previous ones up to the point of effacement. Cuacuas reports having originally composed this piece using the Ditto, a simpler loop pedal with only two buttons and one recording slot/track (Cuacuas, 2018a). In the Diosaloca.mx videoclip, however, she incorporates a DL4 to her performance ecology. First, she sample-loops on the Ditto and then adds sound effects on the DL4. Compared with "Ahora el dólar alza el vuelo," another piece including *huapango arribeño* metrical structures included in the PSP sample, "El canto es un gran poder" stands out as enhancing the melismatic, timbral, and rhythmic possibilities of her own voice, even though the poem's inherent musicality (due to the rhyming words that comprise them) is radically altered by different device-modified aural techniques, most prominently sample-looping.

Later that year, Cuacuas acquired a VoiceLive Touch that she wishes to incorporate into her performances: "estoy viendo la manera de poder conjuntar los tres, de alguna manera ver qué se hace [I'm looking for a way to put the three together, to see what can be done somehow]" (Cuacuas, 2018a). We can see how, despite the DL4 was initially favored by all of the artists, they diversified their performance ecologies at some point and for different reasons, adding more loop stations and even substituting the DL4 altogether. In this aspect they resemble musicians more than writers, for whom the technical aspects in a performance (using and upgrading certain gadgets and devices) are just as important as the compositional part of the equation (creating and rehearsing new and existing pieces). However, both García's and Cuacuas' intentions are strongly grounded on literary performance, a reason why PoéticaSonora wishes to develop a more comprehensive approach to literary criticism in which aural manifestations of vocality are considered legitimate objects of study without reducing them to either their written or oral dimensions.

As previously said, Cuacuas' work first surfaced on the PSP data sample as part of the CCD poetry slams organized by Rojo Córdova in Mexico City, in 2015 (see Annex B). Back then, she was known as "Victorian Tyler." Besides its significance for her artistic career and life in general, this change in name allowed the PoéticaSonora cataloguing team to test a key difference in element `autor` before and after refactoring. In the prototype's first version, classification of names and pseudonyms was stiff; either one of them should be filled out so that information could be uploaded. In cases like the CCD poetry slams, we found that information concerning authorship was fuzzy, sometimes scarce, as some participants would use nicknames or just their first names to identify themselves. We ran the risk of having so many blank fields left in both `autor` and `pseudónimo` that it could compromise the ACID principle of data integrity (discussed at large in Chapter 2). The stiff structure offered by relational databases for this kind of information was substituted by a more flexible data scheme in which not a single element is mandatory, although some restraints apply when certain fields are filled out, such as email addresses.

Since the PSP's earliest stages, issues concerning names of people and groups related to a recording have become important for data modelling. The CCD slams are full of examples to test these classifications. In the case of Victoria Cuacuas/"Victorian Tyler," the change made it initially difficult to discern her among many other slam participants, but once she was identified it proved the database was already generating patterns by simply accumulating recordings into the same repository. Promotion and advertising by other members of the same collaborative network, particularly Edmeé García through her websites, were crucial for Cuacuas to be known in the prolific sound-oriented literary scene in Mexico City, showing up to which point they depend on such network for their work to transcend.

3.5 Looping lessons

The focus on loop stations I have followed avoids rigid analytical frameworks such as genre classification (is *Frágil* poetry? Is it music? Is it cabaret?) and expands the reach of affective and sensorial analyses on different listening modes (how, why, whose voice, and by whom it is modified). Loop techniques also enable the articulation of different creation and interpretation theories across different disciplines, from critical code studies to close listening, from aurally oriented literary criticism to multi-version critical analysis. By discerning loop-based creative

practices in a loosely delimited group of women vocal artists in Mexico City, this chapter considered how sound works hardly classifiable as literary audio, vocal music, spoken word, or any other generic label have been characterized in the PSP according to their different degrees of collectivity, voice modulation, and instrumentality of sample-looping techniques. While analyzing some examples coming from the *Frágil* cluster, I have explained how their recordings were editorialized and how technical-theoretical questions raised in previous chapters, as well as their conceptual engagements, were addressed in the data modelling and editorialization phases. I have thus sought to cover the gap in accounts of women and people of color in sample-looping genealogies and Western music in general (Rodgers, 2012; Rodgers, 2015).

The last three sections illustrated how to practice sound-oriented art and literary criticism using as a case study the artistic expressions that have found their way into the PSP. I took the album *Frágil* as a departure point but I also analyzed solo works by three members of this collaborative network—Leika Mochán, Edmeé García, and Victoria Cuacuas—some of which are part of the PSP initial data sample. In Mochán's case, a focus on vocality and instrumentality has led us to analyze how sample-looping has shaped her career and her collaborative networks. García's multiple versions of her sound works, recorded at different times and venues in the late 2000s and early 2010s, illustrate how multi-version critical analysis can be performed using the PSP. Last but not least, Cuacuas' name change (or rather, its restitution) offers a practical example of the denormalization process described in Chapter 2; most importantly, her combination of sample-looping techniques with traditional poetry forms illustrates another way this technique enhances her voice's affordances. These artists de-scribe loop stations (that is, they divert their intended or prescribed uses) in many different ways. They are singers and vocal artists operating effects units mostly intended for guitar players. They experiment and create new sound works with them rather than practicing or rehearsing existing ones. Not only do they build rhythmic patterns with them, but also sound textures that question Western assumptions about timbre and harmony, as well as Morris's composition morphology for the DL4 which, despite being a delay station, is also used by these artists for its sample-looping functions.

I have built up on previous research on the collective dimension of art and literature in order to analyze how these artists use loop stations to create new sound works and extend their collaborative networks. This concept has proved more adequate than Melucci's collective action to describe interactions of human and non-human agents in the context of specific artistic or

literary performances. In a praxis-based manner, I have contended that inductive methodologies for fieldwork and archival research determined which contents would be editorialized in the PSP and how.

The repository can potentially shed new light on artists with either emerging, established, or mature artistic careers. I have also sought to understand how a sound-based approach to their artistic motivations (based on their own testimonies as well as on contextual information about the recordings and their aural elements) modifies our knowledge of sound works and their authors. At the level of critical analysis, the repository also plays different roles in our understanding of Cuacuas's, García's, and Mochán's works, as well as of the interactions among them and nonhuman agents. Despite the fact that the PSP only offers descriptive metadata and open access to a low-definition audio format version of some discussed sound works, this case study shows that it can contribute to enhancing our knowledge about the intersection of sound studies with literary criticism. In turn, fieldwork conducted to reduce the intelligibility gap around these recordings has informed the editorialization workflow. Artists and students who editorialize a recording into the repository are asked to follow this workflow using their research and criticism skills, applying their academic background to "mundane" activities, such as filling out a form in a database. The necessary contextual information to do so may not always be available, not even working in group in order to gather as many first-hand sources as possible. There is also more focus on bibliographical aspects of emerging artists because they are mostly unknown for the vast majority of PoéticaSonora's potential audiences. If we add to that the inevitable learning curve that user-testers must overcome when participating in PoéticaSonora's editorialization tasks, we have at least three factors that may enhance the intelligibility gap between a sound work and PoéticaSonora's target users. This is an issue with which we have continually had to cope when integrating new recordings while only partially understanding the creative and material backgrounds from which they come.

Even in its prototyping stage, the PoéticaSonora digital audio repository (DAR) becomes a useful tool for students, researchers, and artists interested in sound poetics, even if it does not aspire to encompass all the possible descriptions that could be made about a specific resource. It is true that some other Spanish language DARs aspire to provide exhaustive descriptive metadata for each unit of analysis, a good example being the University of Jaén's impressive Corpus de Literatura Oral (https://corpusdeliteraturaoral.ujaen.es). Nevertheless, and given that metadata (as

well as data schema based on them) are nothing but representation systems, the question still remains as to which degree of granularity (or search specificity) is desirable for the PSP. As can be inferred from this chapter and the previous one, the tendency has been to reduce its granularity in order to make the repository more compliable to current technology infrastructures and standards, so that it is able to interact with other databases, collections, and meta-repositories. We may win in interoperability, but we lose in searchability.

This chapter is a praxis-based proof that using digital toolboxes such as the PSP does not mean fieldwork research can be eschewed, or that they offer a definitive framework to understand the works they editorialize. The importance of semi-structured interviews, participant observation and instrument logs cannot be dispensed with by metadata editorialization, but rather each activity depends upon the other. I wish to end this dissertation with a wider reflection on the implications of database prototyping, but before it was important to see how a practical intervention in literary criticism was possible by focusing on a predominantly sound-based technique, such as sample-looping. More than using decolonial terminology to explicitly assert facts and affirmations, I have tried to suggest the many ways in which these recordings, their authors, and the collaborative networks in which they operate are subtly related. For all the inherent power of writing, though, nothing escapes the need for listening to these pieces and bodily comprehend them. Words fail when it comes to the ear.

An Open Epilogue: Towards a Beta Version

What does prototyping mean for the humanities? Despite its importance in industrial design for standardizing infrastructures, formats, and contents built around digital technologies, a prototype is largely a speculative process. Its more concrete outcome is a whole bunch of recommendations. Reality is not even addressed during this phase, yet the device must have been tested for every possible "real-life" situation it may face. Starting a project from scratch is like finding one's way in the dark, despite all the background and preparation one may have. Without exactly knowing who may benefit in the end from this process, prototypes generate new discursive places while their making involves a lot of hard work which must be properly documented.

This is an open epilogue because it addresses questions that should be further engaged in years to come, relying on the Cataloguing Axis's anti-definitive approach followed to prototype the PoéticaSonora digital audio repository. It is also open in the sense that, without falling in the pitfalls of conclusive tones, I trace an account of the most significant aspects that intersect each one of the chapters and interchapters of this dissertation. The theoretical and methodological frameworks I have followed seek to contribute, from the field of literary criticism, to a decolonial approach within the aural turn that was heralded by Ana María Ochoa Gautier in her book *Aurality*. Édouard Glissant's notion of Relation has particularly been a conceptual touchstone to revisit concepts stemming from different disciplines, from relational databases to collaborative networks. Given the scope and breadth of the project discussed here (creating a repository for all the existing art and literary audio heritage Mexico since its beginnings), and due to the fact that most issues at stake continue developing as I write this conclusion, some of the raised questions are only provided with provisional answers, or at least hinted at.

One of those ever-changing situations is the evolution of machine-aided listening methodologies for the development of sound-oriented art and literary criticism. Without being directly implemented in the prototype nor in its design, programs such as ARLO and Gentle-Drift have strongly influenced many decisions during the data modelling phase and have prompted our attention toward performatic styles beyond MacArthur's "poet's voice."[79] For example, spoken

[79] Despite its suggesting universality, this term is still strongly determined by factors such as the use of English-language prosodics. While Gentle-Drift are presented as language-agnostic programs, tests using recordings coming from UNAM's Voz Viva de México and Fondo de Cultura Económica's Entre Voces collections confirm that

word performance has been particularly consistent among African American artists throughout several decades (compare the vocal recitative styles in the Cadets's 1956 hit "Stranded in the Jungle" with the Last Poets's 1976 piece "Black Soldier"). In Mexico and other Spanish-speaking Latin American countries, emerging writers and artists have increasingly distanced themselves from traditional declamation and recitation styles. This has prompted the development of other styles that can be associated with particular scenes and genres, yet still share many similar traits (let us remind Rocío Cerón's claim that most poetry slam participants read their texts in the same way). While it was not the aim of this dissertation to make a fine-grained classification and description of these styles, the analyses in Sections 3.4.1 through 3.4.3 on women vocal artists in Mexico City and their sound works offer practical examples of how they can be characterized.

The use of loop stations by these artists further problematizes classifications of existing and emerging vocal performatic styles. Signal processing analysis software will still have a hard time characterizing vocal sounds modified by these devices, as well as singing voices and musical accompaniment. It was for this reason that in the PSP we had to recur to customized classifications in order to distinguish melismatic uses of the human voice from meaning-oriented ones. But there will be a moment in which tools for musical analysis will intersect those for literary audio and other non-musical sound works. By the time such improvements are implemented, some of this dissertation's arguments will have long become obsolete. However, questions regarding the interaction of performatic styles with sound-generating devices will still be relevant, to which this dissertation will offer a practical example of current technological limitations for the analysis of complex interdisciplinary semiotic units such as those stored and editorialized in the PoéticaSonora prototype (PSP).

As we have seen, certain technologies bring forth specific techniques along with their respective restraints and affordances, which in turn determine a set of rules and limits for creative expression. This is true whether these technologies are database management systems, machine-aided listening software, or loop stations. This dissertation has speculated on how such restraints and affordances have enabled certain dynamics in the international distribution of digital labor in the context of a digital humanities (DH) research group, taking PoéticaSonora as a case study. To

transcript-matching and visualization functions in the current version (3.0) do not usually work on Spanish-language recordings, even if prosodic values can actually be obtained using the programs' Python library (as opposed to the online GUI temporarily available on http://drift3.lowerquality.com/). This process, however, is still too cumbersome to implement distant listening analysis methodologies.

understand the PSP's *raison d'être*, their most ambitious project, its target audience had to be established beforehand, even when its design focus was mostly on inner workflow rather than on end-user interaction. Although it is expected that end-users will have a similar profile to that of PoéticaSonora members (artists, writers, scholars and students, usually affiliated to a university or cultural institution and with a minimum digital literacy), this focus on data entry rather than graphic user interface (GUI) makes it difficult to evaluate user preferences and visual design in the PSP. Currently, user profiles are limited to moderator and administrator, whose functions are mostly exercised by *servicio social* undergraduate students in charge of editorializing recordings into the database. The only choice they can make so far is switching between the moderator panel, a default interface with limited read/write functions, and the administrator panel (if granted credentials) in which they can edit any piece of information available on the database, whether created by them or not. These two different panels are so meticulously developed in the first version that their search bars (one for every important field: author, group, composition, audio track, and series) were more powerful than those available for non-registered users. This issue was levelled during refactoring, and is expected to be refined in the Beta version using open source repository software such as DSpace.

The minimalist approach to visual design in the prototyping phase (notable not only in the PSP but also in the blog https://poeticasonora.mx) means that the cataloguing team's main concern was not actually to solve how end-users might access information. Rather, it was to determine how undergraduate students coming mostly from modern language and literature programs could improve their criticism skills while working on the project, getting professional experience and technical abilities that, until recently, have not been common in Mexican classrooms. The dissemination aspect continues to be fundamental for PoéticaSonora, a reason why there is an axis specialized on circulating information about sound poetics. We have also prepared different kinds of critic and didactic material (such as user guidelines, tutorials, reports, reviews, and peer-reviewed articles) to help students reduce their learning curve when they enter the project.

PoéticaSonora's focus is not exactly on the exercise of critical theory but rather on critical *analysis*. As such, the tools provided both by literary criticism (particularly an aurally oriented one) and ethical editorialization practices have been useful for the kind of approach to data analysis I have followed and the interpretation of knowledge it can potentially bring. While this

study is also relevant to the fields of sound studies and performance studies, I have sought to emphasize the benefits of aurally oriented analysis for literary criticism in particular. This is not only due to my background in English and cultural studies, but to the fact that such an approach is practically unknown in Mexico and many other countries in Latin America. It is imperative to ask many of these questions in order to preserve and disseminate the region's audio heritage without falling in common traps of colonialist dialectics, such as cognitive extractivism. In order for these questions to be asked, a theoretical and methodological background must be proposed in the first place. Along with Susana González Aktories's most recent work, this dissertation takes some initial steps towards such goal.

A "ghost" (see Introduction) that kept haunting these discussions was Harold Bloom and his version of new criticism. During my BA years at UNAM in the 2000, his writings were used by most English professors (from founders like the late Colin White to experts in postcolonialism such as Nair Anaya) as a sort of "counterbalance" vis-à-vis Commonwealth postcolonial studies, particularly regarding his pejorative attack to "the school of resentment" in *The Western Canon* (1994, pp. 4, 7). This book is a common reference for most UNAM English alumni and some current students, a reason why I focused on contrasting his account of canonicity with the affordances of machine-aided reading and listening methodologies.[80] This move was due to structural gaps deep inside Mexican literary theory. Even though the poet's voice is a popular topic among many English-speaking critics and writers (Rasula, 1997; Feaster, 2001; Middleton, 2005a; Bernstein, 2009b; Evans, 2012; MacArthur, 2016a), it is still relatively "new" to Spanish-speaking audiences, especially in Mexico. Its status as a valid object of study must be explained every time a project such the PSP appears, mostly by making, reflecting, and writing about the process.

The lack of aurally oriented literary theories and methodologies in Mexico does not mean there was a lack of critical engagements beyond new criticism in UNAM's academic circles. Latin American approaches to Bloom's canon, such as that of Jorge Alcázar (a comparative

[80] Another milestone in our undergraduate education was *The Oxford Anthology of English Literature*, co-edited by Bloom and never updated, as opposed to the protean *Norton Anthology* (Alcázar, 1998-2000, p. 51). Almost every syllabus in English literature would include an excerpt coming from the former, making it the most popular bibliographic reference in the program. One could easily identify English literature undergraduates among the sea of students in the School of Philosophy and Letters at UNAM's Mexico City campus when they carried those bulky books in their arms. One could even determine whether they were in their program's first or upper-level years by the color of the book they were carrying—white for volume one (Middle Ages to the eighteenth century) and blue for volume two (1800 to 1973).

literature professor at UNAM) are not as interested in integrating paratextual and paraphonotextual material into our understanding of a literary work or performance as in "la forma en que se consume la literatura extranjera en los Estados Unidos, cuyos aparatos mercadotécnicos pueden convertir una obra menor como, por ejemplo, *Como agua para chocolate* en un *best-seller* [the way foreign literature is commodified in the United States, whose marketing devices can turn a minor work, such as *Like Water for Chocolate*, into a bestseller]" (1998-2000, p. 49). As an example, Alcázar mentions Alejo Carpentier's *El siglo de las luces*, a novel included in Bloom's annex D "The Chaotic Age: A Canonical Prophecy" (1994, p. 559). Alcázar mentions its title was translated in English as *Explosion in a Cathedral*, not from the original Spanish but from its French version (1998-2000, p. 49). Regardless of the novel's merit, how could a translation's translation end up being listed in "The Books and Schools of the Ages"? Adding up to the social and historical dimensions that Middleton, Bernstein, and others have brought to literary criticism in English, we must think of Alcázar's warnings about translation (both linguistic and epistemic) as an additional layer of opacity when it comes to non-English speaking literary traditions. Canonical distortions due to linguistic translation further complicate the promotion of sound studies within UNAM's modern language departments. It is therefore not surprising that, twenty years after Alcázar's article, few other faculty members have deeply engaged in such topics, among them Susana González Aktories, who considers both English translations and paraphonotextual material of the poem "Agua de bordes lúbricos [Water's Lubricious Edges]" in her study of Coral Bracho's textual and vocal *personae* (2019a, pp. 270-271).

Translation has been a broadly employed tool throughout this dissertation, and its paradoxically silent ways of shaping our understanding of the world will prove to have unpredictable effects in aurally-oriented literary criticism. Currently only one relevant collection of essays in English—Adalaide Morris' *Sound States: Innovative Poetics and Acoustical Technologies* (1997)—includes a section dedicated to the translation of sounds into words, languages, and formats, evidencing how even aurally oriented criticism has not fully addressed other literary traditions as it stands. Dialogue—one form of translation—must first occur.

This clarification is important in the context of how traditional trends and disciplines such as new criticism and linguistics, for all their importance as antecedents to current studies on sound and language (consider, for example, Praat as a specialized digital tool in the field of

phonetics prior to literary-oriented ARLO and Gentle-Drift) still do not provide us with appropriate methodologies to assess sound symbolism (Middleton, 1998, p. 286) in a literary performance or event. The situation becomes even more unsettling in a multilingual poetic or diegetic context—think not only of what obvious examples among English classics sound like, such as James Joyce's *Finnegan's Wake*, but also Gloria Anzaldúa's bilingual poetry-essay hybrid *Borderlands/La Frontera* (1987), or even Ilan Stavan's translations of literary classics to "Spanglish," such as *Hamlet* and *Don Quixote* (2012, pp. 428-442). Which fields lie unexplored beyond the realm of English phonetics and criticism? Although these questions may seem too abstract to ask at this point in the project, there are already recordings in the PSP sample in which two or more languages interact (usually Spanish and English), such as Guillermo Gómez-Peña's *Border-X-Frontera*, a piece of radio art broadcast in San Diego in the late 1980s and curated in *(Ready) Media* more than three decades later, or Adolfo Guzmán-López's poem "Para poetas pulqueros," included in the first volume of Rojo Córdova's spoken word anthology, e*SLAMex*. This dissertation has shown there are many fronts, in Mexico and elsewhere in Latin America, that should be explored beyond the reach and scope of English studies and current signal processing analysis software. The PSP, a system of affinities that is too intuitive for machine learning to possibly carry out, stands out as a place for subjective speculation in which questions beyond (or besides) big data can be asked without necessarily being in conflict with some shared interests in data mining for sound studies, such as distant listening. Many other terrains remain unexplored, though, and there will be a time when truly international histories of sound studies can be written.

Digital repositories for poetry audio recordings are becoming increasingly available and are gradually changing the way criticism, scholarship, and learning are articulated. They have had a huge impact in the way literary research is conducted in English. However, infrastructural biases in terms of language use, literary, and scholarly traditions, all of them reflecting a perpetuated coloniality of knowledge, have resulted in these repositories mostly archiving North American or European artists and writers. Not surprisingly, there is a generalized silence surrounding Latin American creative productions.[81] Although there are numerous multimedia

[81] In PennSound there are some videos of Chilean poet Cecilia Vicuña at New York University, and in SpokenWeb there is a 1968 lecture by Argentinean writer Jorge Luis Borges at Sir George Williams University (now Concordia) in Montreal. Apart from exceptions like these, Latin American authors constitute just a small percentage of all the materials included in these repositories. It is a proof of their organizers' and their curators' positioning within north-

archives and collections for art and literature in Mexico, Brazil, Chile, and Colombia, they are scattered through different localities and media formats, mostly unavailable for the kind of multi-version analysis shown in Section 3.4.2, focused on different sound works by Edmeé García. The problem is not a lack of materials documenting sound poetics in Spanish, but rather of accessibility to such materials. That is why the PSP is so necessary in the region.

But necessary for whom? The effects of social biases in technology infrastructures and standards, discussed in Chapter 1 and Interchapter 1, are not regional contingencies exclusively affecting developing nations. They are also visible for scholars within an English language academic environment. As Marlene Manoff argues concerning the high cost to access Thompson-Gale's databases Eighteenth-Century Collections Online (ECCO) and Early English Books Online (EEBO), "Digitization does not lead in any simple or straightforward way to the democratization of knowledge" (2010, pp. 389-390). She is skeptical about the social power presumably bestowed by digital technology and criticizes optimistic views on the subject: "It is also unclear who will ultimately be empowered or disempowered by the growth of digital archives. Given the large volume of freely available digital material, many may be unaware of the vast amount of commercially owned scholarship and data that are invisible or only partially visible to them" (Manoff, 2010, p. 391). Following Wendy Chun (2011), and as the data modeling and refactoring processes described in Chapter 2 make it clear, what is concealed from users is just as important as what is shown to them.

Such skepticism is shared by Johanna Drucker, who raised similar questions about the foundation and development of DH studies during a lecture at Concordia University about the field's intellectual future and alleged transcendence for other disciplines, mainly literature. She claims that data automation and text processing are technological, not intellectual tasks, and that our trait for reading and misreading (that is, the task of interpretation) is what differentiate us from computers. Nevertheless, DH have continuously shown a "subservience to the computer" (Drucker, 2015), a claim that is consistent with her earlier argument about the "mythic ideal of mathesis" (Drucker, 2009, p. 4). For her, a valuable DH project should contain intellectual arguments that can be expanded through new research. It must be the ground for new

bound geopolitical economies of knowledge (since both Vicuña and Borges were recorded at North American venues) and of the need to reply these archival effects from a Latin American perspective.

speculations (hence her concept "speculative computing"), not an over-determining tool that fixates archival effects, either intentionally[82] or not (Drucker, 2015).

Beyond (institutional) forces, however, there is the (personal) will to consolidate artistic and intellectual communities around aural practices. PoéticaSonora's collections *Mujeres en su lengua* and *Vivas nos queremos*, by Cynthia Franco and Suzanna Molina "Obelia Preta," are two examples of this will to generate a sense of commonality among two specific artistic communities (women writers in Mexico City's poetry slam scene and hip-hop artists in the U.S.-Mexico border, respectively). Rather than subsuming themselves to the limitations and affordances of digital tools for storing, classifying, and analyzing sound works, these invited curators have used their collections as platforms for action. It helped them mobilize certain sectors within their range of influence to raise awareness of developing artistic practices that have been overshadowed by ocular-centric practices in art and literary criticism. It has also allowed them to give alternative narratives to those offered by male artists, and they have been particularly important for contesting and complementing the panorama offered by Córdova in the two volumes of *eSLAMex*, in which women are heavily underrepresented.

Standards and best practices correspond to a logic of making knowledge controllable through computer languages (Haraway, 1991; Drucker, 2009). However, breaking points within the digital paradigm have been explored by many software researchers and artists, such as Wendy Chun and Winnie Soon. Strongly inspired by the latter's *Vocable Code* (reviewed in Interchapter 2), this dissertation is largely comprised of speculative reflections on the archival effects generated by the design and first deployment of the PSP. The notion of speculative reflection, which may sound etymologically redundant, is a conceptual *mise en abyme* where two mirrors face each other, repeating their images *ad infinitum*—even when "infinity" is a palpable blur. It resonates with the consideration of periodic repetition as the relation between sound loops and

[82] Questions about the alleged neutrality of algorithms and programming functions have been rising in the last few years (Cassin, 2018; Pasquinelli, 2009; Risam, 2018b), prompting discussions on which decisions are attributed to them and which effects they have on real people. Safiya Umoja Noble's study on how Google "inadvertently" reinforces racist and sexist representations of women of color is an example of what she calls "algorithmic oppression" (2018, pp. 1, 167). Recently there have been similar debates on digital profiling, such as the Apple Credit Card which allegedly offers disproportionately lower credit limits to women than men with the exact same financial situations (Mahdavi, 2019). When asked about explanations and appeals, Apple employees use very similar arguments to those by Google—they excuse themselves by replying decisions were made by an algorithm and they could not be modified. Delegating responsibilities and attributing intentionality to algorithm-based decision-making tools must be studied in the context of the agency of objects and devices (in this case, digital ones), and of their "instrumental ventriloquism," discussed in Chapter 3.

computer functions, as well as between music and poetry. Speculative reflection has the power to overcome technological prescriptions, albeit for short periods of time, as in Hakim Bey's temporary autonomous zones (2001 [1985])—and as we have seen in Chapter 3, sound loops have the power to create this kind of zones. Until an institutional or otherwise definite server is found for it to rest, the PSP can also be considered to have this power, granted that its temporary autonomy is exercised only within a very limited ratio—that of art and literary criticism in a highly technologized era.

Playing on with reflecting metaphors, whether it is stored in Mexico or in another country, it is clear that the DAR must have mirror websites around the world, not because it is a recommended practice for digital preservation (Goddard & Morrison, 2016) but because each mirror doubles the possibilities of replication and expansion. This question becomes relevant in the context of how to make recordings available for their broadest possible and most equitable dissemination method. It has been vital for PoéticaSonora to resolve whether only the recordings' metadata will be publicly available or the dissemination format files as well, and in such case how they will be accessed (either via streaming or downloading). These considerations are fundamental not only due to the connectivity gaps in Mexico but also to copyright and bureaucratic obstacles faced by PoéticaSonora to circulate certain collections and authors, particularly those whose estate is managed by heirs, literary agencies, or highly bureaucratized cultural institutions. In this sense we have taken lessons from the experience of other DARs such as SpokenWeb, which in its third phase has commissioned a task force to deal exclusively with rights management questions arising from interinstitutional collaboration and circulation of art and literary works in non-textual formats.

An essential tool that Smith Rumsey highlights in what she calls "translational humanities" (her view of DH) is the need for curation and stewardship to sustain the project's development. If PoéticaSonora users expectedly come from educational, artistic, or academic contexts, the possibility that curators share tasks other than selecting sound works to include them in the repository will make such development less unidirectional. Shared tasks correspond to one of the benefits that she sees in open access information technologies, enabling "the blurring of boundaries between formal and informal activities, between creation and consumption, and between the ways individuals and institutions work together" (Smith Rumsey, 2013). This is true for PoéticaSonora, which in practice has operated as a sort of intermediator

between sound poetics stakeholders and cultural institutions, not entirely placed within the academy but certainly rooted in it. Neither a market research agency nor a think tank, neither a DevOps unit nor an institutionalized research group, PoéticaSonora members have shared functions and served in positions akin to all of these structures without fully fitting into any of them. While this seems as yet another effect of the precarity of labor in contemporary academia, the instability and fuzziness of its definition suggests that speculation does have a place in the current production of knowledge, inside and outside academia. Ambiguity is not something to sneer at but to embrace, just as imperfection. An engineering of the unknown should always look to liberate us as much as possible.

As it can be inferred from this dissertation, three important issues to look over while making a DH project in a developing country such as Mexico are accessibility, sustainability, and scalability. In order to address the first two in the case of PoéticaSonora, the question of who will use its repository has been nodal. As it stands at the moment, its primary target audience is comprised of writers, artists, scholars, college and graduate students, as well as sound art and poetry enthusiasts. This means it may be mainly addressed to a very small percentage of the population. If the *quid* behind the coloniality of knowledge resides precisely in the limitation and distribution of information (a point in which decolonial studies and Foucault's notion of *savoir-pouvoir* converge), it is clear that its construction must be a collective endeavor. The quest for open access to all the recordings we editorialize points towards that direction; proper accounts and analyses of this process are a pending matter that will be settled when the Beta version is finally concretized. The more people know what it is, how to use it and how to contribute to its development, the more it will be accessed and its affordances possibly enhanced, too. Although it has not been determined whether the model to follow is that of folksonomies or other collective-driven classification systems, the intention is to make users as participative as possible on the external level of the repository (search engine and classification tools) as well as under the hood (editorialization and user management tools).

A similar matter is that of scalability. If the key is not what a DH project attempts to state but which questions it allows to ask (Drucker, 2015), it is important that users are given more participation to raise such questions, since they are the ones who will enrich their research questions through their use. This is currently the role played by invited curators, but it would be ideal that any person who wants to contribute to the repository is able to upload and editorialize

recordings on their own. This would imply that workflows are kept as simple as possible to be easily explained and enforced, and that systems requirements on the target user's side remain minimal.

Undoubtedly, data modelling is prescriptive from its very foundations but, as Treleani argues (2014, pp. 50-51), the remediation process it triggers also contributes to modify the role of archivists as information gate-keepers, potentially rendering it more dynamic. If technology is to be understood as practice (Franklin, 1999, p. 6) and relational techniques as enabling constraints rather than as prescriptive restrictions (Manning & Massumi, 2014), then the multi-directionality offered by interactive interfaces is one of many possible breaking points for the emancipation of archival effects and for an inductive approach to digital repository design.

There are still many data elements that need updating. There is a good number of software tools that can be used on our sample. There is a GUI to work on. As I write these last pages, I feel as if I am leaving an atelier that I have not cleaned up yet. While this dissertation may be over, the quest towards a Beta version has just begun.

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Annex A

PoéticaSonora participants per year (2016-2020)

2016

Source: https://poeticasonora.mx/Credits-2016

General coordination and programming
Susana González Aktories
Cinthya García Leyva

Coordination for activities in Mexico City
Cinthya García Leyva

Interinstitucional coordination
María Andrea Giovine Yáñez

Digital Audio Repository (DAR) coordination
Aurelio Meza Valdez
Ana Cecilia Medina

Research and development
Susana González Aktories
Cinthya García Leyva
María Andrea Giovine Yáñez
Ana Cecilia Medina
Aurelio Meza Valdez
Roberto Cruz Arzábal

Social media management
Cinthya García Leyva
Ana Cecilia Medina
Roberto Cruz Arzábal

Webpage
Cinthya García Leyva

Translation
Aurelio Meza Valdez
Ana Cecilia Medina
Cinthya García Leyva

***Servicio social* [Internship]**
Andrea Cabrera
Juan Jimeno
Sara Villanueva
Alonzo Caudillo

Flyer design
Nadia Moreno

2017

Source: https://poeticasonora.mx/Credits-2017

General coordination
Susana González Aktories

Activities programming
Susana González Aktories
Cinthya García Leyva

Activities and interinstitutional coordination
Cinthya García Leyva

DAR coordination
Aurelio Meza Valdez

DAR programming assistance
David Lum

Webpage
Cinthya García Leyva

***Servicio social* [Internship]**
Alonzo Caudillo
Jorge Pacheco
Ivonne Pineda
Sara Villanueva

Research assistance and fieldwork
Andrea Cabrera
Juan Jimeno
Miriam Torres

Translation of activities program
María Andrea Giovine

Social media management
Cinthya García Leyva
Roberto Cruz Arzábal
Ana Cecilia Medina

2018

Source: https://poeticasonora.mx/Credits-2018

General coordination
Susana González Aktories

Social media management
Cinthya García Leyva

DAR coordination
Aurelio Meza Valdez

Curatorship assistance
Isabel Alcántara
Adriana Dávila

DAR programming assistance
David Lum

Research assistance and fieldwork
Andrea Cabrera
Alonzo Caudillo
Juan Jimeno
Ivonne Pineda
Miriam Torres

***Servicio social* [Internship]**
Muriel Herrera
Juan Carlos Ponce
Jorge Pacheco

Webpage
Cinthya García Leyva

2019

Source: https://poeticasonora.mx/Credits-2019

General coordination
Susana González Aktories

DAR coordination | Research associate
Aurelio Meza Valdez

Webpage translation | Research associate
Ambar Geerts

Research associate
Cinthya García Leyva

General assistance
Miriam Torres

Curatorship assistance
Isabel Alcántara
Adriana Dávila
Muriel Herrera
Juan Carlos Ponce

Research assistance and fieldwork
Andrea Cabrera
Alonzo Caudillo
Juan Jimeno
Sebastián Márquez
Jorge Pacheco
Ivonne Pineda

DAR programming assistance
David Lum

***Servicio social* [Internship] | Webpage**
Daniela Galindo

2020

Source: https://poeticasonora.mx/Credits-2020

General coordination
Susana González Aktories

DAR coordination | Research associate
Aurelio Meza Valdez

Webpage translation | Research associate
Ambar Geerts

Research associate
Cinthya García Leyva

General assistance
Miriam Torres

Curatorship assistance
Isabel Alcántara
Adriana Dávila
Muriel Herrera
Juan Carlos Ponce

Research and fieldwork assistance
Andrea Cabrera
Sebastián Márquez
Jorge Pacheco

DAR programming assistance
David Lum

***Servicio social* [Internship]**
Daniela Galindo
Sebastián Maldonado
Kassandra Valencia

Webpage
Daniela Galindo

Annex B

Una escucha distante de los Rojo eSlams en el Centro de Cultura Digital

Andrea Cabrera, Juan Jimeno, Ana Cecilia Medina & Aurelio Meza

January 2019

Source: https://poeticasonora.mx/Una-escucha-distante-de-los-Rojo-eSlams-en-el-Centro-de-Cultura

Las imágenes de este artículo corresponden a la primera versión del repositorio; la disposición gráfica y la visualización de ciertos metadatos cambiaron considerablemente después de la refactorización. Todos los nombres y obras aquí citadas se pueden consultar temporalmente en el prototipo del repositorio digital en audio de PoéticaSonora (https://poeticasonora.me/inicio). La información es constantemente actualizada.

***

Rojo Córdova ha organizado slams de poesía en distintos puntos de la ciudad de México, a los cuales ha denominado "Rojo eSlams". Desde junio de 2012 ha realizado periódicamente sesiones en el Centro de Cultura Digital (CCD), donde hasta septiembre de 2018 se habían organizado casi 50 eventos, lo cual lo hace, según su propio recuento, la serie activa de slams más longeva de México (Córdova, 2018). A lo largo de 2015 se transmitieron en vivo por la estación de radio en internet del CCD, y por un tiempo estuvieron disponibles en línea a través de SoundCloud para su escucha y descarga gratuita.

Luego de contribuir al Repositorio Digital en Audio de PoéticaSonora con el disco compilatorio *eSLAMex. Primera antología de espoken word mexicano* (2013), Córdova realizó una nueva donación con las grabaciones del CCD. El equipo de PoéticaSonora editorializó un total de siete slams realizados entre abril y diciembre de 2015, correspondientes a las ediciones #25 a #33 de los Rojo eSlams, salvo el #30 y el #32, correspondientes a los meses de septiembre y noviembre, que no estaban disponibles en línea y por ello no se incluyeron en el repositorio (imagen B.1). Los archivos con los que se realizó el proceso de editorialización fueron descargados en formato MP3 con una definición de 128 kbp/s. La calidad de la grabación es por lo general buena, aunque el volumen depende mucho de la distancia que cada participante dejaba entre su boca y el micrófono (en contados casos, con tal de interactuar más activamente con el público, se alejaban tanto del escenario que no se entiende bien lo que dicen).

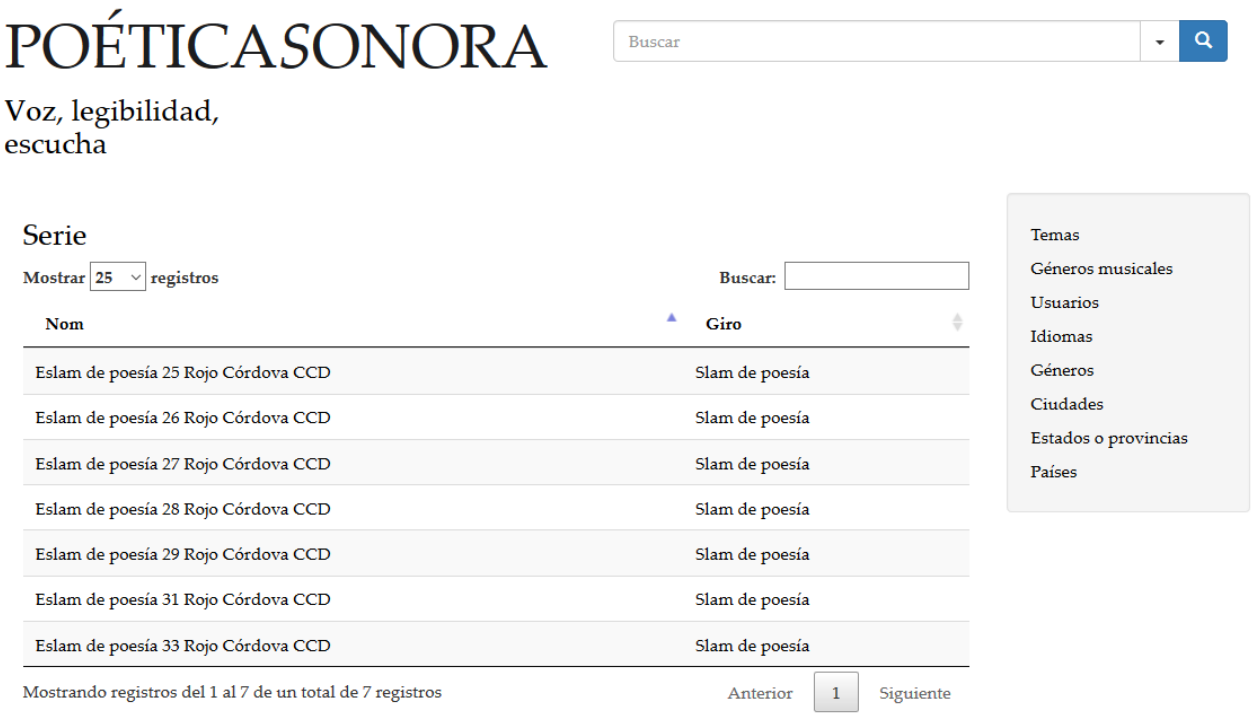


Imagen B.1 Rojo eSlams incluidos en PoéticaSonora.

El trabajo de editorialización (sobre este concepto, ver Treleani 2014) fue realizado en 2017 por el equipo de servicio social de PoéticaSonora, conformado en ese entonces por Juan Jimeno y Andrea Cabrera, bajo la coordinación de Ana Cecilia Medina y Aurelio Meza. Cada participante realizó una escucha atenta de uno o varios slams, identificó los poemas de cada evento y los extrajo con Audacity para crear archivos de audio individuales, a manera de *singles* o pistas, como sugería Charles Bernstein en el "PennSound Manifesto" (2009, 969). En este caso, cada pista corresponde al tiempo que le toma a un/a autor/a recitar o ejecutar su pieza, desde que Córdova le cede el micrófono hasta que vuelve a tomarlo. Esto incluye los elementos "parafonotextuales" (ver Filreis 2015) que rodean al *perfomance*, como son los comentarios previos o posteriores de quien lee, así como los aplausos, risas y otras reacciones del público. El proceso a seguir está documentado en el *Protocolo para la editorialización de documentos sonoros digitales de larga duración*, que forma parte de los manuales de operación de PoéticaSonora.

Es importante clarificar que la decisión de dividir los slams en pistas implica que lo que se encuentra almacenado en el repositorio no es una representación íntegra de cada evento. Salvo algunas excepciones, como el slam #25 (abril), no se incluyen las rondas de finalistas, que se realizaban en una sala distinta del CCD, sin equipo de grabación de audio. Tampoco se

documenta la labor de Córdova como maestro de ceremonias (o MC), la cual para ser adecuadamente apreciada y estudiada debe escucharse desde la grabación original.

En México existen ciertas variaciones con respecto a cómo se organizan los slams en EE.UU. Bien sabido es que las reglas básicas son las siguientes: los textos deben ser de autoría propia, no se puede utilizar ningún instrumento (sólo el propio cuerpo) y la participación debe durar como máximo tres minutos. También se estipula que el jurado calificador debe ser escogido de entre el público de manera aleatoria. No todas estas reglas son seguidas al pie de la letra en todas las competencias, sobre todo las relativas a la autoría y el uso de instrumentos. Algunos autores, a veces Córdova mismo, leen poemas de otros autores, sobre todo al final o principio de un slam (imagen B.2). Los artistas invitados, quienes participan fuera de competencia, usualmente traen consigo algún instrumento musical, como es el caso de Yaushu o Caco Pontes. Esto significa que no podemos dar por hecho que todas las participaciones en estas series incluyen voz recitada solamente, ni que cada participante será autor/a de los textos leídos. Adicionalmente, la inclusión de elementos parafonotextuales antes, durante y después de la interpretación, así como el hecho de que algunos/as intérpretes se excedieran del tiempo límite, hace que algunas pistas duren más de tres minutos.

Título	Fecha publicación	Autor(es)
"¿Cuál es la medida exacta...?"	25/07/2015	Irma Pineda |
Azules	05/12/2015	Rojo Córdova |
Balarqué	05/12/2015	Iraida Noriega |
Camarones	05/12/2015	Jesús Antonio Rodríguez 'Frino' |
El Sun Tzu de la súpermanzana	2013	Héctor Villareal |
INFOenza | La ópera de la epidemia y los medios de comunicación masiva	29/06/2013	Rojo Córdova |
Jnantik lu'um/Madre Tierra	26/10/2015	María Roselia Jiménez | María Roselia Jiménez |
Medias naranjas	2013	Héctor Villareal |
Nuestro amor es clientelar	2013	Héctor Villareal |
Nuevo sencillo de Björk, Tenochtikyavik | Dirige Alejandro Jodorowsky	26/10/2015	Rojo Córdova |
Poema monoestéreo | Tips para combatir el despotismo del macho activo	27/06/2015	'Morris M' |

Mostrando registros del 1 al 11 de un total de 11 registros Anterior 1 Siguiente

Imagen B.2 Poemas interpretados por Rojo Córdova en los Rojo eSlams.

En total se editorializaron 173 piezas de 131 compositores e intérpretes (poetas, escritores en lenguas indígenas, cantantes de hip-hop y de sones populares), entre los que encontramos a figuras de la escena *slam* mexicana, como Ixca Cienfuegos o Karloz Atl, así como músicos y artistas multidisciplinarios como Ánuar Zúñiga (del colectivo Los Kikín Fonseca y el Gringo Castro, también registrado en PoéticaSonora) o Iraida Noriega (jazzista y compositora incluida anteriormente con su proyecto *Frágil*). La posibilidad de organizar el contenido de los slams en unidades discretas de análisis a través de una base de datos nos permite crear listas de reproducción de cada slam (imagen B.3), así como manejar conjuntamente información dispersa en todos los eventos, como nombres de artistas y sus participaciones concretas, lo cual a su vez visibiliza ciertos patrones latentes. Por ejemplo, si clasificamos las piezas por género musical, notamos que los raperos suelen violar la regla de los tres minutos con más frecuencia que otro tipo de intérpretes (como decimeros, practicantes de spoken word o quienes "simplemente" leen poesía en voz alta).

Otro patrón es la recurrencia de ciertos participantes en varias sesiones, autores que pasan por debajo del radar con pseudónimos o con nombres truncados, como Majo, Don Net y Luis Ro. También se aprecian cambios en los nombres de presentación: Jonatan Hernández pasa a ser "Huachimingo", y más adelante "Santi Balmes". También hay quienes sólo ofrecen su nombre de pila (América), o una letra de su apellido (David C). El hecho de que el o la poeta escriba en la lista de participación el nombre con el cual quiere que se le llame al micrófono ofrece una posibilidad de autodefinición que vuelve nebulosa la clasificación de nombres y pseudónimos en una base de datos. Estos no son los grandes nombres que suenan en ferias del libro o festivales nacionales. Por eso resulta tan interesante una "escucha distante" (Clement 2013), pues nos permite localizar y agrupar patrones que en la "escucha atenta o profunda" (Bernstein 1998; Clement 2016a, 348) podrían pasar desapercibidos. Y aunque el repositorio de PoéticaSonora es una herramienta concebida para realizar escuchas atentas de piezas sonoras con énfasis en la voz y la vocalidad, también busca hacer accesibles numerosas versiones de un mismo poema, así como a obras de las cuales no existe un soporte escrito, como es el caso de muchas piezas incluidas en los Rojo eSlams.

Serie

Título

Eslam de poesía 28 Rojo Córdova CCD

Giro

Slam de poesía

Comentario

Slam de poesía conducido por Rojo Córdova en el Centro de Cultura Digital, CDMX, el 25 de julio de 2015.

Composición

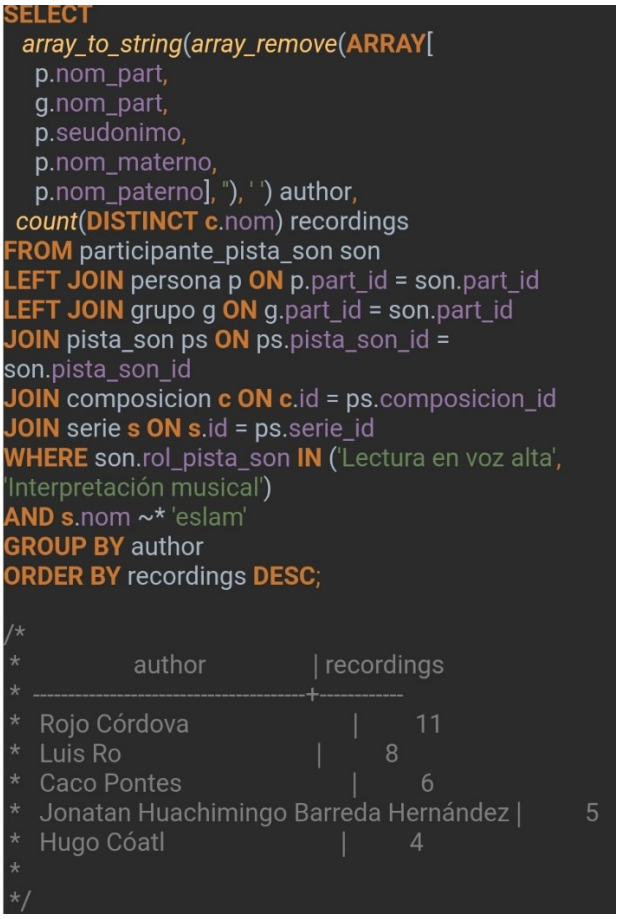
Mostrar 25 registros Buscar:

Título	Número de pista	Fecha publicación	Autor(es)
"Lo que me pone de ti..."	1	25/07/2015	Isabel
Alguien se equivocó al ponerme aquí	2	25/07/2015	Andrés Galindo 'Ixca Cienfuegos'
"Y la rima empieza aquí adentro..."	3	25/07/2015	'Johnny'
Congestión	4	25/07/2015	Karla Páez
"¿Cuál es la medida exacta...?"	5	25/07/2015	Irma Pineda
Matria	6	25/07/2015	Mónica Gameros
¿Todavía hay habitantes en la luz?	7	25/07/2015	Ernesto 'Salamandra'

Imagen B.3 Primeras siete pistas del Rojo eSlam #28.

Los asistentes al evento con más participaciones registradas se encuentran listados en la consulta desde la línea de comando de SQL, realizada por David Lum, diseñador y creador del prototipo (imagen B.4). Las intervenciones de Córdova representan un caso particular de

distinción entre los niveles de interpretación y composición, así como un alejamiento más de las reglas originales del slam. Recordemos que en estos eventos aparecen más interpretaciones que composiciones de Córdova (es decir, leyó muchos textos que no eran de su autoría), lo cual es una evidencia tangible de su papel como organizador y animador. Luis "Ro" fue sin lugar a dudas el asistente más activo durante ese año, con un total de ocho participaciones en siete slams distintos. Caco Pontes, artista sonoro brasileño invitado por Córdova al slam #33 (diciembre), se posicionó en el tercer lugar de la lista con seis participaciones, seguido de Jonatan Hernández "Huachimingo" con cinco. La cantidad de intérpretes con cuatro participaciones o menos es considerablemente mayor. De ellos, señalaremos a tres cuya propuesta artística está particularmente emplazada entre la declamación, el canto y el *performance*: Victoria Cuacuas, "Maiiky Trauma" y "Josuelfo".



```
SELECT
  array_to_string(array_remove(ARRAY[
    p.nom_part,
    g.nom_part,
    p.seudonimo,
    p.nom_materno,
    p.nom_paterno], ''), ' ') author,
  count(DISTINCT c.nom) recordings
FROM participante_pista_son son
LEFT JOIN persona p ON p.part_id = son.part_id
LEFT JOIN grupo g ON g.part_id = son.part_id
JOIN pista_son ps ON ps.pista_son_id =
son.pista_son_id
JOIN composicion c ON c.id = ps.composicion_id
JOIN serie s ON s.id = ps.serie_id
WHERE son.rol_pista_son IN ('Lectura en voz alta',
'Interpretación musical')
AND s.nom ~* 'eslam'
GROUP BY author
ORDER BY recordings DESC;

/*
 *              author              | recordings
 * ---------------------------------+------------
 *  Rojo Córdova                    |         11
 *  Luis Ro                         |          8
 *  Caco Pontes                     |          6
 *  Jonatan Huachimingo Barreda Hernández |          5
 *  Hugo Cóatl                      |          4
 *
 */
```

Imagen B.4 Consulta de SQL en la base de datos de PoéticaSonora (en letras a colores) para obtener la lista de los cinco intérpretes más frecuentes (en letras blancas).

Estas grabaciones documentan las que quizá sean las primeras participaciones de Cuacuas en un ámbito literario, quien en ese momento se presentaba bajo el pseudónimo “Victorian Tyler”. Esta artista, nacida en Puebla y actualmente radicada en Querétaro, tiene registradas en el repositorio cuatro interpretaciones de tres slams distintos, correspondientes a los meses de abril, mayo y agosto (imagen B.5). Su voz es potente y maneja una tesitura muy variada. En esta etapa temprana de su quehacer sonoro se perciben influencias de Hebe Rosell e Iraida Noriega, dos artistas vocales que ella misma reconoce como mentoras (Cuacuas 2018), y que también estuvieron ese año en los Rojo eSlams. A partir de entonces, Cuacuas comenzó a participar de manera más activa en la escena interdisciplinaria del centro de México; actualmente experimenta con *loop pedals* como solista y participa en numerosos proyectos musicales.

Autor

Nom

Victoria 'Tyler'

Nac

México

Composición

Mostrar 25 registros

Buscar:

Título	Fecha publicación	Autor(es)
"Nos volvimos a mirar..."	30/05/2015	Victoria 'Tyler'
"Soy árbol..."	25/04/2015	Victoria 'Tyler'
Ahora el dólar alza el vuelo	22/08/2015	Victoria 'Tyler'
Otro origen	25/04/2015	Victoria 'Tyler'

Mostrando registros del 1 al 4 de un total de 4 registros

Anterior 1 Siguiente

Imagen B.5 Perfil de Victoria Cuacuas en PoéticaSonora.

“Maiiky Trauma”, miembro desde 2014 del colectivo POM (Palabra-Oralidad-Mensaje), en el Estado de México (POM, 2015, p. 63), también tiene registradas cuatro piezas de su autoría, provenientes de cuatro slams distintos. Su estilo, como el de Cuacuas, es decididamente cantado. Sin embargo, el *performance* de Trauma busca más la imitación de estilos musicales reconocibles (la cumbia, el sonidero) que una exploración más experimental de la voz. Sus piezas tratan sobre

amor y despecho, sobre el baile y la canción como alegorías de las relaciones humanas, que inevitablemente reflejan algunos de los prejuicios, preocupaciones y proyecciones del ambiente social en que se desarrollan.

"Josuelfo" es un caso muy interesante dentro de la escena de spoken word en México. Antes de participar en los Rojo eSlams se había entrenado en otra manifestación del arte escénico: el circo. Luego de probar suerte en el teatro, y de entender que para destacarse allí era necesaria una dinámica relacional constante, el slam le pareció "una oportunidad súper chida de poder generar contenidos breves, unipersonales, donde yo pudiera presentar lo que yo quiero decir" (Josuelfo, 2018). Debido a la restricción de instrumentos en los lineamientos del slam, no había encontrado la manera de integrar el elemento circense a su repertorio creativo. Sin embargo, cuando aprendió lenguaje de señas le pareció muy "escénico" y, sobre todo, no violaba la regla de usar solamente el cuerpo. Pronto se volvió característico de su participación en los Rojo eSlams de 2015, en los cuales tuvo tres apariciones en tres ediciones distintas. Incluso colaboró con otra poeta, "Galinas", cuyo texto tradujo simultáneamente al lenguaje de señas mientras ella recitaba.

Uno de los grandes retos al editorializar esta colección de audio fue detallar con precisión los mecanismos de clasificación de los seudónimos, alias y otras denominaciones autorales, así como determinar los títulos de las obras cuando sus autores no los proporcionaban. Si bien todas las piezas deben estar asociadas a un denominativo, se busca que el alias sustituya al nombre real sólo cuando no tengamos información alguna de este último. En teoría, el campo `nombre` no puede aceptar valores nulos, pero si sólo hay información en el campo `pseudónimo` se utiliza en lugar del primero. En los pocos casos donde no se tiene ni el nombre ni el alias, se busca hacer una denominación lo más descriptiva posible, por ejemplo, "Autora chilena desconocida".

Una gran aportación en este proyecto de editorialización fue refinar la clasificación del repositorio para que las búsquedas reflejaran mejor las formas de auto-representación de las y los autores incluidos. Esto nos llevó a concentrarnos en el carácter altamente relacional de los slams (cada artista interpreta y se presenta ante un grupo numeroso de personas, quienes fungen como espectadores y participantes a la vez), aunque el enfoque Bernsteiniano de los "singles" no facilita el análisis de otros momentos clave del slam, como la calificación del jurado, la ronda de finalistas o las intervenciones del MC entre cada lectura. En gran medida, la manera de editorializar estas pistas de audio muestra claramente la aproximación que se busca en

PoéticaSonora: no solamente un análisis atento de cada *perfomance* (momento medular en este tipo de eventos literarios), sino la recopilación y acumulación de participaciones individuales que faciliten su comparación y contraste por diversos criterios, como son artista, instrumento, modulación de la voz, autoría, entre otros.

Otra valiosa aportación fue ofrecer un ejemplo concreto sobre la importancia de manejar adecuadamente la procedencia *(provenance)* de un archivo de audio. En la defensa de su disertación doctoral (2019), Michael Nardone comentó que en ocasiones PennSound recurre a prácticas que alteran fundamentalmente los materiales que circulan. De manera similar, los poemas de los Rojo eSlams no representan de forma íntegra los eventos de los que fueron extraídos. Esto implica que la preservación a largo plazo de los archivos de audio originales debe seguir un diagrama de flujo distinto, en el que no sea necesario mutilar el material original, incluso si se trata de una copia digital. Como ha demostrado SpokenWeb (que en 2018 inició una tercera etapa de expansión), es posible complementar un archivo digital de audio no sólo con un esquema de metadatos basado en estándares como MODS y Dublin Core, sino también con marcas de tiempo (*time stamps*) que faciliten la exploración de contenidos transcritos de eventos que comprendan varias partes o etapas. La labor del equipo de servicio social resultó de gran ayuda para pensar nuevas formas de clasificar y almacenar en PoéticaSonora archivos de audio de larga duración que contengan varios poemas, así como a especular cómo sería una base de datos especializada en slams de poesía, una idea que Córdova ha compartido con anterioridad.

Annex C

Computer science research assistant call for participation

(in English and Spanish)

Source: https://poeticasonora.mx/Data-Modelling-Research-Assistant-needed

Data Modelling Research Assistant needed (Summer-Fall 2017)

We are looking for a computer science undergraduate or graduate student specialized in data modelling to participate in the design and creation of a prototype for PoéticaSonora's digital audio repository of sound art and sound poetry in Mexico (see our work-in-progress here: http://poeticasonora.mx). Along with a Concordia University Ph.D. student in Humanities, and supervised by a professor from Concordia's Music Department, the RA will participate in a research group funded through Hexagram's 2017 Research-Creation Grant.

Period of Activity

May-August 2017. Possible extension September-November 2017.

Eligibility

The student must meet the following criteria:

- Experience in LAMP infrastructure development
- Expertise in building and managing object-relational or object-oriented database management systems (PostgreSQL is an asset)
- Good knowledge of open repository software packages (DSpace, Fedora)
- A letter of recommendation from a professor in Computer Science is required
- Level B1 or higher in Spanish language is an asset

Tasks

- The RA's main functions are to design and develop the repository's prototype according to the metadata scheme used by PoéticaSonora, as well as to give due advice that can improve the digital audio file tagging process. This prototype must be uploaded to a server (provided by PoéticaSonora) by Fall 2017 at the latest.
- Along with the Ph.D. student in Humanities, the RA is also in charge of normalizing and inserting data from PoéticaSonora's spreadsheets.

Work load

Part time - 10 hours per week (min. 160 hours, max. 300 hours)

Payment (hourly rate)

$27.14 - Doctoral students
$20.12 - Masters students
$15.67 - Undergraduate students

Students must send their CV, their letter of recommendation, and a one-page cover letter to meza.aurelio@gmail.com before April 30th, 2017.
An interview with the research group members (online if the candidate is not in Montreal) is required before admission.

Source: https://poeticasonora.mx/Convocatoria-modelado-de-datos

¡Únete al equipo de PoéticaSonora!

Buscamos:

Asistente de investigación para modelado de datos (Verano-Otoño de 2017)

Estamos en busca de un/a estudiante en ciencias de la computación con especialización en modelado de datos para participar en el diseño e implementación de un prototipo para el repositorio digital en audio de PoéticaSonora (para conocer nuestro trabajo, consulta http://poeticasonora.mx). Bajo la supervisión de un profesor y un estudiante de posgrado de Concordia University (Montreal, Canadá), la/el asistente participará en un grupo de investigación financiado por el instituto Hexagram de artes, ciencia y tecnología.

Periodo de actividad

- Mayo-Agosto 2017 (posible extensión a septiembre-noviembre 2017)

Requisitos

- Manejo y desarrollo de infraestructura LAMP
- Experiencia en el diseño, la implementación y el desarrollo de sistemas de gestión de bases de datos objeto-relacionales u orientadas a objetos (preferiblemente PostgreSQL)
- Conocimiento de paquetes de software para repositorios abiertos (Dspace, Fedora)
- Carta de recomendación de un profesor en ciencias de la computación
- Nivel B1 o mayor en idioma inglés

Actividades a realizar

- Las funciones principales del/la asistente son diseñar y desarrollar el prototipo del repositorio de acuerdo al esquema de metadatos utilizado por PoéticaSonora, así como dar consejos que mejoren el proceso de compilación de archivos sonoros. El prototipo debe ser subido a un servidor (proporcionado por PoéticaSonora) a más tardar en noviembre de 2017.
- Junto con el estudiante de posgrado de Concordia, el/la asistente estará a cargo de normalizar e integrar la información contenida en las hojas de cálculo de PoéticaSonora.

Carga de trabajo

Tiempo parcial - 10 horas a la semana (por un máximo de hasta 300 horas)

Pago por hora*

$27.14 – estudiantes de doctorado
$20.12 – estudiantes de maestría
$15.67 – estudiantes de licenciatura

***Los precios están estimados en dólares canadienses (CAD)**

Los/las interesadas/os deben enviar su currículum vitae, una carta de intención, así como la carta de recomendación de un profesor al correo meza.aurelio@gmail.com antes del 30 de abril de 2017.

Una entrevista con los miembros del grupo de investigación (por videoconferencia si el/la interesada/o no vive en Montreal) es necesaria previo a la admisión.

Annex D

DSpace migration call for participation (in Spanish)

¡Haz tu servicio social en PoéticaSonoraMX!

Grupo de investigación multidisciplinario de la Facultad de Filosofía y Letras de la UNAM busca estudiantes de los siguientes programas:

Licenciatura en ciencias de la computación
Licenciatura en bibliotecología y tecnologías de la información
Licenciatura en administración de archivos y gestión documental

con conocimientos en modelado de datos para participar en la implementación de la versión Beta del repositorio digital en audio de PoéticaSonoraMX[83] en la Red de Archivos Digitales (RAD) de la UNAM. Bajo la supervisión de profesores y estudiantes de posgrado de la UNAM y Concordia University (Montreal, Canadá), la/el estudiante realizará la migración del repositorio a uno de los servidores de la RAD-UNAM.

Carga de trabajo

- Tiempo parcial – 480 horas de trabajo (20 hrs. por semana durante 6 meses)

Requisitos

- Manejo y desarrollo de infraestructura LAMP
- Dominio avanzado comprobable del idioma inglés (nivel B2 o mayor)
- Experiencia en diseño, implementación, migración de datos y refactoring de sistemas de gestión de bases de datos objeto-relacionales (preferiblemente PostgreSQL)
- Conocimiento de bases de datos NoSQL es deseable
- Experiencia en arquitectura de gestión de activos digitales (Fedora Commons o DSpace)
- Formación adicional en ciencias sociales, humanidades o música es deseable

Actividades a realizar

- Las funciones principales del/la estudiante son preparar el prototipo de PoéticaSonora para su migración al RAD-UNAM, donde alojará la versión Beta del repositorio, y concentrar la documentación habida y por haber en un solo repositorio de GitHub.
- Bajo la supervisión de David Lum, creador del prototipo, el/la estudiante estará a cargo de aumentar la funcionalidad del repositorio, de adaptarlo a los requerimientos de la RAD-UNAM y asegurarse que el diseño de la arquitectura de gestión de activos digitales sigue las prácticas recomendadas y los estándares de esquemas de datos relevantes al proyecto (DublinCore y MODS).

Los/las interesadas/os deben enviar su currículum vitae, una carta de intención, así como la carta de recomendación de un profesor en ciencias de la computación al correo meza.aurelio@gmail.com antes del 31 de septiembre de 2019. Una entrevista con los miembros del grupo de investigación es necesaria previa admisión.

[83] Blog: https://poeticasonora.mx. Prototipo: https://poeticasonora.me/inicio
Artículo arbitrado: https://www.digitalstudies.org/articles/10.16995/dscn.303
Repositorios de Github: https://github.com/davlum/poetson y https://github.com/davlum/poet

Annex E

Proof of submission for chapter 3 and pre-print

UNIMINUTO
Corporación Universitaria Minuto de Dios

Neiva, mayo 16 de 2019

Estimado
AURELIO MEZA
Magister en Estudios Culturales
México D.F.

Asunto: Invitación al III Congreso Internacional en Diversidad: Re - existencias sociales y Educativas.

Reciba un cordial y cálido saludo

Nos dirigimos a usted con el objetivo de invitarlo a participar como ponente en el **III CONGRESO INTERNACIONAL EN DIVERSIDAD: RE- EXISTENCIAS SOCIALES Y EDUCATIVAS** que realizará la unidad educativa - vicerrectoría Sur los días 17, 18 y 19 de octubre en la ciudad de Neiva.

Esta tercera edición tiene como objetivo central comprender en el marco de las relaciones interinstitucionales tanto nacionales como internacionales, las experiencias, investigaciones y prácticas de re – existencias sociales y educativas en el reconocimiento de la diversidad. En esa dirección se plantea desarrollar por medio de conferencias, foros, ponencias, conversatorios, recitales y talleres dirigidos, diversas reflexiones desde la academia, procesos organizativos y saberes construidos con las comunidades que vienen tejiendo y construyendo otras maneras de habitar los territorios.

De la misma manera, a partir de este encuentro de investigadores y expertos en el ámbito de la diversidad, se plantea avanzar en la coordinación de acciones y propuestas de investigación relacionadas con los campos temáticos de este III Congreso.

Sus aportaciones serán publicadas como capítulo de libro, que tendrá la revisión editorial hasta su publicación definitiva en libro con registro ISBN, de acuerdo con los procesos que regule la organización del Congreso y la Editorial UNIMINUTO. Como organizadores garantizamos transportes, alojamiento y alimentación de su permanencia en el congreso, de la misma manera como se mencionó anteriormente en reconocimiento de su aporte se realizará la respectiva publicación de ponencia.

Nos complacería contar con su participación, seguros del gran aporte que brindarán sus conocimientos y reflexiones académicas en el desarrollo social y educativo.

Línea de Atención al Cliente: 57+(8) 871 6260 • Celular: 317 573 7541 • Línea de Atención Nacional: 01 8000 936670
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Las líneas temáticas propuestas son:

1. Territorios, diversidad y opciones políticas para la re-existencia
2. Sujetos y objetos de mediaciones para la inclusión educativa
3. **La estética del arte en la era digital**
4. Construcción de saberes científicos y ambientales

Lo estamos convocando a aportar desde la línea "La estética del arte en la era digital" en el tópico de: *(lo propone el ponente, de acuerdo con la línea y acorde al grueso del congreso)*.

Estamos atentos a su respuesta, cualquier inquietud comunicarse a sandra.solano@uniminuto.edu.co, docente organizadora del congreso, o al correo vivian.velasquez@uniminuto.edu docente encargada de línea.

Adjuntamos cuadro con especificaciones de líneas.

Eje temático	Tópicos
La estética del arte en la era digital	cultura digital, moocs, cortometrajes, posters, fotografía, cineforo, influencers, desarrollo sostenible, literatura en línea, ilustraciones, performances, flashmob, video-arte, danza contemporánea, arte relacional.

Atentamente,

SONIA CAROLINA MANRIQUE RIVERA

Coordinadora de la Unidad de Educación, Vicerrectoría sur, Corporación Universitaria Minuto de Dios

Teléfono: 3113371142

VIVIAN ANDREA VELASQUEZ TRIANA

Docente líder de la línea, Corporación Universitaria Minuto de Dios

Teléfono: 310313269

La Corporación Universitaria Minuto de Dios - UNIMINUTO

Institución de Educación Superior con Personería Jurídica 10345 del 1 de agosto de 1990 del MEN

Certifica que:

Aurelio Meza Valdez

C.E. 635878

Participó en el:

III Congreso Internacional de Diversidad: Re-existencias Sociales y Educativas

Con la ponencia magistral:

Redes colaborativas en torno al uso de Loop Pedals, por mujeres artistas vocales en la Ciudad de México

Realizado en la ciudad de Neiva-Huila, durante los días 17, 18 y 19 de octubre del 2019

Padre Iván Díaz Gómez, cjm
Vicerrector Regional Sur

Instrumentalizar la voz: Redes colaborativas en torno al uso de loop stations por mujeres artistas vocales en la Ciudad de México

Un loop es una estructura temporal en espiral constantemente repetida, una cinta de Möebius doblada sobre sí misma. Su regreso no es un reinicio. Existen los loops sonoros y también los de programación. Los loops sonoros se conforman de fragmentos de sonido aislados que, a raíz de su repetición constante, generan una sensación de "presencia perpetua" (Baumgärtel, 2015, pág. 26) al prolongar indefinidamente lo que antes era un ruido efímero sin mayor repercusión en el mundo. Los loops de programación, por su parte, son fundamentales en cualquier programa computacional, como SQL y Python, ambos utilizados en la construcción del Repositorio Digital en Audio (RDA) de PoéticaSonora, un proyecto creado por investigadores y estudiantes de Concordia University en Montreal y la Universidad Nacional Autónoma de México, el cual servirá como estudio de caso en el presente capítulo para hablar de dichos temas. En el ejemplo concreto de SQL, el lenguaje estructurado de búsqueda más estandarizado en la actualidad, funciones de programación como `IF`, `THEN` y `ELSE` observan una estructura circular y repetitiva inherentemente ligada a la lógica del loop. En los campos audiovisual y multimedia, Lev Manovic (2002) ha notado que las estructuras en loop abundan en la historia temprana de limitaciones y desarrollo de la cinematografía y la programación computacional. Todo esto hace del loop un gran ejemplo de cómo una técnica relacional opera como una "enabling constraint" (Manning & Massumi, 2014, pág. 93), definición que resalta el flujo bidireccional de posibilidades y limitaciones puesto en marcha por el uso de una técnica y de sus tecnologías asociadas.

Es importante resaltar desde un principio que en realidad hay dos técnicas involucradas en el desarrollo de lo que se conoce en el terreno musical contemporáneo como "live looping", o la práctica de crear loops sonoros de manera improvisada frente a un auditorio en vivo. La desventaja de este término radica en que inadvertidamente obnubila la naturaleza compuesta de esta práctica, usualmente ejecutada mediante el uso de unidades de efectos como las delay stations y sobre todo las loop stations.[84] Una de ellas es el sampleo o sampling, entendido como

[84] Las artistas entrevistadas por PoéticaSonora durante el trabajo de campo del RDA se refieren a estos aparatos con una diversidad de nombres, todos anglicismos: "loopers" (Mochán, García, Arita), "las loops" (Noriega, Cuacuas), incluso el cariñoso "loopitas" (Cuacuas), un guiño al popular apodo mexicano "Lupita". A lo largo de este capítulo uso el término loop stations en lugar de loop pedals porque me permite referirme en conjunto al aparato y sus

"un objeto sonoro previamente grabado y rastreable (ya sea sonidos paramusicales, voz o música) que se inserta dentro de una nueva composición musical" (Woodside, 2005, pá. 21). El sampleo ha sido fundamental para numerosas prácticas musicales en décadas más recientes, mientras que unidades de efectos como las loop stations buscan manipular sampleos sonoros a través de su repetición en patrones identificables que, dependiendo del grado de delay en su reproducción (es decir, el tiempo que pasa entre un sonido y su repetición), puede producir una serie de técnicas sonoras—algunos autores (Doyle, 2005) las describen más bien como dispositivos—claramente distinguibles entre sí pero a la vez en estrecha relación. Dichas técnicas son conocidas como eco, reverberación, delay y loop. De todas ellas, el eco observa el menor tiempo de delay entre la emisión de un sonido y su repetición, casi al grado de pasar desapercibido, mientras que los loops son repeticiones sucesivas que comienzan cuando el sonido original ha terminado. Esta combinación entre un largo delay y una sucesión repetitiva hace a esta instanciación de sonidos aislados particularmente propensa a generar patrones rítmicos, que después de cierto tiempo parecen adquirir un compás estable. Por lo anterior, de todos los posibles usos de la noción de repetición para la creación musical, en este capítulo usaré el término "sample-looping" para referirme a la estrategia de capturar sonidos, a veces en el contexto de una grabación o evento en vivo, y repetirlos con la intención de generar patrones rítmicos o "texturas", como las han llamado algunas artistas (Cuacuas, 2018; García, 2016).

El sample-looping ha sido de particular interés para la experimentación sonora desde la época de Pierre Schaeffer y Karlheinz Stockhausen en la Europa de los años 1930s (Baumgärtel, 2015, págs. 53-111). Sus experimentos creativos con cintas magnéticas, realizados en laboratorios con tecnología de punta inaccesible para la mayoría de la población, sentarían las bases para el desarrollo de dos importantes tecnologías basadas en loops: el sample-looping (Schaeffer) y la síntesis del sonido (Strockhausen). Las tecnologías basadas en loops encontrarían una canalización hacia la producción en masa a través del desarrollo de otras dos tecnologías: la unidad de efectos (que puede ser parte de un amplificador de sonido, o bien un aparato periférico al mismo) y el pedal. En la música occidental, los pedales fueron utilizados primero en los

técnicas relacionadas y no sólo a la interfaz utilizada para operarlos (botones, perillas, luces LED, pantallas). Es importante especificar que al menos un modelo frecuentemente citado, el Line 6 DL4, es en realidad una delay station, lo cual significa que favorece explícitamente otros efectos basados en loops como el eco, el delay y la reverberación. Sin embargo, aquí lo trato como si fuera una loop station porque todas las entrevistadas así lo hacen, y porque en última instancia también se puede utilizar para la técnica que describo.

pianos, para después convertirse en elemento común de otros instrumentos modernos, tales como el Trautonium de los años 1930s, que en su prototipo contaba con un pedal y con tres en una versión final (Patteson, 2015). Desde entonces hasta ahora, innovaciones tecnológicas en el uso de pedales con motivos musicales, así como la introducción de instrumentos y amplificadores eléctricos en los 1950s, generaron las condiciones adecuadas para la creación en décadas subsiguientes de las unidades de efectos como hoy las conocemos. Mientras que los pedales existentes en instrumentos operados por teclado modifican cualidades sonoras como volumen, timbre y color, la función principal de las unidades de efectos es traer al escenario muchas de las técnicas de edición de audio típicas de un estudio de grabación, lo que contribuye a difuminar aún más las diferencias entre performances "en vivo" y "en estudio".

La historia de las unidades de efectos moderna también se remonta a las tecnologías de loops. Una de las primeras unidades de efectos para guitarra en el continente americano, el Echosonic, estaba construido con una banda magnética en loop adentro. Diseñado a mediados de los años 1950s por Ray Butts para el guitarrista de Elvis Presley, Scotty Moore, el Echosonic podía generar y sostener efectos de eco, modificar sonidos bajos y agudos, así como los niveles de volumen del micrófono, el instrumento y el eco. Como Tilman Baumgärtel explica, "es una construcción sencilla que se vería perfeccionada por las muchas unidades de eco y delay con cinta magnética que se construirían en los 50s y 60s basadas en ese modelo" (2015, pág. 129). En Europa, la primera unidad de efectos basada en loops fue el Watkins Copicat (después rebautizado como WEM Copicat), popularizado a finales de los 1950s por la banda británica de surf rock, The Shadows. Construida en torno a una cinta magnética en loop que grababa un sonido para reproducirlo inmediatamente (tal y como el Echosonic), el Copicat se utilizaba para generar efectos de eco, tremolo y reverberación (Rusell, s.d). En uno de sus primeros afiches promocionales se le comercializó como apto para cantar y para tocar instrumentos, por lo cual no sorprende que unidades similares sean utilizadas por artistas vocales hoy en día. Otros amplificadores pioneros fueron el Echoplex, el Fender Twin Reverb, el Binson Echorec, entre muchos otros (Baumgärtel, 2015, pág. 250; Doyle, 2005, págs. 225-226). Muchos de estos modelos (incluyendo el Echoplex y el Copicat) podían conectarse a un pedal externo, y conforme nuevos modelos fueron haciéndose más pequeños, el pedal terminó formando parte del aparato mismo.

El mayor problema que tenían las tecnologías de loop analógicas era la latencia, que Mark

Butler describe como "the period between a directed action on the part of the musician (e.g., initiating a program, turning a knob) and the achievement of the intended result" (2014 71). Como lo explica la escritora y pionera del spoken word en México, Edmeé García "Diosaloca", al discutir ciertos modelos de loop stations más modernos con Alda Arita, guitarrista y productora trans, la latencia afecta particularmente el performance y, por lo tanto, la producción artística en sí:

> GARCÍA: A mí este pedal [el TC Helicon VoiceLive] me gusta un chingo. El Line 6 siempre era amor-odio. Era posibilidades, pero me dejas tirada, y no puedes hacer esto o aquello, y pierdo nitidez cuando hablo…
> ARITA: ¿Te dejaba tirada?
> GARCÍA: Sí, esa madre me dejó tirada un par de veces de no encender, el puto Line 6. Así, un día antes de estrenar un pedo que estaba hecho para "Poeta y Line 6", ¿sabes? Era horrible. […] Y entonces esto ya no me satisface. Pero, por ejemplo, ahora me compré otro looper [TC Helicon Ditto] que me van a traer a fin de mes, y creo que si ese lo conectara al Line 6 todavía podría sacarle algún provecho.
> ARITA: Pero este [Line 6] no es tanto looper, ¿no? O sea, sí se pueden hacer loops, pero es más delay.
> GARCÍA: Pero es otro pedo. Y aparte, no puedes grabar estos efectos y loopear al mismo tiempo. Como que no me encanta, la neta.
> ARITA: Una amiga tenía una como esta, pero tenía una looper aparte.
> GARCÍA: Exacto, ya conseguí un Ditto y voy a ver qué pedo.
> ARITA: Y todos los delays que le puedes sacar están chidos. […] Ve, este delay en reversa está chingón.
> GARCÍA: Ajá, exacto, para aprovechar esas cosas. Por ejemplo, cuando puedes voltearlo aquí y octavarlo, está chido. Sí tiene cosas chidas, pero lo que yo sentía que le faltaba, ahora se puede resolver con el otro [VoiceLive]. Pero pues es lo que ha pasado de 2011 para acá en cuestión de *devices* (Arita & García, 2017).

Ambas comparan las posibilidades de varias marcas y modelos. García relata su desencanto con el Line 6 DL4, una delay station que inicialmente fue vital para su trabajo, al grado que una de sus obras tenía el subtítulo extraoficial de "Obra para poeta y Line 6". Debido a las limitaciones que le imponía para el performance (como no poder grabar efectos de delay y sample-looping al mismo tiempo), se vio forzada a complementarlo con el Ditto, otro modelo más sencillo, o bien a sustituirlo por el VoiceLive (ambos de la marca TC Helicon), este último más orientado a cantantes y músicas que amplifican el sonido de sus instrumentos con micrófono. Este es un ejemplo de que si bien los loops análogos, basados en el soporte físico de la cinta electromagnética, fueron imprescindibles en el origen de efectos y tecnologías como la síntesis del sonido (Fantinato, 2014), el eco y la reverberación (Doyle 2005), no fue sino hasta la llegada

y sobre todo la consolidación de las unidades digitales que las loop stations y delay stations se volvieron más estables, lo que permitió una ejecución más precisa del sample-looping durante un performance en vivo. El caso de García con el Line 6 y el VoiceLive muestra que la elección de ciertas marcas y modelos de loop stations sobre otras, incluso en esta época predominantemente digital, se debe en gran medida a la latencia que cada una tiene.

Cuando una artista vocal emplea unidades de efectos, surge la posibilidad de autogenerar fraseos y tonadas como base de una estructura decididamente musical, si bien en ocasiones se aventure por lo poético o lo performativo. Para dar un ejemplo de cómo unidades de efectos como las loop stations permiten emplear la voz humana como si fuera un instrumento musical, en este capítulo me concentraré en un grupo particular al que he llamado "el clúster *Frágil*", pues su accionar colectivo se concentró en torno al álbum del mismo nombre, producido en 2011 y publicado en 2015, el cual cuestiona clasificaciones simplistas sobre la modulación de la voz, así como de la dimensión colectiva del performance artístico-musical. En verano de 2016 y otoño de 2017, PoéticaSonora condujo trabajo de campo etnográfico e investigación archivística en diversos puntos de la ciudad de México para editorializar las grabaciones incluidas en la muestra inicial de 429 piezas de audio que conforman el prototipo del RDA, entre las cuales se incluyó el álbum *Frágil*, así como otras piezas de algunas de sus integrantes y asociadas. Dicha experiencia no solamente sentó las bases para la consolidación del flujo de trabajo interno de PoéticaSonora, también ayudó a encontrar puntos débiles en el esquema de datos inicial y contribuyó así a su modificación durante la etapa de refactorización. Las redes colaborativas que estas artistas tejieron en torno a las loop stations constituyen un caso extremo en el cual algunas decisiones de clasificación tomadas al desarrollar el esquema de datos del RDA fueron puestas a prueba. Fue particularmente importante para refinar elementos del esquema relacionados con las nociones de modulación vocal, instrumentalidad, y colectividad. Todas las grabaciones a las que me referiré están temporalmente disponibles en el prototipo del RDA, y tanto sus metadatos como una versión en formato de audio comprimido (generalmente MP3) pueden consultarse temporalmente a través del siguiente sitio web: https://poeticasonora.me/inicio.

En este capítulo entiendo las nociones de "tecnología" y "repetición" en sus nociones más específicas. Me baso en Mark Butler (2014) y Bruno Latour (2008) para conceptualizar la tecnología como un conjunto de agentes, infraestructuras materiales, estándares y formatos que operan en torno a la práctica de ciertas técnicas de producción industrial, creativa e incluso

artística.[85] A su vez, frente a la plétora de actividades que han sido catalogadas bajo la noción de repetición, aquí deseo enfocarme en la repetición musical como una tecnología especifica de creación o composición musical (nuevamente siguiendo a Butler), dentro de la cual la técnica del looping es central en la producción creativa de numerosas corrientes musicales, desde la música electrónica bailable y la experimental, pasando por el hip hop y el trip hop, hasta casos más comerciales como el reggaetón y la música pop. Es así que me interesa entender la repetición, elemento al parecer inherente a la composición musical, no como una limitante o regresión sonora sino como un espacio de liberación y creatividad, el cual, gracias a la actividad artística de un nutrido grupo de mujeres artistas, ha florecido de manera particular durante la última década en la ciudad de México. En las siguientes páginas analizaré cómo estas artistas se relacionaron con la técnica del sample-looping y con las tecnologías que facilitan su uso a cantantes, escritoras y músicas. Al mismo tiempo demostraré cómo el trabajo de campo llevado realizado con ellas dio lugar a modificaciones significativas en esquema de datos del RDA.

El origen de *Frágil*

En 2010, la artista vocal Leika Mochán y la jazzista Iraida Noriega unieron fuerzas para crear un proyecto sonoro interdisciplinario que tratara sobre el empoderamiento y la vulnerabilidad femeninas. Poco tiempo después conocieron a "Diosaloca"; en varias ocasiones distintas han contado la historia de cómo la invitaron a participar en su proyecto, luego de presenciar un performance suyo y enamorarse de su estilo. El bajista de jazz mexicano, Aarón Cruz, invitó a Noriega a un evento de poesía y música que él estaba organizando con "Diosaloca" en la colonia Condesa de la ciudad de México. El día del evento, Mochán estaba en casa de Noriega, así que decidieron ir juntas. Se sintieron tan identificadas con el show de García que inmediatamente después de presenciarlo se acercaron a invitarla a colaborar con ellas. Pese a que esta anécdota revela que García se incorporó al proyecto cuando las bases del mismo ya estaban sentadas, el proceso que desencadenó modificaría los métodos creativos de todas las participantes, y por lo menos Mochán y García afirmaron en entrevista que se trató de un hito creativo que les cambió la

[85] Para una historia de la imbricación entre tecnología y repetición, así como de la influencia del loop en el desarrollo de la música electrónica en el siglo XXI, ver *Playing with Something that Runs* de Butler, en especial el último capítulo, "Looking for the Perfect Loop" (2014, págs. 173-228). Para una arqueología medial de la técnica del sample-looping en Occidente previo a la música electrónica, ver *Schleifen: Zur Geschichte und Ästhetik des Loops* (Baumgärtel, 2015).

vida (Mochán & Noriega, 2015; Mochán & Noriega, 2017; García, 2016). Todo esto haría que *Frágil* evolucionara hacia algo difícilmente clasificable como "poesía jazz" o "poesía sonora", etiquetas que ninguna de las entrevistadas utilizó para referirse a sus actividades.

¿Pero qué es exactamente *Frágil*? Es un álbum, sin lugar a dudas (es decir, el producto residual de una serie de ejecuciones musicales grabadas y producidas en un estudio profesional). Sin embargo, también es una serie de relaciones entre tres artistas, sus instrumentos y unidades de efectos, así como un productor (Juan Sosa Rosell, hijo de Hebe Rosell), un ingeniero de sonido (Salvador Tercero) y algunos colaboradores (Juan Manuel Torreblanca y Nico Maroto Noriega). Si consideramos a las y los compositores originales de las numerosas canciones que no son de autoría (desde Sting y Leonard Bernstein hasta Paulina Fuentes y Francisco Gabilondo Soler "Cri-Cri"), esta red de relaciones se extiende todavía más. A pesar del título, o quizás debido a él, la producción trata principalmente sobre el empoderamiento femenino (Mochán & Noriega, 2015; Mochán & Noriega, 2017). La presencia del clúster *Frágil* entre los colectivos sonoros de la ciudad de México llama particularmente la atención por su cuestionamiento a definiciones simplistas de género (musical y sexual), instrumentalidad, colectividad y corporeizacion de la música (Akrich, 1992; Rodgers, 2012; Tomlinson, 2015). Este álbum representa un parteaguas en la experimentación sonora vocal en lengua española que toma su fuerza principalmente de la tensión entre voz cantada y voz salmódica, entre *fonos* y *logos*, así como de la distorsión vocal por medio de un aparato periférico que vino a ocupar un lugar central en este foco creativo.

A pesar de que *Frágil* también podría caracterizarse como una banda musical, pues han realizado conciertos bajo ese nombre en diversos lugares del país (Mochán & Noriega, 2017), no parecen identificarse a sí mismas en esos términos. Por razones prácticas, en el prototipo del RDA su colaboración fue categorizada como un colectivo artístico, aunque la dinámica puesta en marcha entre la grabación y producción del álbum por un lado y sus presentaciones en vivo por el otro cuestiona la definición de colectivo o banda musical como tal. En última instancia, *Frágil* es un espectáculo, un concepto performativo cercano a la tradición del cabaret, de acuerdo a Noriega. Las habilidades técnicas requeridas para operar una loop station fueron indispensables para su conformación, y sus efectos a posteriori se sintieron mucho más allá de la red colaborativa inicial, pues su influencia alcanzó a una de las alumnas de Noriega, Victoria Cuacuas (de quien se hablará más adelante). Frente a los retos que este álbum presenta para la teoría de la acción colectiva tal y como la pensó Alberto Melucci (1996), recurriré a las nociones

de teoría actor-red (Latour, 2008) y de sociedad-red (Castells, 2005) para proponer el término "redes colaborativas", con el cual busco sugerir un tipo de colectividad que conceptualiza a las máquinas y otros seres no-humanos como agentes activos dentro de una "ecología de performance" (Butler, 2014, pág. 93) como la que vio nacer a *Frágil*. Desde esta perspectiva, cada jam o cada improvisación musical puede ser vista como un "colectivo efímero", lo que a su vez pone a prueba los límites de las nociones académicas de colectividad cuando se enfrentan a casos de la vida real. No obstante, es innegable que muchas otras bandas y colectivos que se almacenan en el RDA de PoéticaSonora sí se identifican como tales, por lo que ambas dimensiones (colectividad como adscripción o como red colaborativa) deben complementarse más que oponerse una a la otra en el esquema de datos del prototipo. Por esta razón, el campo "Grupo" aún existe para aglutinar a artistas en torno a un mismo proyecto al cual se adscriben explícita o implícitamente. A pesar de la importancia de esta noción de colectividad para el proyecto, la participación especifica de cada artista se editorializa en la lista de roles de cada grabación. De esta manera, la información en un campo complementa la que se pueda recabar de manera individual sobre cada participante de un jam, grupo musical o interdisciplinario.

El sample-looping es una técnica central en *Frágil*, y su uso constante significó un punto de inflexión en la carrera artística de cada participante. Como se puede inferir de las entrevistas, narraciones y anécdotas recopiladas durante el trabajo de campo, estas artistas aprendieron unas con otras a utilizar las loop stations, siendo Leika Mochán quien las introdujera a esta red colaborativa. Mientras componían las piezas que se volvieron parte de *Frágil*, García aprendió a usar los modelos Line 6 DL4 y TC Helicon VoiceLive Touch gracias a la continua retroalimentación de Noriega y particularmente de Mochán. Por esta razón es que tanto García como Noriega se refieren a Mochán como la "maestra" de los loops (Mochán & Noriega, 2015; García, 2016; Mochán & Noriega, 2017), e incluso como "la Mozart de los loops" (Arita & García, 2017), dos formas afectivas de describir su papel central en la circulación de estas técnicas.

Con el motivo de mostrar cómo una unidad de efectos relativamente periférica en la ecología de performance de músicos instrumentistas vino a modificar sustancialmente algunas prácticas creativas en la encrucijada entre música y la literatura, discutiré a continuación la centralidad del sample-looping en la composición y ejecución de "Tibio" y "Lunática", dos piezas incluidas en *Frágil*. La primera es una historia de Mochán sobre amores que terminan mal

a la que García añadió un poema de su autoría, mientras que la segunda es una de las obras más dinámicas y variadas de este conjunto. Ambas ilustran diferentes aspectos del proceso de composición a través del uso de loop stations, así como de las dinámicas de colaboración entre las artistas y dichas unidades de efecto.

"Tibio" observa la estructura convencional de una canción de jazz. La pieza abre con Noriega tocando el piano mientras ella y Mochán cantan un tema, un coro y algunas variaciones. Alrededor del minuto 2:10, sin embargo, se añade un "solo" adicional en el que "Diosaloca" lee un fragmento de su poema " Poebestia 2", el cual forma parte de su libro *El Red Bitch Project*, título que hace referencia a la película *The Blair Witch Project*:

Se llamaba Tibio
Tibio como sus acciones
Cáncer como su aliento
Mío como nadie
Mentira por su nombre […]
Nos mató el tráfico
Porque el amor muere en periférico
Nos mató el dinero
O más bien la inexistencia del mismo
Nos mató el secreto
Porque nadie podía saberlo (García, 2010, págs. 4-5).

Durante la canción, Noriega toca el piano mientras Mochán hace acompañamientos vocales y comentarios al poema de García. Por ejemplo, después de "Nos mató el dinero", Mochán recita el siguiente verso a medio cantar, como imitando los recitativos de una ópera. Es un ejemplo de cómo está compuesta la mayoría de las piezas de *Frágil*, de acuerdo a Noriega: "Empezar por una estructura de pensamiento muy jazzística y poco a poco irla también como rompiendo y quebrando y [tener] de pronto sus momentos de más *free*" (Mochán & Noriega, 2017). Es de notar que incluso los términos propuestos por Noriega para describir la libertad creativa dentro del proyecto se constriñan al género jazzístico, como en "free jazz". Noriega reconoce que no hubo una sola pieza en el álbum que fuera creada a partir de un poema u otra base textual, en lugar de una canción:

> En realidad, también hubo mucha adaptabilidad por parte de Edmeé [García], en el sentido de que no hubo una gestación de una rola [canción] a partir de un texto […]. Siempre era la onda de [que teníamos] esta rola, y entonces Edmeé decía: "Ah, a huevo, este texto mío está, pero puestísimo". Y en donde no existía, pues aparte se lo inventaba […], y ahí como que era muy impresionante su capacidad de responder al estímulo, el que sea que nosotros [*sic*] le

planteáramos (Mochán & Noriega, 2017).

Como Noriega explica, ella y Mochán solían proponer una composición original o arreglos para un *standard* musical, a lo cual García replicaba con un texto suyo con un tema similar. Dichos textos podían ser parte de su repertorio, como en el caso de "Tibio", o bien respuestas inmediatas a los estímulos musicales propuestos. García también llegó a proponer dinámicas relacionales que terminaron siendo parte importante de *Frágil*, tanto la versión en estudio como en vivo. Tal fue el caso en particular de "Lunática", una pieza compuesta íntegramente con el uso de sus voces y dos loop stations (modelo Line 6 DL4). Una vez más, la pieza comenzó con características típicas del jazz, acompañada de un "solo" donde García lee su texto, pero el momento sin acompañamiento musical o instrumental alguno que comienza en el minuto 4:11 fue el resultado de un ejercicio propuesto por "Diosaloca" que ofrecía una noción de libertad distinta a la de Noriega: la de decir lo que una necesita. Al respecto reflexiona Noriega: "Y luego hubieron estos espacios que fue como: 'Bueno y aquí yo digo que estaría chido que cada quién dispare lo que le dé la gana ¿no?' Como que ella [García] ponía una dirección y luego habiendo planteado la dirección, ora sí cada quién dispare lo que quiera" (Mochán & Noriega, 2017). Aquí Noriega usa el verbo "disparar" como sinónimo de decir algo, metáfora que ilustra la impredecibilidad de los resultados que este ejercicio tenía cuando se performaba en un escenario en vivo.

Conforme pasan los años, la importancia y el legado de este proyecto se han vuelto más evidentes. Artistas emergentes como Victoria Cuacuas se adentraron en el uso de loop stations luego de entrar con contacto con las autoras de *Frágil*, lo cual viene a cuestionar ciertos presupuestos sobre la colectividad y la participación creativa. En la siguiente sección hablaré de cómo están conceptualizadas la colectividad y la instrumentalidad en el RDA, para posteriormente dar un breve repaso a la escena colectiva en la ciudad de México con orientación a la música y el sonido, así como el lugar del clúster *Frágil* dentro de la misma. Concluiré conceptualizando teóricamente la instrumentalización de la voz suscitada por el uso de loop stations por las artistas vocales que fueron entrevistadas por el equipo de PoéticaSonora.

Caracterización de la colectividad y la instrumentalidad en PoéticaSonora

Dentro de mis reflexiones al proceso del prototipo del RDA, he afirmado que sólo investigaciones humanísticas basadas en trabajo de campo, tales como las de Tara Rodgers (2012) o Mark Butler (2014), son capaces de afrontar y tratar de resolver sesgos prevalentes en la

distribución internacional del conocimiento y el trabajo digital en los estudios literarios y las humanidades digitales (Meza, 2019) así como en las limitaciones que la conformidad a los formatos y la dependencia a estándares e infraestructuras existentes impone al desarrollo de proyectos digitales en países latinoamericanos (Meza, 2017). En esta sección mostraré cómo el trabajo de campo realizado con el clúster *Frágil* contribuyó a modelar el esquema de datos del RDA, particularmente en torno a la distinción entre artistas individuales y colectivos, entre voz declamada y voz cantada, así como en el uso de instrumentos sonoros. Al mismo tiempo, ofrece la posibilidad de mostrar cómo se puede beneficiar una investigación en proceso sobre literatura y sonido mediante la consulta del RDA, así como hablar del diagrama interno de flujo en el proceso de editorialización,[86] llevado a cabo en su mayoría por estudiantes de pregrado de la UNAM, el cual determina la manera en que estas grabaciones son inicialmente recibidas por los usuarios.

El enfoque a la colectividad tan presente en esta investigación, y en el RDA en general, se debe en gran medida a mi interés en el tema durante los últimos diez años, con énfasis en la región fronteriza Tijuana-San Diego. Quería mostrar cómo el RDA puede desplegar información esclarecedora que contribuyese a alterar el curso de un proyecto de investigación en proceso. Aunque soy consciente de la paradoja de una herramienta que modifica el estudio de caso que debía medir (y viceversa), el RDA bien puede conceptualizarse como un instrumento para evaluar empíricamente las redes colaborativas en torno a una grabación sonora.

Las nociones de colectividad y colaboración en contextos artísticos requieren métodos complejos y complementarios de análisis. Incluso si las y los artistas son parte de un grupo u organización, también pueden trabajar con otros colegas de manera casual e informal (por ejemplo, en el contexto de un jam o sesión musical de improvisación). También pueden aparecer de manera individual o colaborativa en proyectos personales, lecturas, slams y festivales; dichas actividades son independientes de sus afiliaciones con otros grupos. Si estos eventos son grabados y alguien los sube al RDA, el repositorio debe ser lo suficientemente flexible como para

[86] El trabajo de editorialización busca reducir lo que Bruno Bachimont llama la "fossé d'intelligibilité [brecha de inteligibilidad]" causada por la distancia temporal y epistémica (o "´plan de conmesurabilidad") entre el eje espacio-temporal del documento audiovisual y el actual (Bachimont, 2017; Treleani & Mussou, 2012; Treleani, 2014, págs. 92-93). A nivel organizacional, PoéticaSonora concede prioridad a este término sobre el de curaduría, que implica criterios selectivos estéticos u otro tipo dirigidos a restringir el número de obras escogidas (estrategia típica en la conformación de un canon). El objetivo en común de PoéticaSonora no es discriminar entre distintas obras, sino proveer la mayor cantidad de información contextual para cuantos archivos de audio sea posible.

identificar esos distintos grados de participación.

Considérese como ejemplo el caso de Ánuar Zúñiga, miembro de Los Kikín Fonsecas y el Gringo Castro (KFGC). Además de ser uno de los fundadores de este colectivo literario (analizado más adelante), creó su propio proyecto multimedia, Sector 7-G, en el que produjo sus propias piezas y también participó con otros poetas. Zúñiga también ha leído sus propios textos en lecturas de poesía y slams; algunas de esas grabaciones están disponibles en el RDA, de tal manera que una consulta sobre KFGC sólo mostrará las grabaciones en las que Zúñiga participó con este colectivo, mientras que una búsqueda con su nombre también mostraría sus lecturas en solitario y colaboraciones externas a KFGC. La lista de roles incluida en cada grabación, similar a la lista de créditos en el *booklet* de un álbum musical, describe con mayor detalle quién participó no sólo en cada aspecto creativo de la obra (composición, traducción, interpretación) sino también en el ciclo de vida del archivo digital (producción, grabación, transmisión, preservación).

Ilustrar cómo el RDA almacena, clasifica y despliega dichas redes colaborativas es uno de los objetivos de este capítulo, que discute cómo han evolucionado con el tiempo algunas categorías del esquema de datos del prototipo, como la interacción de varios participantes en la creación de una grabación (así como su grado de involucramiento en la misma), la presencia de instrumentos musicales u otros aparatos sonoros, y la distinción entre declamación y canto, o más bien entre usos salmódicos y melismáticos de la voz. Para lograrlo, me enfocaré en piezas incluidas en el RDA donde las loop stations sean fundamentales. Esto servirá a su vez de ejemplo para discutir cómo se almacenó y editorializó la información sobre estas grabaciones para su consulta y análisis en el RDA.

Colectivos y festivales sonoro-literarios en la ciudad de México, 2000-2020

Convendrá dar un vistazo a la escena literaria orientada al sonido en la ciudad de México para comprender mejor cómo un grupo de artistas vocales y músicas alteró la escena local de spoken word a principios de la década de 2010 con una obra interdisciplinaria a medio camino entre el cabaret, la lectura de poesía y el concierto musical. Esta sección comprende sólo un breve recuento de esta escena con el motivo de contextualizar la efervescencia cultural en medio de la cual se formó el clúster *Frágil*.

Debido a la importancia de las prácticas colectivas en la obra creativa de numerosas

artistas, la caracterización de agrupaciones con motivos artísticos ha sido una prioridad en el RDA. Los colectivos literarios han sido bastante comunes en la ciudad de México desde mediados de la década de 2000 y en la ciudad fronteriza de Tijuana desde los 1990s (Meza, 2012, págs. 24-25). Motín Poeta (2003-2010, un colectivo pionero de esta escena en la experimentación sonora, fue uno de los más enfocados en lo que luego se conocería en México y otros países como "poéticas expandidas o extendidas". Las co-fundadoras, Rocío Cerón y Carla Faesler, estaban interesadas en las intersecciones de la poesía con otros formatos, particularmente audio y video. Juntas lanzaron dos álbumes, *Urbe probeta* (2003) y *Personae* (2007), producidos por Luis Murillo "Bishop" (ambos disponibles en el RDA). Orientadas principalmente a la música electrónica experimental, fueron de las primeras producciones de este tipo en Latinoamérica enfocadas en colaboraciones sonoro-textuales entre músicos y escritores. [87] Entre los artistas compilados se encuentran Mónica Nepote, Myriam Moscona, Gerardo Deniz, Antonio Fernández Ros, Manuel Rocha, Wakal, entre otros. Luego de la disolución del colectivo, Faesler experimentó con la videopoesía mientras que Cerón siguió colaborando con "Bishop", al reeditar su libro de poesía *Imperio* con una traducción al inglés y una versión en audio. Estas grabaciones fueron recibidas ya fuera con beneplácito por algunos críticos (Rivera Garza, 2007; Moreno Villareal, 2004) o bien con escepticismo por otros (Herbert, 2009; Saldaña París, 2009). En un texto escrito diez años después del lanzamiento de *Urbe probeta*, el poeta y crítico Roberto Cruz Arzábal considera que la importancia de Motín Poeta "no está tanto en la instauración, como en la condensación de experiencias y formas de crear y hacer en el mundo mediante los sentidos. No creó una nueva forma de representar, sino que modificó las herramientas estéticas y sociales desde las cuáles asimos las representaciones" (2015, pág. 135).

Los festivales artísticos también contribuyeron al desarrollo de una escena literaria orientada al sonido en la ciudad. Un evento particularmente influyente ha sido Poesía en Voz Alta, cuyo nombre proviene de una serie de lecturas y puestas en escena organizadas por Juan José Arreola cuatro décadas antes en el mismo lugar, el centro cultural Casa del Lago de la UNAM. La nueva versión, que comenzó en 2005, ha traído a numerosos autores y músicos internacionales a la ciudad de México, como Ursula Rucker, Amina y Amiri Baraka, Charles Bernstein y Michel Houllebecq. Muchos artistas locales también han participado en el festival, y

[87] Un proyecto similar contemporáneo fue *Oscilación: Poesía+Electrónica* (2004), que reúne colaboraciones de DJs con escritores nacidos en Chile entre 1970 y 1980 (Meza, 2011, págs. 70-74).

ha probado ser un lugar clave para que los colectivos literario-sonoros encuentren su audiencia en la nutrida vida cultural de la capital mexicana.

El carácter multidisciplinario de Poesía en Voz Alta no se debe únicamente a su legado de los años sesenta, sino también al de la Bienal Internacional de Poesía Visual y Experimental. Organizada por Araceli Zúñiga y César Espinosa de 1985 a 2009, esta bienal no sólo reunió a artistas multidisciplinarios enfocados a los aspectos plástico y gráfico de la escritura, sino también a performers y artistas sonoros, entre ellos Rocío Cerón misma (Cerón, 2016). La importancia de esta bienal para la documentación del arte experimental en México no ha sido bien valorada sino hasta épocas recientes, cuando el Museo del Chopo se comprometió a digitalizar y preservar su patrimonio documental. De hecho, el responsable de esta iniciativa es nada más y nada menos que el actual director del Chopo, José Luis Paredes Pacho, quien fuera director de la Casa del Lago durante la instauración del nuevo Poesía en Voz Alta, hecho que muestra cómo la preservación del patrimonio sonoro en estos dos eventos ha sido continuamente promovida por artistas y centros culturales específicos.

Luego de Motín Poeta, Cerón comenzó a organizar Enclave, otro festival de poéticas expandidas en el que estableció una línea determinada de prácticas creativas experimentales:

> Cuando, en 2011, nos propusimos crear Enclave […], buscamos generar acercamientos reflexivos entre el espectador-lector y la poesía contemporánea. Para ello, nos propusimos crear un foro donde los creadores, especialistas y público pudieran explorar los distintos procesos creativos de autores que trabajan la transdisciplina a nivel internacional, observando puntos de movimiento, confluencia y choque: aquellos que fisuran las fronteras disciplinares (Cerón & De la Garza, 2015, pág. 8).

Incluso antes que el efecto de los festivales y bienales en el desarrollo de las poéticas expandidas en México fuera notado por críticos y académicos, el boom de colectivos de 2005 a 2010 contribuyó al creciente interés en el tópico por todo el país. Tijuana, por ejemplo, continuaba sintiendo los efectos de la llamada "era Nortec" (Sandoval, 2004, pág. 19), cuando los colectivos se volvieron una práctica cada vez más común en la escena artística de la ciudad, antes de uno de los puntos más álgidos de violencia por el narcotráfico en 2007. Por su parte, en Cuernavaca, al sur de la ciudad de México, colectivos como Poemantas por la Paz (2010) y Colectivo La Piedra (hoy Depresión Tropical) favorecían las lecturas de poesía en espacios públicos. En la capital, algunos grupos también tenían un interés manifiesto en la performatividad de la poesía, entre ellos Poesía y Trayecto (2010-actualmente), cuyos miembros empezaron

leyendo sus textos en el sistema de transporte público de la ciudad y que ahora dirigen una asociación civil y un centro cultural, Locatl, en el vecindario gentrificado de Santa María La Ribera. También estaban Los Palabracaidistas (2007-2009), que también leían en las calles y espacios públicos, y Las Poetas del Megáfono (2005-2010), un grupo de mujeres escritoras de México, España y El Salvador, cuya insignia, como su nombre lo indica, fue un megáfono que usaron para superar otros ruidos urbanos y que se volvió un icono representativo (Meza, 2012, págs. 92-94). Sin embargo, ninguno de estos colectivos fue tan lejos como Motín Poeta en cuanto a la exploración de la plasticidad de la voz, su auralidad y su musicalidad.[88]

Pese a todas sus exploraciones, estos colectivos aún estaban enfocados a la dimensión textual de la escritura creativa, inclusive Motín Poeta. Añadir sonido a las palabras sin realmente hacerlas interactuar perceptiblemente, o leer en las calles y lugares públicos, tan sólo eran tácticas pragmáticas para compartir su obra, a veces incluso imponerla a audiencias aleatorias y a veces indispuestas. Sería una generación distinta de colectivos la que emplazaría la dimensión aural en el escenario principal, más que como un recurso suplementario.

La década de 2010 presenció un resurgimiento en la exploración de las fronteras entre sonido y poesía. En una línea completamente distinta de la de Motín Poeta, los KFGC (2009-actualmente) son una banda artística que compone de manera colaborativa tanto los componentes textuales de sus performances como los aurales. Cada miembro contribuye al proceso creativo con textos de su autoría y participa en la medida de sus habilidades musicales en sus conciertos y performances (Hernández Incháustegui *et al.*, 2017). Al principio, Jorge Posada tocaba la guitarra bajo el apodo "Costa Sin Mar" (nombre también de su primer libro de poesía); luego vendrían el guitarrista Rodrigo Román y el bajista Gerardo Ocejo al proyecto. Ambos están más enfocados a tocar instrumentos y a la producción en escena que en la escritura, aunque también comparten sus textos y leen en el escenario cuando el performance en turno así lo requiere. Los KFGC han lanzado varios álbumes en su cuenta de SoundCloud, todos los cuales han sido editorializados y son parte del RDA.

[88] Para Ana María Ochoa Gautier (2014), la auralidad define las técnicas de escucha involucradas en el discernimiento de la plétora de sonidos que nos rodean y nos atraviesan, entre ellos la voz humana. Anthony Reed, por su parte, al enfocarse en la iterabilidad y el origen fragmentario de la música, la escritura y el canto, define la musicalidad como "the ensemble of qualities in the broad terrain of sound we call music that are not exhausted in any listening or analysis" (Reed, 2014, p. 171). Mientras que esto podría sonar como un refrito de las nociones Bloomianas de relectura y deslectura como base de la legitimación canónica, la definición de Reed está en sintonía con otras aproximaciones teóricas que consideran la repetición como el punto principal de convergencia entre la poesía y la música (Leñero, 2006).

Otro colectivo similar es Salvajes de Ciudad AKA (2010-2018), conformado por el músico Tenocht40 y los poetas Javier Moro y Carlos Ramírez "Cobra". Han producido dos álbumes, su primer EP homónimo (2012) y *La tierra prometida* (2015), ambos incluidos en el RDA. Sus tópicos son más decididamente políticos, y sus piezas retratan un México completamente distinto al de KFGC. AKA también han realizado muchas menos presentaciones en vivo que KFGC, lo cual explica parcialmente por qué tiene menos grabaciones. Sin embargo, las particularidades estilísticas y arreglos formales de estos colectivos comparten muchos rasgos similares: ambos están conformados por escritores y músicos que colaboran, componen e interpretan funciones específicas dentro de una pieza o proyecto multidisciplinario. Es raro, aunque no inaudito, que un miembro sea docto en la música y la escritura, pero las prácticas multidisciplinarias también son aún demasiado rígidas en lo que se refiere los roles que cada quien juega dentro de la matriz colectiva.

Aparte de una interacción intragrupal más dinámica, es difícil diferenciar a la generación de Motín Poeta de la de KFGC y AKA si comparamos sus productos (esto es, sus grabaciones) más allá de distinciones simplistas como "orientado a la música electrónica" u "orientado al rock". Tanto en Motín Poeta como en KFGC vemos una suerte de resistencia por parte de los escritores a cantar, así como una sumisión de músicos y escritores a la palabra (escrita) como *logos* y a la oralidad como el "otro" de la voz, es decir, hacia un uso de la voz humana orientado al significado (Dolar, 2007, págs. 55-56). Quizás las mayores diferencias entre ambas generaciones yazgan en sus genealogías. Motín Poeta, como se ha dicho, proviene de la escena de poesía experimental y performance desde los 1980s hasta los 1990s, mientras que los miembros de KFGC y AKA son más jóvenes y muestran menos familiaridad con prácticas creativas previas.

En una línea completamente distinta, sin explicitar una asociación colectiva de ningún tipo, la cantante argentina Hebe Rosell ha llegado a hacer escuela de su estilo de interpretación, en la cual se ubica el clúster *Frágil*. Proveniente de una familia de músicos (el cantautor Andrés Calamaro es su medio hermano), sus cursos y talleres de control vocal han influenciado grandemente a Noriega y García por separado, así como a posteriores generaciones. En 2018, Rosell organizó una serie de conferencias en Coyoacán, un barrio al sur de la ciudad de México, donde reunió a las y los artistas vocales mexicanos más representativos en la actualidad, en un evento que fue reseñado por Isabel Alcántara Carbajal, integrante de PoéticaSonora. Los participantes más jóvenes eran con frecuencia exalumnos de Rosell, quienes a su vez traían a sus

propios estudiantes a los seminarios, en un esfuerzo explícito por "crear una comunidad más consciente, abierta y receptiva" al arte vocal (Alcántara Carbajal, 2018). Es de notar que, pese a que Rosell no usa una *loop station*, Alcántara Carbajal reporta que fue "una de las herramientas técnicas más frecuentes entre los artistas que se presentaron", entre ellas las integrantes de *Frágil*, Sarmen Almond y Juan Pablo Villa, "cada uno empleándolo con intenciones y efectos muy diversos" (Alcántara Carbajal, 2018). Luego de tantas décadas de trabajo en México, Rosell y sus colegas (particularmente Noriega y Mochán) parecen más influyentes para nuevas generaciones de artistas vocales que Cerón, KFGC o AKA juntos, tal y como sugieren varias entrevistadas (García, 2016; Mochán & Noriega, 2017; Cuacuas, 2018; Rosell, 2019).

Cuando Noriega y después García unieron esfuerzos con Mochán, aprendieron de manera colectiva a utilizar las loop stations con motivos musicales y performativos. Los resultados de este aprendizaje configurativo son evidentes en el álbum *Frágil*, grabado en 2011 pero lanzado al público hasta 2015. Durante todos esos años presentaron el proyecto a lo largo y ancho de México, y algunos de esos shows fueron grabados y subidos a YouTube por espectadores y amigos del proyecto. Dichos shows muestran cómo, a pesar de que las piezas evolucionaron a lo largo del tiempo, este proceso no se refleja en la forma cristalizada de la grabación en estudio. Un ejemplo muy claro se encuentra en la dinámica establecida con la audiencia a través de la pieza "Lunática":

> Mochán: Un día Edmeé dijo: "Les propongo un ejercicio", y fue de: "Ah, está increíble", el de "Lo que yo necesito de ti" […]. Pero eso fue como terapia ahí, que ya en los conciertos se volvió muy divertido.
> Noriega: Por ejemplo, esta [pieza], así en el estudio, fue de dos vueltas [rondas] y ya. ¡Pero en el escenario era todo lo que necesites decir!
> Mochán: Y se ponía muy divertido, la verdad (Mochán & Noriega, 2017).

Mochán y Noriega explican que, durante sus performances en vivo, la dinámica "Lo que yo necesito de ti" en "Lunática" podía extenderse las vueltas o rondas que fuesen necesarias, de acuerdo a la interacción que tuvieran con el público. Cada participante usaría su turno en la ronda para completar la frase "Lo que yo necesito de ti es…" Este ejercicio muchas veces terminaba siendo catártico tanto para las intérpretes como para los espectadores. El número de ensayos previos de esta dinámica, así como la existencia de una versión grabada, casi "depurada" de la misma, les permitía prolongarla cuantas rondas fueran posibles (o soportables). Como Mochán reflexionaba, "Así andamos que necesitamos la libertad de decir qué es lo que necesitamos" (Mochán & Noriega, 2015). Toda la cuestión sobre las versiones en vivo y en estudio yace en la

frontera entre agencias humanas y mecánicas, pero también en el hecho de que, como he dicho, una grabación es siempre un débil trazo de lo que el performance en vivo llega a ser frente a una audiencia.

Poco antes del lanzamiento de *Frágil*, García se embarcó en un viaje de dos años por el mundo, para lo cual dejó su trabajo como locutora en Horizonte 100.9, la misma estación de jazz del Instituto Mexicano de la Radio donde Noriega aún tiene su programa *Mariposa*. De alguna manera, también fue su partida de *Frágil*, aunque todas continuarían usando loop stations para sus propios proyectos creativos y transmitirían este conocimiento a otras artistas. Mochán siguió perpetuando su reputación como maestra del sample-looping y la revista *Music: Life* le pidió hacer un tutorial sobre el TC Helicon Voicelive (Mochán, 2013). Noriega impartió algunos talleres y cursos para voz e instrumentos, uno de los cuales fue crucial para que Cuacuas entrara en contacto con las loop pedals (Cuacuas, 2018). Pese a la influencia de Rosell en la actual escena artística vocal en México, y a que muchos de sus alumnos usen loop stations (no sólo el clúster *Frágil* sino también Sarmen Almond y Juan Pablo Villa), Rosell nunca se aventuró a utilizarlas para sus performances vocales. Mientras que Noriega exploró la plasticidad de su voz durante su experiencia en *Frágil*, parece concebir a las loops stations como otra herramienta más dentro de su vasto repertorio. Ninguna de las dos ha restringido su obra creativa al arte vocal con loop stations, y con frecuencia participan en proyectos musicales con otros performers y músicos, en algunos de los cuales se utilizan estos aparatos.

Mochán, García y Cuacuas son las artistas en esta red extendida de colaboraciones que más visiblemente se han involucrado en la experimentación vocal mediante el uso de loop stations. Fue Mochán quien trajo su conocimiento y dominio a las otras (particularmente un modelo, el Line 6 DL4), mientras que García y Cuacuas representan dos herederas de su legado cuya obra está sólidamente basada en artes literarias y sonoras. El trabajo de García como productora audiovisual, principalmente en su sitio web diosaloca.mx, ha sido clave para divulgar información sobre numerosos artistas de *spoken word* de la ciudad de México, tales como "Josuelfo", "Gran Dao" y Cuacuas misma. García ha producido videoclips y entrevistas para cada uno de estos artistas, y también participó en la organización del primer Circuito Nacional Poetry Slam MX en 2017. En cuanto a Cuacuas, ya tenía una sólida formación musical cuando participó en su primer slam de poesía en 2015 y cuando conoció las loop stations en un curso sobre improvisación vocal impartido por Noriega. El trabajo de estas artistas, todas presentes en el

RDA, representa un caso extremo para poner a prueba la flexibilidad del esquema de datos para clasificar información sobre el tipo y grado de colectividad involucrados en la creación de una grabación sonora, el papel individual desempeñado por cada participante, así como su uso de instrumentos y otros aparatos generadores de sonidos. La conclusión a este capítulo consiste en una reflexión sobre la instrumentalidad de las loop stations, tomando en consideración cómo pasaron de ser un aparato periférico para músicos instrumentales (especialmente guitarra eléctrica) a ser un agente crucial en la evolución performativa de estas artistas vocales y sus redes colaborativas.

Conclusiones: loop stations y arte vocal en *Frágil*

He querido resumir algunas de las figuras clave del arte vocal en México—desde las contribuciones de Cerón hasta el legado de Rosell, desde los colectivos KFGC y AKA hasta el clúster *Frágil*—para ofrecer otras historias del sample-looping que sean distintas a las ofrecidas habitualmente por investigadores europeos y norteamericanos, en las cuales por lo general hay una ausencia significativa de artistas mujeres no blancas y no anglófonas (Fantinatto, 2014; Baumgärtel, 2015). Esta ausencia comenzó a verse fuertemente cuestionada a principios del nuevo milenio, cuando las loop stations digitales se volvieron más baratas y más populares. A principios de la década de 2000 notamos un creciente número de artistas vocales que utilizan este aparato para sus performances, como Dirk Huelstrunk en Alemania o Sarmen Almond y Juan Pablo Villa en México. Como se ha indicado anteriormente en este capítulo, el empleo de sample-looping para la experimentación vocal es parcialmente producto de la conjunción de una serie innovaciones tecnológicas en torno a esta técnica que facilitaron su empleo para la voz humana, así como a su estabilización y estandarización fomentadas por el impulso a la comercialización que las unidades de efecto promovieron en el mercado de los aparatos musicales. Para concluir quiero conceptualizar teóricamente al sample-looping desde una perspectiva distanciada de los sesgos texto-céntricos tan comunes en torno a la literatura en voz alta, que a la par nos permita dilucidar cómo las artistas del clúster *Frágil* las emplearon para sus propios motivos.

Aunque las loop stations no son instrumentos *per se* sino unidades periféricas para modificar o controlar ciertas características sonoras, como el timbre o el ritmo, estas artistas las utilizan como si fueran instrumentos y como tales se les clasifica en el RDA. Ellas delegan no sólo algunas funciones de un performance en vivo al aparato, como se ha identificado con

guitarristas que usan el modelo Line 6 DL4 (Morris, 2008, pág. 80), sino también las posibilidades rítmicas y texturales de su propia voz sin tener que depender de una banda musical para "tocar". Peter Doyle explica que el uso de efectos como el eco y la reverberación (estrechamente relacionados con la técnica del sample-looping) cambió dramáticamente la dimensión aural de las guitarras eléctricas:

> As it had with the steel guitar in the thirties, electrification of the instrument represented a distancing of the sound from the body. In a sense it also indicated an abstracting of subjectivity from the body, as though the instrument itself had adopted a persona [...]. But something slightly different occurs with the singer/guitarists [in the fifties]; some aspect of the singer's "consciousness" is projected into the instrument. The instrument is not primarily the voice of that which is other to the singer, but rather is a kind of ventriloquist's dummy (Doyle, 2005, pág. 72).

Mladen Dolar concibe esta ventriloquía (que desde la teoría actor-red puede interpretarse como la agencia misma del instrumento) en términos completamente distintos, basándose en la historia relatada por Edgar Allan Poe, famosamente citada por Walter Benjamin, sobre un autómata de ajedrez que, concluye Poe, no podía sino ser operado por un enano desde su interior. "El muñeco parece estar controlado por el enano jorobado, pero en un segundo momento está dotado de intencionalidad propia, parecería ser él quien conduce a su señor, quien recurre a sus servicios para su propio provecho" (Dolar, 2007, pág. 16).

Esta "conciencia ventrílocua" es todavía más notoria cuando las loop stations son utilizadas por artistas vocales cuyo instrumento es su propia voz, como todas las integrantes de *Frágil* han dicho alguna vez (Mochán, 2014; García, 2016; Mochán & Noriega, 2017). A continuación, se describirán algunos ejemplos de cómo estas artistas "ventriloquizan" sus voces con distintos motivos: puede ser para explorar su plasticidad y musicalidad; puede ser para componer, grabar o ejecutar piezas sonoras, e incluso para experimentar con nuevas texturas o para componer estructuras claramente identificables como musicales, particularmente aquellas ligadas a las múltiples manifestaciones de la repetición. Busco comprender cómo una aproximación sonora a la literatura modifica nuestro conocimiento sobre ciertas autoras y sus obras.

Varias generaciones de instrumentistas y cantantes han hallado manera y razón de operar dentro de las limitaciones de la técnica del sample-looping. En *The Language of New Media*, Lev Manovic considera que el uso de loops en las historias tempranas del cine clásico y digital

muestran cómo una técnica es recurrentemente utilizada frente a las limitaciones tecnológicas de su época (2002, pág. 265). Sin embargo, como varios de sus críticos notaron (entre ellos Mark Hansen y Alexander Galloway), el excesivo enfoque de Manovic en el cine obnubila la contribución de expresiones como la música y arte sonoro a las genealogías del loop (Galloway, 2011, pág. 380). Los pedales de expresión y las estaciones digitales permiten a los artistas vocales jugar con su voz y "tocarla" como si fuera un instrumento musical, y sin embargo García es consciente de cómo el overdubbing (en el que capas sucesivas de sonido se añaden a una base original) "te limita al concepto de loop. Es decir, primero, qué tanto puedas grabar en esta cosa en cuanto a duración; después, si esto que ya grabaste lo puedes salvar o no, o el crear un nuevo loop hace que lo demás ya no exista, o sea si lo puedes poner en diferentes canales, o sea, qué posibilidades hay o no con respecto a eso; y luego el elemento de efectos" (García, 2016).

El artista sonoro alemán, Dirk Huelstrunk, quien participó en la edición 2015 del festival Enclave, considera que estas limitaciones pueden superarse a través de la técnica misma:

> Of course the loops are a limitation. But artistic work usually profits from self-imposed rules and limitations. To cross a border, you have to see or feel it. But the loop also creates familiarity, a feeling of "security." It may sound paradoxical, but the limitation of the loop gives me freedom to improvise. The loops create "space." You record something, repeat it, lay back and "think" or just wait until a new idea comes up. Otherwise there would be silence (Huelstrunk, 2014).

Dentro de esta serie de polaridades (voz y guitarra, recitación y declamación, variación y repetición), las artistas vocales utilizan las "prescripciones delegadas técnicamente" (Akrich, 1992, pág. 211) de las loop stations con motivos creativos más que de entrenamiento, con lo cual modifican las funciones predeterminadas de dichos aparatos. Estas prescripciones delegadas les permiten ensamblar un performance sin la necesidad de depender ni de un grupo de músicos ni del manual de usuario del aparato, excepto para las funciones que voluntariamente se les asignen a otros colaboradores durante su performance (Morris, 2008). Al compartir entre ellas sus conocimientos sobre las loop stations, disminuyen las prescripciones del manual de usuario y desplazan las funciones inscritas del aparato hacia una "de-scripción" de ellas (Akrich, 1992, págs. 208-209), en el que las usuarias avanzadas ayudan a las principiantes a explorar las posibilidades del aparato, en lugar de recurrir a los manuales de usuario o a los fabricadores y distribuidores.

Dado que estas artistas participan en una red colaborativa, algunas formas de

conocimiento se comparten a través de la interacción con otras artistas (ya sea en el contexto de crear una obra nueva o de tomar clases y talleres) mientras que otras se aprenden a través de momentos de reclusión e involucramiento intenso con las posibilidades técnicas de la loop station. (Puede ser que ambas formas no se excluyan unas a otras, y que el aprendizaje implica en el mismo grado interacción con otras personas y práctica en solitario.) Debido a esta circulación por conocimiento empírico y de boca en boca, algunos modelos y marcas han sido más recurrentes que otros. En este capítulo se citó al Line 6 DL4, el TC Helicon VoiceLive y el TC Helicon Ditto, aunque otros también fueron mencionados por las entrevistadas, lo que demuestra que las ecologías de performance dependen en gran medida de la flexibilidad que ofrecen para nuevos usuarios, así como de sus posibilidades percibidas para jugar con la voz.

En el presente capítulo hablé de la importancia de los loops para la conceptualización del Repositorio Digital en Audio, al hacer un estudio de caso en torno a piezas incluidas en el prototipo que prepara el equipo de PoéticaSonora. Luego de definir brevemente la técnica del sample-looping, me concentré en el caso de la red colaborativa que denomino "el clúster *Frágil*" para dar un ejemplo de cómo las loop stations instrumentalizan la voz humana, cómo el RDA conceptualiza las dimensiones adscriptiva y pragmática de la colectividad creativa, y cómo el trabajo de campo realizado por participantes de PoéticaSonora contribuyó a modificar elementos en el esquema de datos del repositorio. Ofrecí un breve repaso por la escena de colectivos sonoro-literarios en México y expuse los motivos por los cuales el clúster *Frágil* vino a ser un parteaguas en la experimentación vocal en lengua española, y cómo su inclusión en el RDA contribuyó a la modificación de investigaciones en curso sobre la noción de colectividad en la literatura mexicana actual. Este texto es sólo un fragmento de reflexiones más grandes en torno la importancia de la especulación y la creación de prototipos digitales para las ciencias humanas y sociales, que sin duda se verá enriquecida cuando se implemente la versión definitiva del RDA.