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Discos Fuentes and its 90 years of Latin American discography: Storage and Preservation of its Heritage Archive

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ABSTRACT

In its 90 years as a leading record company in Latin America, Discos Fuentes, located in Medellín, Colombia, has amassed an extensive catalog of recordings, becoming one of the longest-standing catalogs in the global music industry. This undoubtedly contributes significantly to the sonic and cultural heritage of nations. These recordings have been produced in multiple formats, ranging from 78 rpm records to playlists on current music streaming platforms. One of the significant challenges faced by the company over the years has been the storage, preservation, and conservation of the physical media containing all this musical material before its conversion to digital formats. This paper presents a case study exploring how the company has addressed the various stages of this conversion and storage, employing both conventional and sophisticated tools, thereby ensuring the preservation of a substantial part of this heritage.

1 Introduction

Attempting to configure a reasoned catalog concerning the quantity of files generated in 90 years of discographic history is a highly complex task. However, addressing this analysis is what will eventually provide us with the opportunity to comprehend a catalog that, up to this point, has primarily served a commercial purpose, mainly for authorial identification and the subsequent payment of royalties. As Parra and Sans [1] point out, 'the problem becomes even more complex if we assume that the material recorded in the inventory is of a sonic nature.' Given their multiplicity, we would need to delve into these matters in areas beyond audio engineering.

The sound archive itself poses a challenge when it comes to classification, as it is necessary to delve into all the characteristics it had at the time of its creation and that compose its historical structure. This goes beyond whether it has a heritage nature or not, undoubtedly complicating the archive's scene itself.

Aspiring to organize a collection that spans almost all historical transformations of sound reproduction formats from the 1930s to the present day seems, at first, utopian. However, the record company, recognizing the heritage significance of its catalog as one of the major impacting factors in the field, yielding considerable commercial benefits, has directed its interest towards the preservation of its sound archives. This is independent of the technical methods of conversion and refinement that the company has undergone over the years with each technological shift. This challenge has been addressed academically by researchers from public institutions and universities, as well as by collectors and music enthusiasts who preserve a significant portion of the company's physical catalog in their private collections, particularly from the first 10 to 15 years before its establishment in the city of Medellín. Since its foundation or creation in 1934 in the city of Cartagena de Indias, and its subsequent relocation to the city of Medellín two decades later [2], this company has produced and marketed nearly every

existing physical and digital audio format. It has ventured through 78, 45, and 33 rpm records; analog open reel magnetophonic tapes in monophonic, stereophonic, and multitrack formats; cassettes and cartridges; multichannel digital tapes for sound capture in recording studios, such as DASH (Digital Audio Stationary Head) format and modular DA-88 tapes, as well as DAT for mix transfers. The company has also introduced formats like minidisks and laserdisks; compact discs, CD-ROMs, MP3s, USBs, karaoke, and DVDs. It has embraced the intangible realm of contemporary streaming in both stereo and Dolby Atmos.

Each and every technological moment became a business challenge for this company, carrying financial and commercial implications. Not to mention the aesthetic and artistic demands that accompanied the quality of each new format—a true reason for celebrating its 90 years of existence.

The transition from 78 rpm records to microgroove was the first significant challenge, as the company had to continue producing both formats. Similarly, the convergence of monophonic and stereophonic formats compelled simultaneous production and marketing, with all the industrial consequences that ensued. This pattern persisted throughout the company's history with physical media, as illustrated in Figure 1.

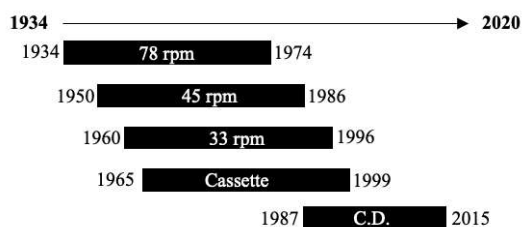


Figure 1. Timeline of audio recording formats in Discos Fuentes.

As depicted in Figure 1, the 78-rpm format coexisted with other analog formats for several years until its discontinuation by the company in 1974 [2]. It is also evident that from the mid-1960s to the mid-1980s, three different commercial formats converged, requiring significant efforts and investments from the company for over 20 years. This period also witnessed changes in recording and production systems, entailing additional substantial investments. Furthermore, the company sustained cassette and long-playing formats for at least a decade alongside the rise of the compact disc until the entry of the 21st century. Finally, it is noteworthy that the compact

disc format ceased to be commercialized from the year 2015, making way for downloading and streaming as the predominant means of reproduction and distribution.

All these formats and physical supports leave behind a trail of files and accompanying material containing information that contextualizes each phonogram produced by the company, regardless of the format. Hence, it is essential to focus not only on the support for recorded audio but also on all documents related to their creation. These include master tapes with their respective covers and boxes, holding crucial information about the production processes; recording session spreadsheets; payment receipts stored in the accounting department; commercialized record covers; and documents such as authorship or performance contracts. These documents not only provide the necessary information for settling or paying these rights but also offer context about those involved in each stage of phonogram creation. This approach provides a better perspective when studying the company's recordings, especially considering that this catalog currently holds connotations of heritage. This necessitates a more in-depth analysis of contexts for its proper valuation.

In terms of archival science and Foucauldian archaeology [1], it is essential to comprehend all these contexts to determine the value of conservation and the significance it holds for the sonic heritage of the city and the country within this archive.

Finally, before delving into the technical aspects of the article, it is worth mentioning the current importance of archiving, preserving, transferring, and purging heritage files in different parts of the world, as stated by Francis Rumsey in relation to the Spring 2021 Audio Conference on audio archives, where he mentions: 'Despite the work undertaken to date, there is still a very large amount of undigitized material in archives of various qualities, some of which is at a critical state. Relatively narrow windows of opportunity exist to save this valuable cultural heritage' [3], something we fully agree with and that applies to the case of the Discos Fuentes archive.

2 Methodology

At the AES 2023 International Archiving & Preservation Conference, several works were presented that can provide an account and reference to this work and the methodology presented here. Among them, we find the panel of Professors Jessica Thompson, Jason Bitner, and Kabir Hermon, who presented a study on the issues related to the preservation of this type of archives, emphasizing the low budgets available for this purpose. Additionally,

an interesting talk on the chemistry of tapes was presented by Scott Dorsey, who gave a historiographic account on this important topic. Regarding archives and their collection, Manuel Corn presented an important topic on the organization and workflow of metadata in archives. Finally, an interesting work was presented that aligns with some of the issues faced by the company Discos Fuentes, concerning the maintenance and operation of DASH machines and their multitrack tapes, where a study conducted by YLE, Finnish Broadcasting Company, can be appreciated.

To comprehend the catalog of Discos Fuentes, it is essential to delve into the diverse formats integral to the technical and industrial processes of commercialization. This study employs a multifaceted methodology incorporating archival research, audio preservation techniques, and technological analysis.

By amalgamating these methodologies, this research aims to provide a comprehensive understanding of the catalog's evolution, the challenges faced during different technological eras, and the strategies employed for preservation and continued accessibility.

Comp.	Brand	Ref.	Base Material	Year
3M	Scotch	111	Acetate	60
3M	Scotch	202	Polyester	60-70
Ampex	n/a	406	Polyester Backcoated	70
Ampex	n/a	456	Polyester Backcoated	80

Table 1. Master magnetic tapes used by Discos Fuentes.

In Table 1 [4], the primary analog open-reel master tapes utilized for mixdown before the cutting process on the lathe are detailed. The current state of these tapes, after nearly five decades, is notably precarious. Regrettably, some of these tapes were discarded by the company after digitization due to their deteriorating condition.

For the recovery and transfer process, the company acquired a conventional oven capable of delicately heating the tapes for one last playback session before digitization. This strategic approach aimed to maximize the utility of the tapes while minimizing the risk of irreparable damage during the transfer to digital format. Notably, a significant portion of these tapes, predominantly from the late 1960s to the 1980s, is currently housed in a higher education

institution in the city of Medellín. The company made this arrangement due to spatial constraints within its own facilities.

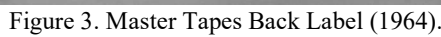
Figure 2 provides a visual representation of the storage condition of the tapes at the end of 2018, just before their handover to the custody of ITM (Instituto Tecnológico Metropolitano) in Medellín. The transfer of custody to an external institution reflects the collaborative efforts undertaken to ensure the preservation of these historical artifacts in a suitable environment, given the logistical challenges faced by the company.



Figure 2. Tape storage warehouse in Discos Fuentes (2018).

The initial audio conversions and refinements undertaken by the company were driven by the necessity to reorganize specific recordings, adapting to the evolving landscape of archival management technologies. This need for adaptation is evident in the labels affixed to the rear of tape boxes containing master recordings from the 1960s to the 1990s. The numerical information on these labels signifies a shift in the company's cataloging systems, or at least a reorganization and relocation of the archive. Interestingly, the sequential order of albums within

One of the most intricate challenges currently faced by Discos Fuentes pertains to the retrieval of its musical archives predating the record label's arrival in Medellín in 1954. The complexity is heightened by the tax regularization mandated by the national government in 1960 [4]. This decree compelled companies to reorganize their operations to fulfill tax obligations. The records from this early period pose a formidable recovery task, requiring extensive efforts



Given the complexity of its electromechanical system, the fragility of existing formats, as well as the inconsistencies associated with digital recording and playback on tapes, Discos Fuentes faced the necessity

to piece together the musical history before the label's relocation and the subsequent tax regulations.

The majority of pre-1954 recordings, primarily comprising 78 rpm records, are scattered among collectors and music enthusiasts worldwide. While the company has managed to preserve and digitize many of them for online platforms, a substantial number of recordings remain either lost or in the possession of individuals. This situation transforms the archives of Discos Fuentes, and indeed, most record labels in Medellín, into what can be termed an "inaccessible" archive [5]. The complexities surrounding the reconstruction of this archive make it challenging to attain a comprehensive collection.

Presently, Discos Fuentes is actively reclaiming a significant portion of its sonic heritage by adapting its communication strategies to engage with a broader audience. While maintaining its traditional business avenues, such as collecting authorial and performance royalties, negotiating its catalog with other companies, and synchronizing music in various audiovisual formats, the company has embraced a communicative approach through social media. This strategy has not only bolstered its connection with the younger demographic but has also positioned the company as a compelling nexus between musical traditions and contemporary tastes.

Following the recent transfers, the analog master tapes have found a temporary sanctuary, awaiting state resources to facilitate facility upgrades and rigorous preservation measures. This initiative extends beyond safeguarding the analog tapes, encompassing other archives held by the company, such as DVDs, DATs, 24-track digital tapes (Sony D-1/2-2920), and a significant vinyl collection. This comprehensive preservation effort is depicted in Figure 4, showcasing the commitment to conserving these diverse musical artifacts once the necessary arrangements are in place.



Figure 4: Discos Fuentes Sound Archives Warehouse

3 Results

As a culmination of the archival and conservation efforts undertaken by the label over the years, it's noteworthy that the majority of the company's catalog is now digitized and poised for distribution across contemporary streaming platforms. This transformative process has successfully resurrected many recordings from the initial decades following its inception, akin to discovering a "lost treasure." This retrieval is coupled with ongoing documentary research, and one might even say, an archaeological endeavor, enriching the understanding of the label's sonic heritage.

This digital cataloging rests on the company's archives and servers and is constituted by a series of metadata incorporated into the information of each of the digital files to be distributed. This includes data such as: the type of catalog (physical or digital), the format, the reference number, the programming date, the album title, album subtitle, genre, disc, side, track, ISRC number, name of the work, performer of the work, vocalist (in the case of songs), author, and finally the rhythm or musical style.

Other catalogs assimilated by the company over time share a similar fate. Take, for instance, the case of Discos Tropical in 1990, a record label founded in 1945 in Barranquilla, in the Colombian Caribbean. This catalog, predominantly featuring tropical music, underwent a parallel digitization journey. Similarly, the catalog of Discos Curro from Cartagena de Indias posed an intriguing challenge. When the company, as an interesting anecdote, sold its assets to Discos Fuentes, it provided only a contract authorizing license use, devoid of any physical sound support. This absence has posed substantial challenges in identifying the phonograms. The touchstone for discovering such supports is verifying whether they bear the "Curro" label, signifying their association with Discos Fuentes.

The custodianship of over 800 tapes by the ITM (Metropolitan Technological Institute) in Medellín stands as a beacon of hope for the proper preservation of these historical artifacts. Although currently in good condition, these tapes eagerly await the allocation of resources to ensure their meticulous arrangement and conservation, securing a crucial chapter in the sonic legacy.

Unveiling a hidden trove of treasures, a collection of 78 rpm records surfaced within another donated assortment of vinyl. This collection, currently housed in the same institution safeguarding the tapes, awaits its transition into the company's digital repositories. Boasting a staggering compilation of over 14,000 records spanning 33 and 78 rpm, this international

phonothea mirrors the audial evolution captured by Discos Fuentes from the 1960s to the 1990s. Nestled within the public library system of ITM, this collection welcomes all enthusiasts and researchers to explore its melodious history.



Figure 5: Discos Fuentes Sound Archive in the ITM Library System

One of the pivotal outcomes of this endeavor lies in the research prospects stemming from the preservation of these archives. Specifically, the spotlight shines on the multitrack tapes recorded during the late 20th century and early 2000s, predominantly featuring tropical music. This reservoir holds immense value for constructing datasets of instruments, paving the way for their application in artificial intelligence tools and machines. The potential for delving into the intricacies of these recordings offers a unique avenue for AI-driven musical exploration and analysis.

Some of these research works derived from the efforts carried out over the past few years are precisely related to the patrimonial recovery of musical genres that have allowed their revival. This includes the identification of recordings of tropical music genres and the particular sound that emerged between the 1960s and 1970s and the influence that North American sound had on them, especially through the design of audio equipment, as highlighted in the

doctoral thesis *Musical Production in Colombia in the 1960s and 1970s: Recording Forms and Aesthetic Sound of Colombian Tropical Music* (2023), which conducts a meticulous work of aesthetic and technical referencing of Colombian tropical music during the years in question. Another outcome presented in recent years is related to the search for information concerning various artists, which has allowed the contextualization of their productions in the international realm. This includes the intertextualities present in tropical songs from the 1970s and 1980s in salsa and tropical genres, which have provided references for these sounds. These results were presented at the latest congress of the Spanish Society of Musicology at the University of Oviedo in Spain by musicologist Marco Juan de Dios, as well as the work of researcher Luis Pérez Valero on the music of Venezuelan singer-songwriter Pastor López. Lastly, the article published by the Music Library Association in the December 2022 issue of *Notes* discusses the complexity of the company's archive, highlighting its relation to the issues associated with the archival theories of French philosopher Michel Foucault.

A recent triumph for the company is the government's acknowledgment by incorporating it into the promotional package of "Marca País Colombia" (Colombia Country Brand). This strategic move not only solidifies the discography's position but also imparts added significance to its catalog, marking it as the most distinguished record company in the nation's history. This recognition not only underscores the cultural and historical significance of Discos Fuentes but also elevates its status within the broader narrative of Colombia's identity and heritage.

4 Conclusions

The storage and preservation of Discos Fuentes' sound archives reflect the challenges posed by diverse physical formats across technological eras. Managing and organizing this archive as a reasoned catalog proves to be a challenge, demanding additional efforts not only from the company but also from entities with a vested interest in heritage preservation. This collaborative approach is crucial for resolving and safeguarding this catalog, a cornerstone of Colombia's sonic heritage and beyond.

Conserving the current physical formats in their original state will enable future generations of researchers to directly access this valuable information, becoming a rich source for academia and forthcoming investigations in fields related to file conversion, manipulation, processing, and preservation.

The current capabilities of utilizing this archive as a robust data source for manipulation through advanced computational tools open new horizons. Not only will mainstream musical genres benefit from processing by intelligent systems, but the predominant tropical genres in this catalog will also take the spotlight in these advanced applications.

In summary, the preservation of sound archives, such as Discos Fuentes', presents significant challenges but also exciting opportunities for cultural heritage conservation, academic research, and the application of advanced technologies in analyzing these highly valuable musical resources.

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