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**Technological and Artistic Challenges in the Re-Performance of Music Theatre Work  
*FE...DE...RI...CO...* (1987) by Constança Capdeville: from the Archive to the Stage**

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**TECHNOLOGICAL AND ARTISTIC  
CHALLENGES IN THE RE-  
PERFORMANCE OF MUSIC  
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FE...DE...RI...CO... (1987) BY  
CONSTANÇA CAPDEVILLE:  
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**Abstract:** In this article a group of authors will discuss the documentation process carried out by Filipa Magalhães during her PhD research, who gathered all possible materials concerning the music theatre work *FE...DE...RI...CO... (1987)* by Constança Capdeville. She created a more

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complete script (based on the information left by Capdeville, such as scores, texts, drawings, sketches with stage indications, scripts containing the main lines, and scripts for sound and light) aiming to document the several layers of information in order to systematize the work for archival purposes. The music theatre as a performative genre is a synthesis of multimedia artform that involves technological resources (for example the magnetic tape medium), which are aimed to be preserved, exploited, and valorized in order to make re-performance feasible. We will focus on the understanding of the difficulties and challenges found to bring this performance back from the archive to the stage.

**Keywords:** Constança Capdeville, music theatre, preservation, documentation, analog recordings, re-performance, audio signal processing.

*FE...DE...RI...CO...* (1987) is a music theatre work created by the composer Constança Capdeville,<sup>2</sup> based on the poetic, plastic and musical work of Federico Garcia Lorca, composed for the commemoration of the 50<sup>th</sup> anniversary of the death of the Spanish writer. This performance was part of a series of events that integrated the cycle “Encontro com Lorca” [Meeting Lorca], premiered in Lisbon at the Calouste Gulbenkian Foundation (FCG) in the multi-purpose hall of the Modern Art Centre (CAM) under the responsibility of ACARTE, the Gulbenkian Foundation’s Department of Artistic Creation and Art Education, on 10 March 1987, and performed by the ColecViva.<sup>3</sup> *FE...DE...RI...CO...* is divided into fifteen sequences: *Este é o prólogo*; *Canção dos ceifeiros*; *A voz do poeta*; *Duplo embalo*; *Silêncio*; *Mutação*; *Canção*; *Palimpsesto I*; *Duas histórias com sombras*; *Palimpsesto II*; *O passeio de Buster Keaton*; *Estampa e canção*; *Palimpsesto III*; *Introdução e embalo do espelho adormecido*; and *Eu sei que o meu perfil será tran-*

2 Constança Capdeville (1937–1992) was a composer, pianist, percussionist and teacher, considered the greatest figure of the performative genre music theatre in Portugal. For more information about the music theatre of Capdeville see articles by Filipa Magalhães (2022; 2022a; 2022b) and Magalhães and Pires (2019).

3 It was a group created by Constança Capdeville in 1985 for the purpose of performing her own music theatre pieces. The group consisted of the founding members: Luís Madureira (voice), João Natividade (dance, movement, mime), Olga Prats (piano), Alejandro Erlich-Oliva (double bass), António Sousa Dias (direction assistant, percussion, sound synthesis), Constança Capdeville (direction, percussion and piano). Occasionally, some of the performances they produced included guests, such as the Portuguese actress Eunice Muñoz (Magalhães and Pires 2019, 102) or Paula Pires de Matos (sound and slides assistant) and Paulo Graça (lighting), both responsible for technical issues.

*quilo*.<sup>4</sup> For this work, Capdeville used excerpts or entire parts of scores, drawings, texts from theatre plays and poems from the book entitled *Obras completas* [Complete Works] by Federico Garcia Lorca. However, Capdeville composed original songs as the “Canção dos Ceifeiros” [“Song of the Reapers”], she used complete pieces from other composers such as the song *Nana* from Manuel de Falla, *Caixinha de Música* by composer António Sousa Dias, and a self-citation by her own piece called *Caixinha de Música*; she also made musical arrangements of works from composers such as Erik Satie and Scott Joplin. As stated by Filipa Magalhães and Isabel Pires, Capdeville’s recourse to the quotation of musical and other sources as a compositional element runs transversally through all her music-theatre works, and one may even assert that the act of quotation is sometimes the performance itself and it is:

[c]ommonly observed within Capdeville’s documentation is the current practice of reusing materials from different sources, such as excerpts of music by other composers, texts by poets or writers or even drawings by famous painters, coupled with her ability to endow them with new garments and to assign them new meanings, constituting a latent feature of her aesthetics (2019, 96).

In the programme note of *FE...DE...RI...CO...* that exists in the Gulbenkian Archives from FCG, Capdeville wrote that elements such as the water, the mirror and the trading floor are used in this performance because these are the symbols that, according to the composer, not only marked the sensibility of Lorca, but also expressed the poet’s complex and mysterious inner universe.<sup>5</sup> The composer describes how she used these symbols: the sound of water, pre-recorded on magnetic tape, starts and ends the performance; the mirror, according to her, reflects the world of images exposed by Salvador Dalí’s paintings; and so forth.<sup>6</sup>

The music theatre work *FE...DE...RI...CO...* was recently re-performed (on 4 and 5 November 2022) in Teatro Aberto in Lisbon, Portugal. This production was organized within the scope of Festival Criasons IV and had the support of Musicamera Produções.<sup>7</sup> The scenic recreation was undertaken by researcher Filipa Magalhães (from her PhD thesis) and producer Élio Correia, and with the collaboration of composer Carlos Alberto Augusto (artistic and music consultant), conductor Brian MacKay (artistic direction), composer António de Sousa Dias (artistic and music consultant), Luís Pacheco Cunha (musicamera producer

4 Information collected from the programme note of *FE...DE...RI...CO...*’s premiere in 1987 (S.A. 1987).

5 Source: programme note of *FE...DE...RI...CO...*’s premiere in 1987 (S.A. 1987).

6 Ibid.

7 For more information, see: <https://musicamera.pt/festival-criasons-iv/> (accessed on 1 July 2023).

and director) and Mariana Silva Godinho (production, slides operator), in addition to Anabela Gaspar (lighting designer), Henrique Lobo de Carvalho (sound operator), and André Roma (image). This recreation had the participation of the performers: Ângelo Cid Neto (dancer, movement), Inês Filipe (piano), Joana Manuel (actress), Mário Franco (double bass), Miguel Maduro-Dias (voice) and Taíssa Poliakova Cunha (piano, percussion), a new generation of performers who dared to recreate the first formation of the ColecViva group.<sup>8</sup>

For this re-performance we sought to be faithful to the original artistic object while looking for clues for the renewal of the music theatre genre, allowing its access to the new generations of performers and audiences. In this article we intend to discuss the main constraints faced in the recovery of the original work *FE...DE...RI...CO...* focusing on the technological and artistic challenges found during its re-performance and reflecting about aspects of its preservation that may be relevant for archival purposes.

### **Documentation process: tracking the sources of *FE...DE...RI...CO...***

With regard to the organization of the various materials, despite a preliminary inventory that has been carried out by the archivists of the National Library of Portugal (BNP), the documentation is still quite dispersed and needs to be systematized. This work requires an adequate documentation strategy concerning the description of the different documents, which are by nature heterogeneous, so one can understand interactions between them. Currently, Capdeville's collection is in the custody of the BNP, but some documents, which are part of the work, are in the custody of ColecViva's founding members, who took part in the original performance. In this sense, new knowledge was produced based on the testimonies of former ColecViva members, namely: Alejandro Erlich-Oliva, João Natividade, Luís Madureira, Olga Prats and António de Sousa Dias. These not only provided some of the material from their archives, but also information about aspects of the performance that were imperceptible from the documents, allowing the recreation of obscured elements of the work. The dispersion of materials, such as objects, props, scores or scripts, among others, occurs because *FE...DE...RI...CO...* resulted from a collaborative work between the various members of ColecViva, who occasionally worked individually with the composer, writing specific indications in their own scores. In Capdeville's collection at the BNP one can find several kinds of scripts, composer's notes, images, sketches, tape and video recording, as well as additional documentation (press reviews, programme notes, stage settings, sheets describing live and recorded

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8 Ibid.

sound effects, notes on scenery, musical instruments required, objects, description of events that occur on or off stage, behind the screen or around the piano, among others. Thus, for this work Capdeville deployed three levels of scripts: 1) short script, indicating every scene or the main lines, but not specifying the content. This script functioned as a guide to Capdeville, since she was also a performer in her own works (it contains the symbol “CC”); 2) scripts for lights and sound recording, which were reduced versions with only the main lines; and 3) individual scripts, created by the performers themselves, as they came from distinctive artistic backgrounds (Magalhães and Pires 2019, 103). According to António de Sousa Dias, who was also responsible for the magnetic tape editing, the need to create different scripts and other related documents was due to the fact that the performance embraced different artistic expressions in order to ease the communication between performers. However, a study of the work only from the scripts proves to be insufficient, even for those who were directly involved in the original performances and, if one intends to study the work, it is therefore important to adopt another strategy. Consequently, if from the existing documentation founding members find difficulties in understanding the articulation between the different layers that comprise the work, for musicologists this task is even more complex. However, the musicologist’s task is precisely to understand the collaborative processes leading to the recreation of the work, as an attempt to conduct archaeology of it.

### **Documenting the technological resources: video and tape recording**

The video recording of the performance<sup>9</sup> *FE...DE...RI...CO...* (1987) by Constança Capdeville, although its “footage was in poor condition, with low lighting levels and without any proper documentation of it yet achieved as some key aspects of the performance were missing” (Magalhães 2021: 16), helped in the documentation process. Nevertheless, documenting a performance only through the video may be insufficient as in this specific case, for a number of reasons. First, the camera focus is unidirectional, therefore it is not possible to follow all the events of the performance. Secondly, some parts are cut demanding a total reconstruction through the documents (scripts, pictures, additional information) or testimonies from the former performers. For example, the sequences #1 and #2 are not part of the video, which starts directly with sequence #3 – “A voz do Poeta”. For this reason, it was necessary to reconstruct the two previous sequences (#1 and #2): “Este é o Prólogo” and “Canção dos Ceifeiros”, especially the duration. Regarding the duration of both, we considered the de-

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9 Housed in the Gulbenkian Archives at FCG.

scriptions of the two performers involved in these sequences, namely the dancer João Natividade and the singer Luís Madureira. To recreate sequence #1, Natividade suggested that the time depended on the size of the room and the distance between the stage and the exit. During this scene, the dancer fled from two pursuers, crossing the audience, then running from the stage to the exit, slamming the door shut, and after a blackout and a short pause the next sequence began. Therefore, the time that the dancer took in taking this route would correspond to the duration of sequence #1. To recreate sequence #2, we counted on the testimony of singer Luís Madureira. He suggested that sequence #2 would have approximately the duration of the musical piece “Canção dos Ceifeiros”, composed specifically for Madureira by Capdeville.

*FE...DE...RI...CO...* (1987) by Constança Capdeville includes a tape recording as an element of the work, considered the electroacoustic part. According to Magalhães and Pires:

for musicological research, preserving the original magnetic tape recordings used for sound processing represents a priority just as essential as preserving the graphic schemes and notations. Additionally, the preservation of works such as *FE...DE...RI...CO...* requires a documentation database to incorporate both hierarchical and semantic knowledge (2019, 107).

Capdeville’s tape collection is currently in the custody of BNP. Most tapes are in poor condition as they have been stored at room temperature for about 20 years in the house of Janine Moura, a close friend of Capdeville. It was only in September 2012 that the collection was officially delivered to the BNP. In order to extract the sounds from the tape belonging to the work, it was necessary to digitize the medium. The BNP does not have adequate equipment to carry out the digitization process. So, for research purposes Filipa Magalhães liaised with the DMix studio – Digital Mix Música e Imagem, Lda – in a digitization project run by the music producer and sound designer Élvis Veiguinha. The setup used during the digitization process was the following: a professional magnetic tape recorder by Otari, model MX-55; an analogue to digital tube AD/DA conversion system, from Steinberg, model UR-824; a computer, equipped with a digital audio station (DAW Nuendo) for collecting, editing and processing the signal. These recorded sounds served mainly to highlight certain moments of the performance, and are described below (Magalhães and Pires 2019, 106):

S1: Sound of water with the purpose of reflecting the symbology of Lorca as mentioned above (sequence #4);

S2: Sound of the sentence “Ay amor...” – which is repeated five times at intervals of around 20 seconds interacting with slides projection, and the danc-

er simultaneously mimicking the figures that were being displayed in the slides projection (sequence #5, named “Silêncio”).

S3: Sound of the train (also appearing in sequence #11)

S4: Sound of the voice of the actress Lola Membrives (sequence #12)

S5: Sound of the “Electronic tuning fork” (as nominated in the script by the composer), there is a continuous sound of wind instruments and sparkling percussion sounds appearing occasionally (sequence #13)

S6: Sound of water, a repetition of S1 above (sequence #15)

During the digitization process, the magnetic tape concerning *FE...DE...RI...CO...*, presented some problems, as it had several splices that should have been replaced before proceeding with the digitization task. However, due to lack of resources, this was not possible. The person in charge of digitalization, Élvis Veiguiha, started by putting the tape in the machine and, as soon as the reproduction started, one of the seams broke. As the adhesive tape suitable for sticking magnetic tapes that we had available was not enough to replace all the splices in poor condition, we took the decision to replace only those that broke during the process. After replacing the first splice, the next one broke too, followed by several others. In this tape, some splices are glued horizontally, but the problem is that the splices are cut at 90° (and not at 45°, as they should be), with the edge of the glue tape perpendicular to the running of the tape. Furthermore, the adhesive tape was transparent, typical from office supplies. This material is not suitable for restoring magnetic tapes. When the signal was reproduced, we realized that the tape was a mono recording, since the signal was passing only on channel 1. However, it is a stereo tape, with a width of 1/4 inches and a recording speed of 7<sup>1/2</sup> ips (19 cm/s); the brand on the reel is Basf and the brand on the original box is Calouste Gulbenkian Foundation, Auditorium and Sound Technical Service. The documentation of the digitization process took place at the CSC-SMC (Centro di Sonologia Computazionale – Sound and Music Computing Group), based at the Department of Information Engineering at the University of Padua, in Italy, as a result of a training course carried out by Filipa Magalhães from 22 February to 19 March 2017, using the methodologies in force at the time, and counting on the support of two experts of the CSC team: Alessandro Russo and Valentina Burini. The documentation tool used to describe the whole digitization process of the magnetic tape belonging to *FE...DE...RI...CO...* was the software system PSKit, developed by Federica Bressan (2013, 60–67). Through PSKit Preservation Panel, an open-source software application, we were able to create a preservation copy. It consists of an organized dataset that groups together all the information represented by the source audio document. According to Federica Bressan, the preservation copy implies knowing how to distinguish two concepts: metadata and contextual information (2013, 33). Preserving an audio

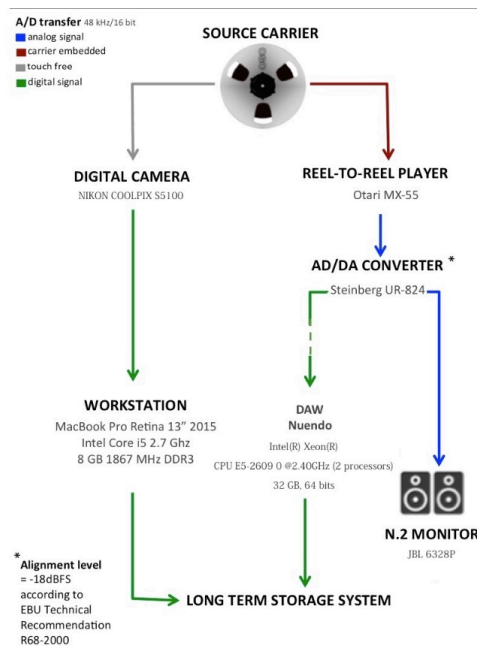


document for the long term requires documenting in detail the various stages of the creation of the preservation copy, from the moment the source audio document is removed from the shelf until it returns to the storage location. Thus, the result of the documentation process of the various stages of an audio document is the preservation copy. It is saved in a PDF file that provides general information about the original magnetic tape, including the date and place where the digitization process took place and the names of the technicians responsible for the operation. It then includes a description of all the information about the audio file: name, duration, size, format (e.g., Wav),<sup>10</sup> number of channels, recording speed, among others. This PDF file also includes a description of all the information regarding the original magnetic tape, such as: origin; type of document; characteristics of the carrier, for example, brand, model, original box and spool; description of the state of conservation of the original carrier (diagnosis of possible types of tape degradation); technical scheme of the transfer system used, which includes information about equipment used (see Figure 1); and description of the video recording, when it exists. The PDF should also include data about the images, such as number of images involved in each preservation copy, their format and size, as well as the type of equipment used to capture these images. The figure below is the technical scheme of the transfer system that is the last document of the preservation copy from the digitization process of the tape recording belonging to work *FE...DE...RI...CO....*

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10 The audio signal used for the preservation copy must be in the Broadcast Wave Format (BWF), with a sampling frequency of 96 kHz and a resolution of 24 bits (for digital media such as CD and DAT). For more information about the BWF file format, see: Casey and Gordon (2007, 6).

## 5 Technical scheme of the transfer system



**Figure 1.** Technical scheme of the transfer system (Courtesy of CSC-SMC).

### Technological solutions to re-perform *FE...DE...RI...CO...*

*FE...DE...RI...CO...*'s re-performance posed several challenges to sound, light, scenic and performance issues. Part of the documentation was dispersed among the various founding members of ColecViva, but even after gathering the various materials, documenting and comparing them, we realized that there was a lot of missing information. During her PhD research, Filipa Magalhães carried out the process of documenting *FE...DE...RI...CO...*'s work, gathering the information contained in the various scripts, and bringing together in a single document the existing scripts produced by Constança Capdeville, namely a general script, a script for sound and a script for light, and looking for the information to be arranged in layers with regard to the scenes and the use of sound and light, aiming to facilitate the reconstruction of the performance. This work was done using the existing video, despite the footage being in poor condition. This single document was created by means of scripts, but also video and digi-

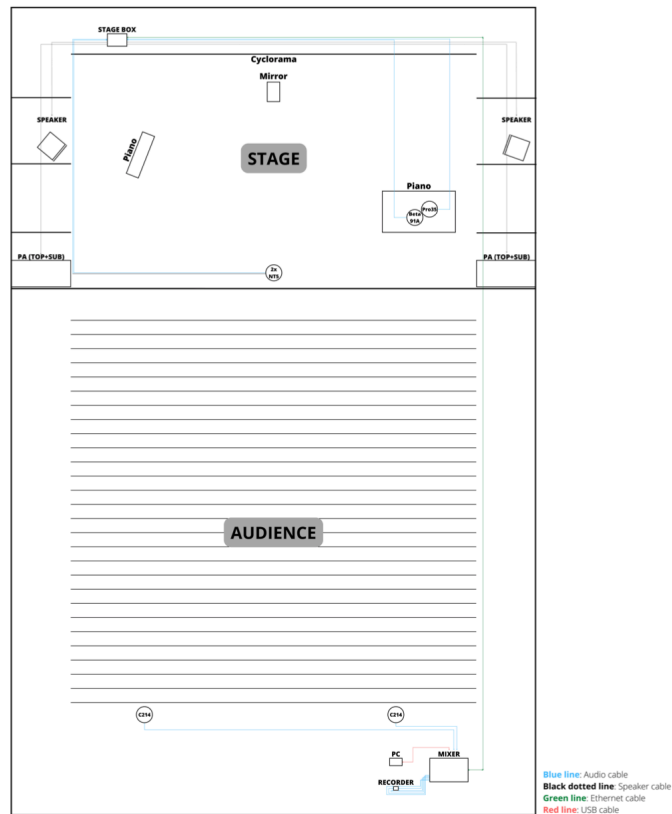
tal audio recordings (from magnetic tape) serving as the basis for *FE...DE...RI...CO...*'s re-performance. These were also the documents used by the technicians who collaborated in this recreation. However, there was a need to conceive new documents, based on the existing ones, in order to adapt the re-performance to a different room, stage and equipment (see Figures 5 and 6), as described below.

### - Sound treatment: equipment and setups

Henrique Lobo de Carvalho collaborated in this recreation as a sound technician/operator and he was also responsible for releasing the recordings during both performances that took place on 4 and 5 November 2022 at Teatro Aberto, in Lisbon. Carvalho explains how he was engaged into the process, saying that when he was invited to operate this re-performance, the information given to him was that he needed to amplify the piano in specific moments (e.g., sequence #14). In this music theatre work, the performers/musicians use the piano as a percussion instrument and use several props, such as a moo box or a water whistle on top of it, and there is a scene where the dancer drags his body on the border of the grand piano. With this in mind, Carvalho decided to not mic the piano using mic stands and placed two mics inside the piano. One was a PZM mic, a Shure Beta 91A, beneath the middle strings, and one clip-on mic, an Audio-Technica Pro35, placed in a part of the frame near the dampers. His task was also to trigger sounds during the piece (the timings are written in a version of the screenplay created by himself). As above-mentioned, the sound samples are the same used originally in the premiere in 1987, although currently in Wav format.

To perform his task, Carvalho used the following equipment and setups:

- Front of House (FoH) setup: Mixer: Midas M32 Live; Stage Rack: Midas DL 32; PA system: JBL.
- Sample operation setup: Asus laptop with Ableton Live and RX 6 Elements software; Midas M32 Live MIDI controls.
- Microphones: Piano: 1x Shure Beta 91A and 1x Audio-Technica Pro35; Stereo pair: 2x Rode NT5 (AB technique); Audience mics: 2x AKG C214 (AB technique)
- Recording setup: Asus laptop with Reaper; Zoom F6 field recorder.



**Figure 2.** Setup conceived by the Sound Operator for the re-performance of *FE...DE...RI...CO...* (Courtesy of Henrique Carvalho).

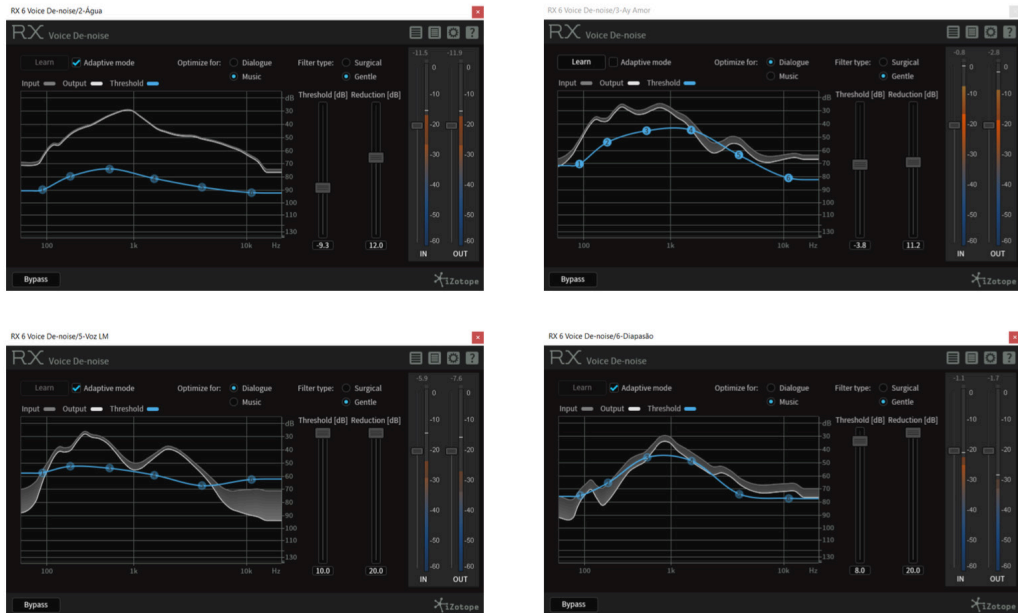
The sound samples were given to Carvalho with a bit of hiss and hum and when he played them in the PA system it felt odd to suddenly start hearing noise, so he had to run some of the sounds through RX 6 Voice De-noise (see Figure 3). The plugin's internal processing works this way:

under the hood is a series of 64 psychoacoustically spaced bandpass filters which act as a multiband gate to pass or stop a signal based on user-defined threshold values. If a signal component is above the threshold for the filter, it will be passed (not processed). If a signal component is below the threshold for the filter, it will be attenuated (processed).<sup>11</sup>

The settings were practically the same in all sound samples, just changing the “optimization” to “dialogue” or “music” (regarding the content of each

<sup>11</sup> See: <https://downloads.izotope.com/docs/rx6/36-voice-de-noise/index.html> (accessed on 31 January 2023).

sound) and the threshold and reduction values, which were tweaked until the noise of each file was almost unnoticed for the audience. In one of the sounds, the “train” sound, it was suggested that he would give a bit of movement, so he had automated the pan from right to left just a tiny bit.



**Figure 3.** Screenshots of plugin RX 6 Voice De-noise used in the sounds, with the parameters chosen according to needs to attenuate the noise of each one (Courtesy of Henrique Carvalho).

Carvalho did not count on giving monitoring speakers to the performers/musicians, nevertheless in the rehearsals they felt that the sounds (triggered) were sounding “distant”, because they were listening to the room sound. In order to solve this, he positioned two speakers on both sides of the stage, behind curtains. The left one pointed to the proscenium and the right one to the back of the stage. This solution also helped with something that the artistic consultant Carlos Alberto Augusto drew attention to: there was a need of “involvement” on the playback of the sounds, so the audience could feel them being reproduced on stage and not from the main speakers of the PA system. It was missing some “glue” in the sonic image. With this installation, Carvalho had to delay the main PA system in order to achieve what was needed. On the recording side, he suspended a pair of NT5s, more or less seven meters above the proscenium, in an AB configuration. The ambient mics were a pair of C214s in the last row of the audience.

## - Slides operation

As above-mentioned, one of the technical particularities of *FE...DE...RI...CO...* was the use of slides, that often dialogued with what was being presented on stage. This music theatre piece is divided into fifteen sequences that are filled with little nuances that must be enhanced, whether by the lighting design, the sound design or even the slides projected. All work for this re-performance was mainly based on Filipa Magalhães' research, but also on the 1987 video recording that existed of this piece, belonging to the Gulbenkian Archives. Considering specifically the slides operation, the video wasn't a great help since it was composed almost only of close-ups that made it impossible to analyze the whole set, specially, the cyclorama backdrop, which means that information about the projections was mainly gathered from the performers of the premiere that took place in 1987. For the re-performance of *FE...DE...RI...CO...* twenty-six different slides were used, including the black interval ones. While the audience was taking their seats before the show, there was already a picture of Constança Capdeville projected on the backdrop. As soon as author Mariana Godinho (also slides operator) got the information from backstage via intercom that the performers were ready, and after everyone in the audience was seated, the doors were closed, and she gave the cue to the sound technician to play the front of house call. While the audio was playing, the projection turned black. This particular transition wasn't so simple, since we had to manually shut the projector – we covered it with a wooden board – because in the first three sequences the stage was dark, and so we figured that if we had the projector on, even with a black slide, we could still see it behind the cyclorama (since we were using rear projection). On sequence #4, Godinho gave the stage manager the cue to uncover the projector so it would be ready for sequence #5 “Silêncio”, where the first group of slides were projected. This part was the trickiest, since she had to coordinate the slides with recorded sounds, but also with the movements of the dancer on stage. On this sequence, the performer was mimicking each one of the five figures on the slides.<sup>12</sup> The bassist was also on stage setting the tone to start. When Godinho heard the first note, she switched from a black slide to the first figure and the performer initiated his movement. But then, the logic changed and the notes played by the bassist took secondary place and Godinho had to guide herself by the performer's movement in order to be able to launch the next slide, and repeated this until the end of the sequence. The sounds were being played with an approximated 25" interval, that is her cue. The next group of slides appeared on sequence #11 – “O Passeio de Buster Keaton”. Once again, the

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12 Lorca's drawings: *La careta que cae*; *Figura*; *Las Manos Cortadas*; *Nostalgia*; *Muerte*; *Retrato de Lorca* (Del Hoyo 1960, 1795–1819).

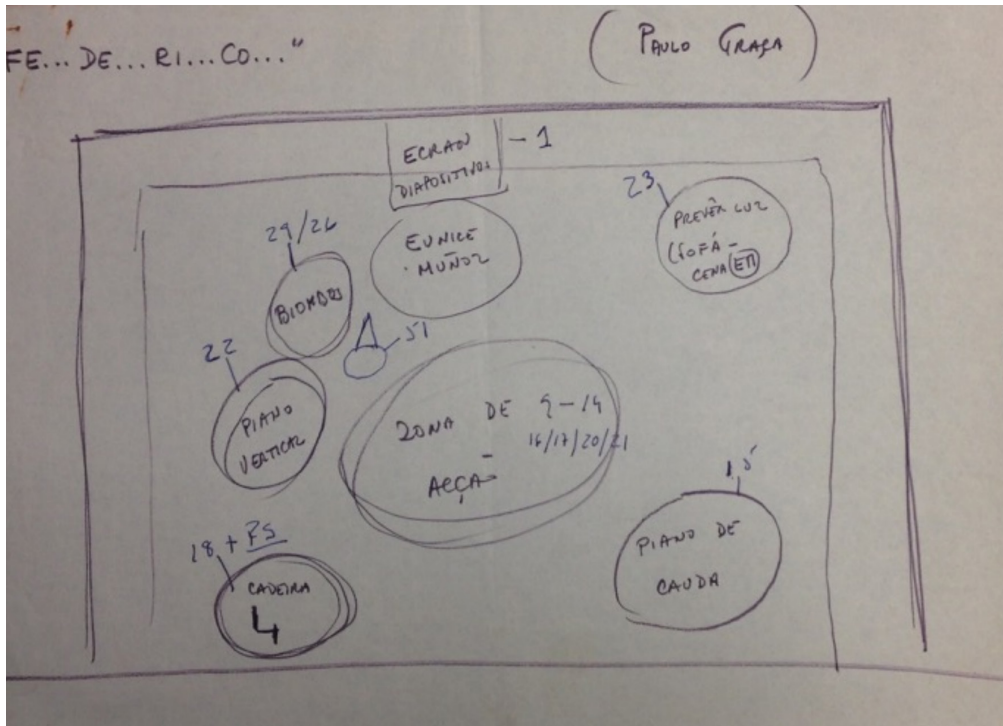
slides were dialoguing with what was being performed on stage. The main idea of this sequence was to imitate a silent film, and that was how the slides were used. They announced the title of the sequence and presented some of the lines that would be said if the movie had sound. The last two slides were projected on sequence #15 – “Eu sei que o meu perfil será tranquilo” – which concluded the re-performance. They were coordinated with what was being performed, with the sounds being played and with the lighting transitions. During the rehearsals, the sound technician and Godinho considered using QLab, which is a macOS software for designing and playing back sound, video, light and show control cues. This would mean that only one person could operate everything. But, since we had been working with Teatro Aberto’s lighting operator, we realized that it wouldn’t make sense to use QLab without the lighting cues. So, for the slides Godinho started making a simple PowerPoint presentation, but ended up switching to a KeyNote presentation, which is, in its essence, very similar to PowerPoint, but has more fluent transitions and a bigger control of their timings. We installed the projection *régie* next to the sound *régie*<sup>13</sup> and Godinho launched the slides from her computer, a Macbook Pro 13. Lastly, it is essential to point out the importance of the script that was constructed by Godinho, based on the scripts created by Filipa Magalhães and also a second version made by António de Sousa Dias afterwards, as well as the indications of the lighting designer Anabela Gaspar.

### - Re-designing the light for the re-performance

One of the vital elements of Constança Capdeville’s music theatre is the lighting. In *FE...DE...RI...CO...*’s re-performance the lighting design in charge was Anabela Gaspar.<sup>14</sup> According to her, designing the lighting for this re-performance, being as faithful as possible to the design made by Paulo Graça, who collaborated in the original performance in 1987 at ACARTE (see Figure 4), forced the study of existing records and would not have been possible without the constant help and suggestions of the entire team involved in the scenic recreation of *FE...DE...RI...CO...*. The records – plan of action zones, footage of the original performance and lighting script – provided many clues regarding the lighting, however the biggest challenge was putting it all together.

13 Initially, the theatre was prepared in a way that the projection *régie* would be installed on stage, right next to the projector. But, since the slides were directly dependent on the performance on stage, it was necessary to install it next to the sound *régie*, in the audience, in order to have a full view of the scene.

14 Graduated in Dance at the Faculty of Human Motricity, Technical University of Lisbon, where she began her studies in Lighting and Artistic Production in the Dance Area. See: <https://www.anabelagaspar.com> (accessed on 20 January 2023).

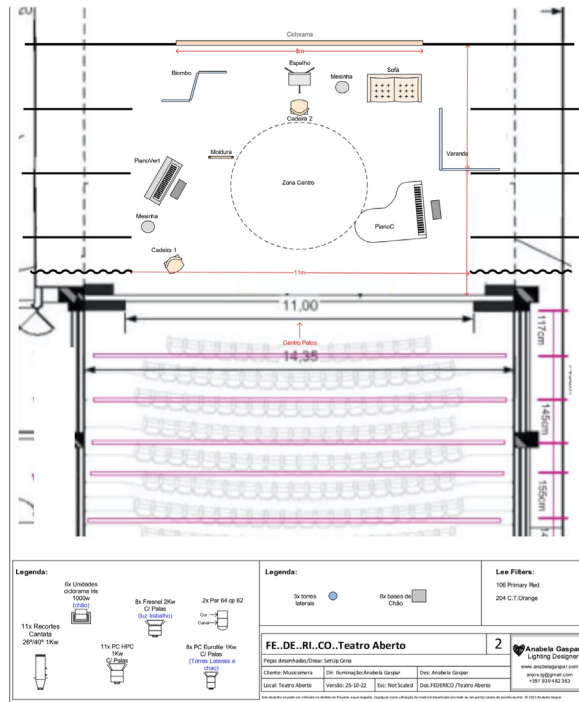


**Figure 4.** Original plan of action zones designed by Paulo Graça (Courtesy of BNP).

It was important to understand which areas of action and how many projectors were allocated to each area, but it was not immediate. It turned out to be the combination of several pieces of information. Gaspar decided to transpose these zones to the Teatro Aberto stage plan, in order to have a drawing of the positioning of all the scenic elements. The producer Élio Correia helped in this process and both visited Teatro Aberto beforehand to validate all the measurements and distances (see Figure 5).

The footage of the original performance in 1987 gave Gaspar clues about the position of the light in each scene, whether it was backlit or dim light, whether side lighting was used, and so on. This allowed us to start positioning the floodlights for each action zone. For example, in the area of the couch, the light came from the high side, a single projector coming from above but laterally in relation to the position of the couch, with the light bathing the actress' face. Regarding the script for light and notes on the original performance, the intentions were already clear with existing references to light intensities, moments where black outs or “knife” light outputs happened, where the “working light” that was part of the performance itself appeared, moments of a scene change and some information about the movements of the performers. Gaspar tried to use the same





**Figure 5.** Drawing of the positioning of all scenic elements (Courtesy of Anabela Gaspar).

type of equipment in Teatro Aberto that was used in ACARTE: profile projectors, PC projectors and Fresnel projectors (see Figure 6), with one exception, it was not possible to use the Follow Spot. In the footage it was clear that the Follow Spot was used in at least two scenes. For these two scenes Gaspar opted to use Sharp Profile projectors imitating the light of the Follow Spot, however in sequence #13 the Follow Spot played a fundamental role: the dancer was “caught by the light of the spot” and “is trapped”. It was decided to create an effect of similar intent, using the lighting from the side towers to “catch” the dancer. In the script for light at the end of sequence #11 there was a light note saying that it referred to the use of red color, but in the footage no red light was visible, so Gaspar thought it was a notable note, the first that referred to the use of color, and placed red filters in this scene. Also Correia suggested increasing the effect by also lighting the cyclorama in red, and in Gaspar’s opinion the end result worked well.

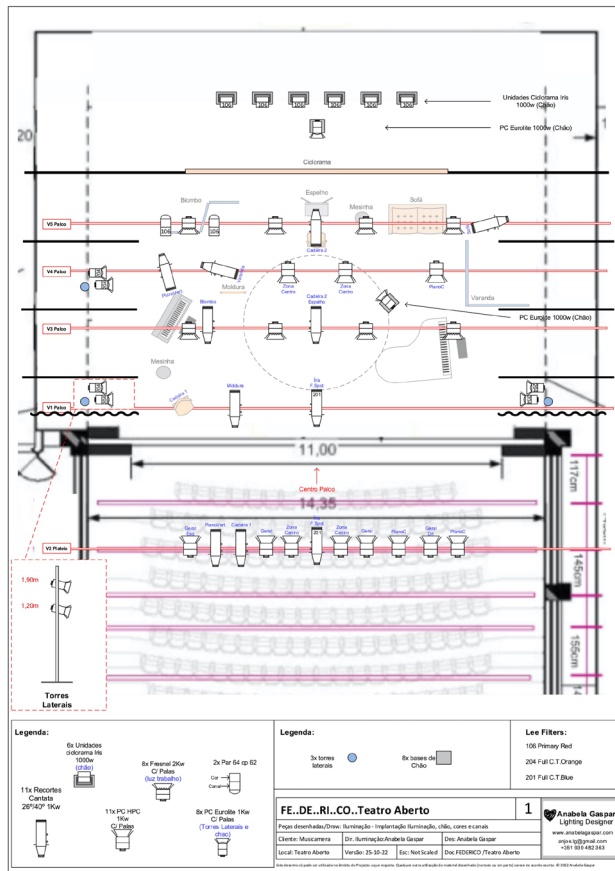


Figure 6. Lighting installation for *FE...DE...RI...CO...* at Teatro Aberto (Courtesy of Anabela Gaspar).

## Challenges of performative features

According to piano player Inês Filipe, for *FE...DE...RI...CO...*'s re-performance historical documents compiled by Filipa Magalhães were essential, such as the script for the description of the scenes constructed by Constança Capdeville, the individual script by Alejandro Erlich-Oliva (double bass), complete scores or only fragments of scores used in the original and also the existing video recording of the original performance. The video recording and the mentioned scripts were the materials that helped the performers most in the first phase of the study, becoming a facilitator of the perception of the overall structure of the work. However the video recording had several problems that made it difficult to achieve an objective perspective of the entire performance, namely

due to the cuts that occur at different phases, as well as the use of a single camera in the filming, which led to the loss of numerous performance details. For this reason, the video recording by itself proved to be insufficient as a source, leading to an increased workload in the reconstruction of certain parts of the work. The re-performance preparation study turned out to be complex and challenging for all those involved, demanding from them not only a technical investigation of the existing scores and scripts, but also a deep analysis of the work as a whole, both in each individual role and in the collective of requested actions. The work of the performers in this performance reached a new level of complexity, as, in this case, a double bass player, two pianists, and a singer, in addition to playing their instrument or singing, had to reinvent themselves as performers in order to achieve this recreation. For example, in sequence #7, the composer based herself on a popular melody, “Las Tres Hojas” by Lorca, sung by the singer and accompanied with percussion by the pianist (on the grand piano) and the double bass player. In this piece, improvised moments are notorious that unfold from a rhythmic structure presented in a score by the author. In this, it is worth highlighting the indications to be performed on the grand piano by the performer (pianist), in which three rhythmic patterns are indicated, as well as performative indications such as “percutir *ad libitum* os três elementos” [to strike *ad libitum* the three elements], “passar de *marcato* para muito leve e gracioso” [to pass from *marcato* to very light and graceful], “jogar com diferentes intensidades *p ff pp ff* etc” [to play with different intensities *p ff pp ff* and so on], “combinar com estalar de língua no céu da boca” [to combine with tongue popping on the roof of the mouth]. Despite an individual script constructed by the double bass player on the rhythmic patterns that he had to perform on the various surfaces of the bass, in the performance’s first performance, this and the piano score were not linked nor described in the same way. It was essential to resort to the historical video record to determine the number of stanzas the singer would have to perform, as well as to understand how the performer on the double bass and the performer on the piano should react to each other. The assembly of the piece ended up being performed throughout the rehearsals through the acoustic sound experimentation of numerous extended percussive techniques<sup>15</sup> on the piano and double bass. Regarding sequence #11, the biggest challenge was the reconstitution of the score that constitutes the “Polka Cubista”, the name Constança Capdeville gave to the musical line that accompanies this entire theatrical sequence. It is a set of quotes from excerpts from several works by different composers interspersed with each other, combined with specific theatrical actions. The sound result of “Polka Cubista” is performed by the bass player and the pianist. Concerning the musical part of double bass player, its recreation has be-

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15 Extended techniques term used and defined by Luk Vaes (2029, 18).

come more accessible due to the existence and conservation of this performer's script created by Alexandro Erlich-Oliva for the original performance in 1987. The access led to a more significant effort to reconstitute the "Polka Cubista" piano script. Through the analysis of the documents compiled by Filipa Magalhães, it appears that the construction of "Polka Cubista" is born from the use of citations (both modified and original) from the works of Erik Satie, the third piece of "Jeux de Gargantua (Coin de Polka)", *Binks' Waltz* by Scott Joplin. However, after analyzing the historical video recording, it was noticed that there was missing information about musical moments hitherto never mentioned. It was up to pianist and performer Inês Filipe to reconstitute the new script for the piano part of "Polka Cubista" based on the video recording analysis. It was possible to identify the missing work cited with the help of the *Shazam*<sup>16</sup> program by listening to the exact minutes of the historical video recording. It was concluded that the work whose reference did not exist in the previously compiled documents was ragtime *The Chrysanthemum* by Scott Joplin. Only after gathering all the constituent documents of "Polka Cubista" was it possible to rebuild it. In sequence #13, we were faced with a sound performative moment of an improvisational nature, in which the electronic and acoustic sound elements are placed in parallel. At this point in the work, Constança Capdeville presented a rather rough score where there is practically no musical notation, centering a set of indications on the A (Lá) note. From these, it is concluded that it would be supposed to explore the most diverse timbres, rhythms, and intensities of the A (Lá) note in a dialogue between the double bass, piano, and magnetic tape, with the sound of an electronic tuning fork to set the tone, launching the electronic track to start the improvisation. This moment of the work is not of an inert nature, and several aspects are notorious that demonstrate that the composer indicated flexibility concerning performance and interpretation. The freedom suggested in the score allowed Inês Filipe to explore, in an even more exhaustive way, the sound possibilities of the instrument. For this, the most varied degrees of *improper*<sup>17</sup> piano playing were used, such as touching the A strings of the piano directly, preparing the strings with a magnet, activating the vibration of the A piano strings through the manual oscillation of cylindrical magnets as well as the use of the *Muting* technique.<sup>18</sup> As a result of this sound exploration, a wider timbre range was obtained in the re-performance than that seen in the video of the historical recording. Already in the final moment of the performance, in sequence #14, the piece entitled "Embaló" demanded a greater dependence on the analysis of the historical video recording. Although the performers have at

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16 Free audio identification software.

17 Term used by Luk Vaes (2019, 18).

18 See Alan Shockley (2018, 83).

their disposal the complete score with the specific musical indications of the five participants, it is not easy just by observing the score to decipher the meaning of each non-traditional symbol used in the notation without a subtitle having been performed by the composer. In contrast to the common performative act of the classical musician, in this performance, the challenges multiplied. If, on one hand, there are moments within the conventional musical performance of the erudite musician, on the other hand, others transcend this scope, either by the type of techniques used, or by the necessary spatial and acoustic adaptations. Thus, the re-performance of *FE...DE...RI...CO...* required an exchange and interaction between different interdisciplinary performative plans that ordinary performative acts for classical musicians do not require. For this reason, it is imperative that in the execution of this re-performance, all the interpreters demonstrate flexibility and plasticity in adapting in terms of gestures, spatial management on stage, and the action and subsequent reaction between performers in each moment of the performance, always based on the records relating to the 1987 performance.

### **Final thoughts**

The re-performance of *FE...DE...RI...CO...* proved to be, from the outset, a challenge for the performers, not only because it is not a mere musical work, but an audiovisual performance, encompassing in itself countless artistic valences. It thrives on the presence and articulation of components from theatre, music, dance, and cinema, therefore the work is full of different levels of information from various artistic fields, which intersect with each other, relating, complementing, and adapting. Each one is like a living organism. The complexity of this work and the dispersion of non-systematic documentation to which it is still subject to were obstacles to its understanding, individual study, and articulation of the different materials related to the performers. Finally, it is also significant to emphasize that light, sound, image and performance were constantly in dialogue which means that the technical operators needed to know exactly what actions to take on all fronts and when to take them during the performance. The combination of all the information described throughout this article, as well as the production of new information by the various actors, proved to be essential not only for the re-performance, but also to the archive itself.

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## TECHNOLOGICAL AND ARTISTIC CHALLENGES IN THE RE-PERFORMANCE OF MUSIC THEATRE WORK *FE...DE...RI...CO...* (1987) BY CONSTANÇA CAPDEVILLE: FROM THE ARCHIVE TO THE STAGE (summary)

*FE...DE...RI...CO...* (1987) is a music theatre work created by the composer Constança Capdeville, based on the poetic, plastic and musical work of Federico Garcia Lorca,

composed for the commemoration of the 50th anniversary of the death of the Spanish writer. This performance was part of a series of events that integrated the cycle “Encontro com Lorca” (Meeting Lorca), premiered in Lisbon at the Calouste Gulbenkian Foundation (FCG), in the multi-purpose hall of the Modern Art Centre (CAM), under the responsibility of ACARTE, the Gulbenkian Foundation’s Department of Artistic Creation and Art Education, on 10 March 1987, and performed by the ColecViva. The ensemble was at the time made up of Luís Madureira (voice), João Natividade (dance, movement, mime), Olga Prats (piano), Alejandro Erlich-Oliva (double bass), António Sousa Dias (direction assistant, percussion, sound synthesis), Constança Capdeville (direction, percussion and piano), while also counting on the special participation of the Portuguese actress Eunice Muñoz; Paula Pires de Matos (sound and slides assistant) and Paulo Graça (lighting) also collaborated in the performance at a technical level. For this work, the composer used excerpts or entire parts of scores, drawings, texts from theatre plays, poems and so forth from the book entitled *Obras completas* (Complete Works) by Federico Garcia Lorca. The music theatre work *FE...DE...RI...CO...* was recently re-performed (on 4th and 5th November 2022) in Teatro Aberto in Lisbon, Portugal. The scenic recreation was undertaken by researcher Filipa Magalhães and producer Élio Correia, and with the collaboration of composer Carlos Alberto Augusto (Artistic and Music Consultant), conductor Brian MacKay (Artistic Direction), composer António de Sousa Dias (Artistic and Music Consultant), Luís Pacheco Cunha (Musicamera Producer and Director) and Mariana Silva Godinho (Production, Slides Operator), in addition to Anabela Gaspar (Lighting designer), Henrique Lobo de Carvalho (Sound Operator), André Roma (Image). This recreation had the participation of the performers: Ângelo Cid Neto (Movement), Inês Filipe (Piano), Joana Manuel (Actress), Mário Franco (Double Bass), Miguel Maduro-Dias (Voice) and Taíssa Poliakova Cunha (Piano / Percussion), a new generation of performers who dared to recreate the first formation of ColecViva group. For this re-performance we sought to be faithful to the original artistic object while looking for clues for the renewal of the music theatre genre, allowing its access to the new generations of performers and audiences. In this article we intend to discuss the main constraints faced in the recovery of the original work *FE...DE...RI...CO...* focusing on the technological and artistic solutions found during its re-performance and reflecting about aspects of its preservation that may be relevant for archival purposes.

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