

ISSN electrónico: 2172-9077

<https://doi.org/10.14201/fjc201816103117>


THE MAGIC LANTERN IN BARCELONA: THE PHANTASMAGORIA SHOWS OF THE OPTICIAN FRANCESC DALMAU (1844-1848)

*La linterna mágica en Barcelona: las fantasmagorías del óptico Francisco
Dalmau (1844-1848)*

Cèlia CUENCA CÓRCOLES

Personal Investigador en Formación, Universidad de Barcelona, España.

E-mail: celia.cfr@gmail.com

 <https://orcid.org/0000-0002-4018-7426>

Fecha de recepción del artículo: 31/03/2018

Fecha de aceptación definitiva: 16/04/2018

ABSTRACT

This article will present the magic lantern shows that the Catalan optician Francisco Dalmau (1810-1886) offered in his establishment between 1844 and 1848. Being a key figure on the introduction of the telephone and phonograph in Spain, his interest in optical shows has been obscured by his scientific activities. I will first discuss the presence of the magic lantern in Barcelona at the beginning of the century, to then consider Dalmau's shows and his interplay with the media landscape of his time. By focusing on Dalmau's shows, this article also casts a new light on the presence and development of the magic lantern in Barcelona, such as the introduction of the dissolving views.

Key words: magic lantern, dissolving views, polyorama, Francisco Dalmau, Barcelona.

RESUMEN

El presente artículo trata con detalle los espectáculos de linterna mágica que Francisco Dalmau (1810-1886) presentó al público barcelonés en la década de los años cuarenta del siglo XIX, completando así una de las múltiples vertientes del polifacético óptico. A partir de su caso, este artículo es también una oportunidad para aportar nuevos datos sobre el desarrollo y presencia de la linterna en la ciudad condal, como por ejemplo la introducción de los cuadros disolventes, y cubrir un friso temporal que había quedado poco explorado por la historiografía.

Palabras clave: linterna mágica, cuadros disolventes, poliorama, Francisco Dalmau, Barcelona.

1. INTRODUCTION

After more than 30 years in charge of one of the most advanced institutions of his time, the optician Francisco Dalmau (Manresa, 1810 – Barcelona, 1886) may be introduced as the person who brought the telephone and the phonograph to Spain. Together with his son Tomás Dalmau (1839-

1905), he also imported the first Gramme dynamo and participated in the creation of the first power station in the country, the SEE. For these reasons, Francisco Dalmau has always been a popular figure that was studied in the field of History of Science and Technology. Historians such as Cabana (1992), Maluquer de Motes (1992) and, very particularly, Sánchez Miñana (2006, 2009) and Lusa Monforte (2009) have focused on him and studied his career in detail, and they consider him the first modern optician of the city (Sánchez & Lusa, 2009, p. 87).

Among the many and varied activities he carried out, we may highlight his participation in the Industrial Exposition of Barcelona in 1850 or the Universal Exposition of Paris in 1855. He actively spread the social hygiene movement theories for the preservation of eyesight, and he also took an interest in the development of applications of electric light to photography, at first with the photographer Leopoldo Rovira, in 1864, and later on together with Pau Audouard in 1881 (F. Rius, 2011, p. 134). However, his interest in optical shows has not been subject to such extensive research. Dalmau combined these shows with his scientific and business life throughout his entire career.

Dalmau was as innovative in this last field as in the areas of science and technology. His different stores were constantly livened up by cosmoramas, polyoramas, all sorts of optical boxes, and lanterns, as well as by what probably were the first stereoscopic photographs, and even by experiences in recreational physics and telegraphy, which put them in the vanguard of the visual offer of the city. Out of all these devices, the magic lantern was particularly relevant between the years 1844 and 1848, the period in which he set up a store at 8 Ciudad Street, in Barcelona.

This article discusses in detail the magic lantern shows that Francisco Dalmau presented to the audiences of Barcelona in the 1840s, thus casting light on one of the many aspects of this versatile optician. Based on his case, this article also represents an opportunity to provide new data about the development and presence of the lantern in Barcelona, which included, for example, the introduction of dissolving views. Finally, it focuses on a period that had not been extensively explored by historiographers.

2. FORERUNNERS: THE FIRST STEPS OF THE LANTERN IN BARCELONA

Nowadays there is little doubt about the broad presence of the magic lantern in the streets, theatres and exhibition halls all across Europe. Thanks to the studies by Javier Frutos Esteban (1996, 2001, 2008, 2010), we also know about its presence in the Iberian Peninsula and about its deeply rooted forms of presentation, as well as about the impact of the spread of phantasmagorias as a new device for shows.

Imitators of Robertson arrived in Spain at the end of the 18th century. In 1798, Nicolas Chami and Francisco Bienvenu were holding phantasmagoria shows in Madrid and, from 1810 onwards, Mantilla captivated audiences in the city with his «spectres, skeletons, ghosts and portraits of famous figures» (Frutos, 2010, pp. 21-27). In the same city and during that time, we can also find Francisco Calleja (Fernández, 2005, p. 115). Among his most prominent imitators, we must also mention a man called Martin who arrived in Madrid in 1806. It is very likely that he was Martin Aubée, an assistant of Robertson during his first phantasmagoria sessions who would then set up on his own, together with his son, in Bouloy Street (Mannoni, 1994, pp. 159-164).

On their way to Madrid, most of these men also went through Barcelona. Artigas has located Martin in this city between 1802 and 1803. His shows started at the end of carnival, and the phantasmagoria came with Lent and was active until the end of May (Artigas, 1992, pp. 72-73). Some months later, Bienvenu filled the Teatro Principal with ghosts and experiments with recreational physics and with light¹; and he claimed that he had presented his shows in Barcelona for the first time in 1798 (*Idem*).

Ultimately, and although Robertson had not yet set foot in Spanish territory, the audiences of the main cities became familiar with the new expressive forms and visual resources of the phantasmagoria devices, virtually at the same time as their European counterparts. The arrival of Robertson himself only accentuated the interest for light ghosts in the decade of 1820 (Frutos, 2010, p. 34). However, references to magic lantern shows dwindled in the 1830s. At that moment, the offer of entertainments seems to be dominated by cosmorama shows and the exhibition of wax figures. With no further data, we have to wait until the 1840s for phantasmagoria to reappear in the streets of Barcelona, the period when moving spectres took root again thanks to the optician Francisco Dalmau.

3. OPTICIANS, BETWEEN SCIENCE AND SHOW BUSINESS

In 1839, Francisco Dalmau opened his first optician's in 8 City Street in Barcelona. He had arrived there from Manresa at the age of 22, and at first, he had worked as a musician and a guitar and singing teacher. His training in the field of optics is still to be elucidated², but what we know for certain is that only four years later, Dalmau presented a Historical Cosmorama to the audiences of Barcelona³. From that moment on, optical shows would be a permanent fixture of his shop.

However, he was not the first expert in the field of optics that combined both interests. During the 1830s, the Maglia family of opticians, with whom Dalmau may have received his training (Sánchez & Lusa, 2009, pp. 91-92), also presented several cosmoramas in the city. In 1833, Felipe Maglia set up a «Neorama of the four parts of the world» in 78 San Pablo Street, and in May of that same year, he

1 We may reproduce here his description of the show: «Today, in the Teatro Principal of this very illustrious city, Mr. Francisco Bienvenu, a professor of Experimental Physics, will offer the fifth showing of his physical experiences (...) followed by a phantasmagoria, that is, an illusion of Optics (...). Out of all the wonders that Physics lets us admire, those offered by phantasmagorias are designed to amaze us, fill us with enthusiasm and transport us somehow outside of ourselves (...). After hard work and painstaking research, the professor has managed to create these illusions with a degree of perfection that will delight the audience when they see spectres and ghosts appear. The illusion is so perfect that some figures will look as if they were running many miles, while others will move across the theatre. Regardless of where the members of the audience are sitting, they will believe that the figures or the ghosts are coming to touch them, even though they are actually far away (...). Some wandering ghosts may appear that seem to fall from the highest seat of the theatre over the audience». *Diario de Barcelona*, 20-XII-1803. In order to make the reading more dynamic, we will cite references from the press of the time in footnotes and references to publications within the text.

2 A more comprehensive study on his first years and the training he may have received can be found in the study by Jesús Sánchez Miñana and Guillermo Lusa Monforte (2009), whose structure is followed in this section.

3 *Diario de Barcelona*, 16-IV-1843, p. 1452: «A new Historical Cosmorama has been set up in 8 Ciudad Street, ground floor, behind San Justo Street, in the spectacles shop of Mr. Francisco Dalmau. The device will show eight images, some of which represent the most significant monuments, temples, squares and buildings of different countries: each of those monuments will be accompanied by a text or a historical explanation with the descriptions by Chateaubriand, Lamartine and other modern historians, thus creating a true Historical Cosmorama which will be useful for people of all social classes. The remaining views will be varied and modern. The images will be shown from 6 p.m. to 10 p.m. on public holidays, and from 7.30 p.m. to 9.30 p.m. on working days. Entry: 1 real de vellón». See also Sánchez & Lusa (2009, p. 92) for an advertisement of the show published on April 21st, 1843.

inaugurated a new neorama in Gracia⁴. In 1834 he showed, among other images, views of Athens, the battle of Vitoria, Barcelona and the bridge of Bordeaux. Some years later, he added to his repertoire the popular view of the eruption of Mount Vesuvius, views of Versailles and the acclaimed view of the Thames Tunnel⁵, which could still be seen in 1839 (Fàbregas, 1975, p. 67).

The shows offered by the Maglia family were an attraction for the audiences of Barcelona until 1843⁶. Although we cannot establish a direct link, it is evident that Dalmau entered the world of show business as soon as the neoramas of Maglia disappeared from the entertainment scene in Barcelona. For more than a decade, Maglia had dominated the optical shows of the city, and he had managed to create a business model in which those shows were inseparable from the trade of the optician. Later on, in the 1850s, the optician Luis Corrons and the device manufacturers Taylors & Lowe would join Dalmau in this same dynamic. They would introduce the new optical devices of that time —such as the stereoscope—, and they would organize sessions of recreational physics. This model can also be found beyond our borders. In the European context, different opticians were also moving between the fields of science and show business during that time. Philip Roberts (2016, 2017), has researched and documented the case of the optician Philippe Carpenter (1776-1833), a manufacturer of the Bewster Kaleidoscope and creator of the firm Carpenter & Wesley, who set up his business in 24 Regents Street and offered shows with magic lantern, solar microscope and optical views during the decades of 1820 and 1830 in a special room of his shop. Ultimately, the career of the opticians mentioned above is only one of the many manifestations of the permeability between the worlds of science and show business that had been forming from the previous century (Vega, 2010).

If we go back to the case of our optician in Barcelona, the real innovation he presented, when compared to his predecessor, was precisely the integration of the magic lantern as part of his show, because as far as we have been able to observe, Maglia was not interested in the projection of light images. What the audiences saw —and heard— when they came close to Dalmau's shop during those years is the focus of the following pages of our study.

4. PHANTASMAGORICAL DALMAU: SPECTRES ARRIVE IN CIUDAD STREET

At the beginning of February 1844, Dalmau promised new and surprising objects for his performance⁷ and he explained that he had «redesigned the shop for the comfort of the audience» in order to host a new show⁸. We have very few data regarding his first shop and, consequently, regarding the room where the new show was to be held. We know that Robertson used a room that was at least 25 metres long by 8 metres wide (Frutos, 2010, p. 31), and that Martin looked for an open-plan space like a basement or a hall in a ground floor during his stay in Barcelona (Artigas, 1992, p. 72). In any case, the descriptions published in the press show that it had to be a rather large room in which Dalmau had arranged benches and chairs. Therefore, attendants walked first past the lenses of the cosmorama in order to enter the new room. This structure imitates the presentation of

4 On Maglia's cosmorama, see *Diario de Barcelona*, 14-III-1833, p. 582; Artigas, 2003, p. 184. On the cosmorama in Gracia, see *Diario de Barcelona*, 5-V-1833, p. 1002.

5 *Diario de Barcelona*, 17-VII-1834.

6 Felipe Maglia had passed away in 1841, and his daughter, Josefa Maglia (1808-1880) continued the neorama shows and kept running the family business (Sánchez & Lusa, 2009, p. 94).

7 *Diario de Barcelona*, 2-II-1844.

8 *Diario de Barcelona*, 7-IV-1844.

Robertson's phantasmagorias in the Couvent des Capucins, in Paris. During the intervals, there was music and songs. As a whole, the shows lasted for an hour or an hour and a half⁹. We can find an example in the following programme from May 5th, 1844:

«Optical show with cosmorama and phantasmagoria in the shop of Mr. Dalmau (...). The shows today will last for an hour; the first will start at 6 p.m. and they will take place successively until 10 p.m. In each of these shows, audiences will be able to see eight magnificent cosmorama views and eight images for phantasmagoria. During the show, beautiful pieces and waltzes will be played on the piano. Entry: 1 real. Seats: id. On the rest of the days, the show will take place at 8 p.m.» (*Diario de Barcelona*, 5-V-1844).

What was then a phantasmagoria show at Dalmau's shop? The optician usually announced the details of the programme of his shows through posters that he put on the main corners and sites of the city¹⁰, and fortunately, he included the description of many of the images in the advertisements that were regularly published in the newspapers. The text of the advertisements mentions the following themes: «1st Appearance of ghosts, 2nd the demon that inflates bellies, 3rd the gardening angel, 4th the head of Medusa, 5th the blowing demon, 6th, death in a summer suit, 7th transformation of a nymph, 8th the dancing Chinese man» (programme of April 7th, 1844); «1st a monster, 2nd the sorceress, 3rd death opening its grave, 4th love, madness and the devil, 5th the woman in the devil's chest, 6th the baptism of Jesus by St. John, 7th The swollen Mr. Liborio, 8th the tomb of Napoleon in the Chapelle Saint-Jérôme in the Invalides, 9th group of dancing monkeys» (programme of July 31st, 1844)¹¹.

Directly inspired by Robertson's iconography, the spectres, demons, heads of Medusa and surprising figures —generally eight per session— were always present in the repertoire of the optician. Although the slide that shows the baptism of Jesus may seem a bit misplaced among the rest, we must remember that biblical themes, as well as stories from mythology, were already common in the shows organized by the Belgian magician (Mannoni, 1994, p. 157). However, the philosophical discourse that marked the sessions in the Couvent des Capucins was virtually inexistent in the advertisements of Dalmau's shows. The rhetorical devices to emphasise the usefulness of the show that were used by Robertson and Philistal and their imitators (Bienvenu, Martin) were increasingly rare. As the 19th century moved on, the magic lantern consolidated its position as a tool for entertainment, and it was no longer necessary to justify its presence (Fernández, 2006, p. 110) —while at the same time it was becoming an educational device in the academic and scientific world (Pitarch, 2017)—. On the contrary, one of the aspects that still wreaked havoc was the necessary darkness of the room, in which a heterogeneous audience of both sexes gathered, thus patently flouting the rules of decorum of that

9 Until mid-1845, the shows lasted for an hour, and in 1846, they were already an hour and a half long. Usually, two or three showings were held successively in the same day. See the following examples: On May 5th, 1844, the shows lasted for an hour and were held from 6 p.m. to 10 p.m.; in July 7th there was a show at 6 p.m. and another one at 8 p.m.; in December 28th, 1845, performances took place every 90 minutes from 4 p.m. to 10 p.m.; in November 8th, 1846, three performances were held: at 5.30 p.m., at 7 p.m. and at 8.30 p.m.

10 *Diario de Barcelona*, 8-XI-1846.

11 *Diario de Barcelona* from the abovementioned dates.

time. Dalmau must have received some criticism about this, because at the beginning of 1846 he announced that

«in order to procure greater comfort for the audience, the premises have been lighted so that the illusion of the objects that are revealed is in no way diminished by the lack of darkness which is essential for this kind of shows, and the necessary measures have been adopted to preserve the order and decorum that must be observed in any public meetings» (*Diario de Barcelona*, 6-I-1846, p. 81).

With regard to the images for the phantasmagoria, some of the titles mentioned above let us deduce the presence of animated slides, such as the dancing monkeys or the demon that inflates bellies. With regard to this last example, the Tomás Mallol Collection from the Museum of Cinema of Girona has a slide in which the belly of a man inflates and deflates due to a malicious angel that uses a trumpet to blow air into him through the only available hole in his body. Other slides in the collection give us a picture of the themes shown by Dalmau: death in a summer suit reminds us of the slide *squelette en chemise* that portrays a skeleton with a white shirt which is immediately after shown “naked” in the moving slide. The harlequin in a bottle, the cook with a pig’s head or love transformed into a skeleton, which were shown in December 8th 1844, also evoke different slides that can be seen in the collection of Girona. On the other hand, the woman in the Devil’s chest from July 31st of that same year must have been very similar to the moving slide of a woman about to open a chest from which a demon emerges that terrifies her. Apart from the abovementioned slides, we can also find in the Mallol Collection the usual parade of ghosts, skeletons, demons and devils, as well as a portrait of Napoleon which had already been projected by the optician.

As the abovementioned programme from May 5th 1844 shows, another element which complemented Dalmau’s shows was music. Dalmau had received training as a guitar and singing teacher before he set up his business as an optician, and consequently there can be no doubt that he could perfectly employ the emotional resources that music could provide to the phantasmagoria shows. Flute and piano are the most commonly cited instruments. The session on April 14th 1844 was accompanied by pieces by Strauss on the piano; and the session on April 18th included variations with the two instruments. Songs were commonly used during intervals, and the session on October 24th ended with songs and dances¹². In addition, judging from later advertisements, when the shop was already in Fernando Street, Dalmau specifies that he has a «real organ», rather than a «small barrel organ», as he states in a notice published in the press¹³. Apart from acting as a musical accompaniment for the shows, this instrument was a way to attract the attention of passers-by to his shop. However, we do not know whether this organ was already present during the phantasmagoria shows. In any case, we are certain of the presence and the importance of music in the phantasmagorias of the optician. This presence would later on be intensified with the inclusion of slides that referred to the operas en vogue at the time.

12 *Diario de Barcelona* from the abovementioned dates.

13 Artigas, 2008, p. 245 cites *Diario de Barcelona*, 8-II-1851. The explanation is probably due to the fact that roller organs were generally associated with travelling shows.

5. THEATRE AND LANTERN: THE EXTRAORDINARY PHANTASMAGORIA SHOWS

During the months of May and June of 1845, Dalmau announced extraordinary showings of phantasmagoria which featured scenes from the opera *Robert le diable*, including the calling up of the dead or Bertram's aria¹⁴. These themes had not been included by chance, because *Robert le diable* had been first shown in that same year in the Teatro de Santes Creus —currently Teatro Principal—, and it was scheduled again in September and October by the Teatro Nuevo. After making a name for itself in the Opera of Paris (1831), *Robert le diable* toured across all Europe; it was performed in London (1832), Berlin (1833) and Budapest (1834), among other capitals, and it also caused a sensation when it arrived in Barcelona.

The convergence between optical shows and theatre is evident in this case. While Dalmau introduced in his programmes different themes that had been acclaimed on the stage, operas like *Robert le diable* had in turn used the themes and resources that the magic lantern had brought into fashion, such as the appearance of ghosts on the stage. Two reviews from that time give us a closer look at the impression that the audiovisual effects caused on the viewers. Whereas the first one focuses on the impact of acoustic sensations, the second one emphasises the visual resources.

«The stage had been transformed into a cloister in ruins, littered with sepulchres. Bertram appears in that house of silence and eternal sleep where the terrible evocation of those who rest under the cold stones starts with the slow and provocative song of the infernal Furies that reveals the cold blood that inspired their atrocious and ruthless revenge. With the thunderous clamour of the trombones and the screech of the flutes and the bugles, we seem to hear the creak of the hard slabs when the tombs burst to release the inert bodies they had imprisoned. The scene has no dialogues, but the illusion is complete, because the fantasy of the composer was also soaring high. During the appearance of the dead, the orchestra describes in detail the action of the scene, now with the booming echo of the horns and the bugles that signal the hour of resurrection, now with the rhythmic staccato of the bassoon or the pizzicato of the bass, which mark the slow and restrained steps of the apparitions» (*Diario de Barcelona*, 12-IX-1845).

We can now highlight how the audience could perfectly interpret the movement of the melody that accompanies, describes, marks and evokes the images on the stage, and that contributes to completing the illusion of the scene. The second review stated:

«The end of the third and the fifth acts created an extraordinary effect, the most complete illusion possible. After the viewers heard, with gloomy terror, the noisy racket of the infernal orgy, their gaze is restless and it wanders over the deserted cemetery. They contemplate the flames of the friar's lanterns that flutter around the tombstones and the sepulchres. Suddenly, the tombs open due to Bertram's evocation; and the dead leave their final resting places and abandon their white shrouds at once, obeying the call of the magic incantations. This is the moment when the lively scene of Robert's seduction begins, and as soon as he grabs the cypress branch from the statue of his mother, the audience struggles to find the time to admire the loud scene of apparitions of demons, visions and

¹⁴ *Diario de Barcelona*, 11-V-1845, p. 1799; 18-V-1844, p. 1896; *El Barcelonés*, 4-V-1845, also cited by Artigas, 2003, p. 192. For Bertram's aria, see *Diario de Barcelona*, 8-VI-1845, p. 2183.

hellish monsters. However, the intensity increases even further when, at the end of the opera, the bewildered audience observes, in respectful silence, the interior of a temple adorned with all the luxury and splendour required to celebrate a great and solemn religious rite. The audience, wild with enthusiasm, applauded furiously after the curtain dropped, and shouted for the painters to come onstage to take a bow» (*Diario de Barcelona*, 8-IX-1845).

This chronicle highlights the fact that audiences were aware of the illusion behind this piece, and it describes in detail the phantasmagoria scenes and emphasises the sense of sight in order to perceive that illusion. While the first quote mainly underscored the plasticity of the music and its descriptive and evocative power, this second text makes an effort to describe the torrent of visual information and to convey the enjoyment produced by the combination of wonderful images interpreted in terms of an illusion of reality. The audience is reduced to its sight, then to its eyes and finally to a body that is transported and that walks in awe around the scene. This clearly remind us of the descriptions offered by audiences of the diorama in Paris —we refer here particularly to the famous Chapel de Saint Étienne du Mont (Riego, 2001, p. 93)—, which deserves the same credit and admiration as the composer or the actors on stage. There was only a thin line to cross, if at all, between the audiences in Barcelona who insisted that the painters who were responsible for those illusions and that technical expertise came on the stage and the audiences in Paris who acclaimed the translucent cloths of Daguerre. Lantern, theatre and optical shows in general were sharing a common language that introduced audiences to new visual forms and emotional resources.

The part that we wish to emphasise in this section is the fact that a member of the audience who had been educated in that language and was familiar with the theme and the plot of the opera could attend the shows of the optician without any economic obstacle. In that case, they could not only enjoy the illusion of the slides of the lantern in motion, but also, and very significantly, the recreation, deviation, repetition and re-appropriation of the piece within a common universe of expectations. In Dalmau's shop the audience sang and danced, they applauded and chanted the most famous arias of their time. They participated. New shows were constantly being created based on the interaction between the audience and the lanternist —their words and their gestures— and between the audience and the images (Fernández, 2006).

6. STRONG COMPETITION: THE DISSOLVING VIEWS OF MR. ROBIN

During one of these extraordinary showings of magic lantern, Dalmau announced the introduction of «several objects for phantasmagoria which are beautiful and surprising, with a special magic picture which will change its shape seventy-five times»¹⁵. This description might refer to one of those mobile slides that show a magician that takes an endless number of diabolical creatures and fantastic beasts out of his cauldron, or to those that show a succession of small demons in different colours and positions. However, the announcement could also be referring to the effects of the geometric and abstract views of the chromatrope. It was the famous lanternist from London Henry Landon Childe who created this device approximately in 1844. Thanks to the overlapping of two discs

¹⁵ *Diario de Barcelona*, 8-VI-1845, p. 2183.

that turn in opposite directions, the device created images with a kaleidoscopic effect that held great visual attractive (Frutos, 2010, p. 67; Mannoni, 1994, p. 151).

One month later, in July 1845, the shows of Dalmau benefited from yet another invention by the English lanternist: the dissolving views. At the beginning of the 1840s, Childe conceived a mechanism that used a lantern with at least two lenses, so that the projected images appeared one after another and created the effect of a series of fade-ins and fade-outs. Therefore, the first image became increasingly dark while the next one was gradually illuminated (Frutos, 2010, p. 66). This mechanism led to an iconography that explored the change from day into night or different atmospheric phenomena on the same landscape —thus moving to the «screen» the light experiences of shows like the diorama, Louthembourg's Eidophusikon or the popular optical views. Mannoni (1994, p. 151) has documented shows in which up to six lanterns were put together to offer more complex effects. The lanternist could then create a rainbow in a sunny countryside landscape while a windmill moved its sails, and the audience could then see how the small windows of a country house lighted up when night came, and how it started to snow¹⁶.

Just as Dalmau included the scenes from *Robert le diable* to exploit their popularity in the theatres of the city, the introduction of dissolving views was, in turn, motivated by Mr. Robin's visit to Barcelona.

In the month of June 1845, the prestidigitator Mr. Robin, from Paris, showed on the stage of the Teatro Nuevo a full visual show with the name «Paliograma»¹⁷. The reviewer mentions buildings, squares and landscapes that were projected «successively on a quite large square canvas». Among the different animated views, the audience could see the Grand Kremlin Palace being covered by snowflakes, the doors of the Milan Cathedral opening, or night falling on a small town bathed in moonlight while lights appeared progressively on the windows and inside the buildings. The show concluded with the popular view of a calm sea at night in which a ship catches fire, with flames that were reflected on the sea and the sky.

The views were very well received by the audience and, judging by their comments, it was the first time that they saw such effects created by a magic lantern. The novelty can also be perceived in the reviewer's attempt to unveil the mechanism of Mr. Robin's dissolving views when he says «we believe that it is created with the same optics principles used in phantasmagorias». Later on, Artigas (2003, p. 188) points out that Mr. Robin presented a «New Polyorama» on June 26th of that same year, although rather than to a new device, he was probably referring to the introduction of new views into the programme.

With regard to the use of the term «polyorama», we must digress here to clarify its usage in that period, because it can be problematic and may lead to confusion. Based on our study on the newspapers of Barcelona, we can conclude that the Spanish term «poliorama», or «polyorama» in English, with the meaning of «dissolving views» was only used between the years 1845 (when Mr.

16 We could experiment those visual resources in person during a magic lantern session held at the Royal Polytechnique Institution of London on March 17th, 2017.

17 We tend to believe that this is a typo that refers to the term *polyorama*, as we will see later on. *Diario de Barcelona*, 12-VI-1845. On the presence of Mr. Robin in Barcelona, see *Diario de Barcelona* from June 1st, which announces his arrival, June 5th and 12th for full reviews of his shows, and *El Barcelonés* from June 19th (p. 2339) and 26th (p. 2429) for other shows. In our study and for future references we will follow the review from June 12th published in *Diario de Barcelona* that refers to the show from June 10th.

Robin introduced it in the city) and 1848 (when Dalmau's magic lantern shows came to an end). Later on, approximately from 1850, at least with regard to Dalmau's exhibitions, the term «polyorama» would refer to the optical box with diorama effects¹⁸. This was probably due to the popularization of the small panoptic polyorama created by the optician Lémaire, from Paris. Dalmau himself tried to clarify the meaning in 1852 when he wrote that in the 1840s he had shown on stage «dissolving views under the name 'polyorama' that were created with phantascopic devices»¹⁹.

As a response to the presence of Mr. Robin in Barcelona, Dalmau organised the abovementioned «great phantasmagoria show» in an attempt to counteract Mr. Robin's fame with the popularity of the opera *Robert le diable*. However, he did not yet include any dissolving views. Once that these extraordinary showings were over Dalmau announced the sale of a phantasmagoria device with all its accessories²⁰. With this sale, Dalmau could probably renew his equipment to purchase a lantern with at least two lenses in order to include dissolving views in his show. A standard magic lantern, while perfectly capable of fulfilling the needs of phantasmagoria that were shown on stage so far, could not create the effect of the images fading in and out consecutively.

However, we must point out that in the month of October 1844, he already announced «improvements in the mechanism of the phantasmagoria, which is now comparable to the best devices from Paris»²¹ and he includes what seems to be the first dissolving view: winter and summer, or a view of Switzerland²².

Still, this image does not seem to be featured again and, judging by the titles included in the programmes that he advertised in the press, dissolving views would not be a regular part of his shows until the end of 1845, when he borrowed the term *polyorama* from Mr. Robin for his advertisements:

«Optical show in Mr. Dalmau's shop, in 8 Ciudad Street. Today, the shows will start, and they will include images for cosmorama and phantasmagoria, the appearance of spectres, fantastic scenes, magic views, etc. The interval will feature singing and piano, and at the end, there will be beautiful polyorama views that represent the seasons of the year at different times of day and night. The first showing will take place at 5 p.m., the second one at 6.30 p.m. and the third one at 8 p.m. Bench seating ticket: 1.5 reales; chair seating ticket: 2 reales»²³.

From that moment on, the shows would include the cosmorama views that were featured first, followed by phantasmagoria and finally the «beautiful polyorama views with mechanical movements»²⁴. An advertisement from 1847 also refers to this new structure:

«Mr. Dalmau's Optical Laboratory, at his shop in 8 Ciudad Street — It will please the many lovers of this kind of performance to know that the optical shows that have been so popular in previous years will be offered again. They will take place only on public holidays with the following programme: 1st a cosmorama with

18 Artigas (2003, p. 188), for example, in line with C. W. Ceram, classifies Mr. Robin's polyorama into the category of shows of optical views and cosmoramas. However, as we have mentioned already, we believe that this is clearly a magic lantern show.

19 *Diario de Barcelona*, 28-VI-1852. We wish to thank Professor Jesús Sánchez Miñana for providing us with the advertisement.

20 *Diario de Barcelona*, 1-VII-1845, p. 2504.

21 *Diario de Barcelona*, 24-X-1844.

22 *Diario de Barcelona*, 8-XII-1844.

23 *Diario de Barcelona*, 1-XI-1845.

24 *Diario de Barcelona*, 23-XI-1845.

beautiful views that imitate natural images, including a view of Rome celebrating the festivities of Pius IX with general lighting, fireworks, etc. 2nd the mechanical phantasmagoria that includes an enormous variety of strange, beautiful and surprising objects. 3rd the polyorama with moving views, the garden of love, the cemetery and the apparitions, etc. The show will end with the carnival in hell. Entry: 2 reales. Showings at 5 p.m., 6.30 p.m. and 8 p.m.»²⁵.

Unlike with the advertisements of phantasmagoria, there are only a few titles of polyorama views that we have been able to find in the press from that period. Apart from some of the names that we have already mentioned (the garden of love, the cemetery and the apparitions) —which seem to share the ghostly themes of phantasmagoria—, we have found a view that showed «a large convoy of steam-powered stagecoaches on the railroad to Versailles»²⁶ and the views of Switzerland that were cited above. In any case, we may just mention that the magic lantern —and Dalmau is a clear example— did not just fill the rooms with ghosts, but also entertained the audiences with images of landscapes and famous buildings (Fernández, 2006, p. 101). The slides that have been preserved in different collections in Catalonia and the rest of Spain bear witness to this diversity and support the hypothesis that there was not a thematic differentiation based on the optical device that was used (Frutos, 2010).

With regard to Dalmau, this coexistence and concomitance of cosmorama and magic lantern that projected fantastic creatures or landscapes was present until July 1848, when the last magic lantern sessions and the last optical shows were organised in the shop located in 8 Ciudad Street²⁷. At the end of that same year, Dalmau moved his establishment to 51 Fernando VII Street, and the evidence suggests that the change of location also meant the end of animated projections²⁸.

7. EPILOGUE: THE OPTICAL LABORATORY IN FERNANDO VII STREET

Between the years 1844 and 1848, as the magic lantern and the optical views coexisted in Ciudad Street, Dalmau chose different names to advertise his shows. At first, the press referred to these performances as an «optical show with cosmorama and phantasmagoria». After the introduction of dissolving views, the name «optical sessions» was adopted, followed by the explanation «cosmorama, phantasmagoria, polyorama». Finally, in 1847, the term «Optical Laboratory» or «Laboratory of optical illusions», would later be adopted by Dalmau to refer to the new room entirely devoted to optical shows in his shop in Fernando VII Street, also known as «Mr. Dalmau's optical laboratory».

The guide written by Saurí and Matas (1849, p. 126) perfectly describes the distribution of the new shop into three clearly separated sections: a first door, the closest to Sant Jaume Square, gave

25 *Diario de Barcelona*, 19-XII-1847.

26 *Diario de Barcelona*, 28-XII-1845.

27 *Diario de Barcelona*, 2-VII-1848, p. 3064.

28 After moving to Fernando VII street, we have found only one advertisement in which he seems to return to the famous phantasmagorias: «Optical Laboratory — We know that the famous optics professor Mr Dalmau is preparing to hold some of those phantasmagoria shows that earned him such fame in previous years during the next Lent holidays. It seems that the show will include some dissolving views for polyorama, with surprising effects». *El Fomento*, 20-II-1849, p. 3. The advertisement was published in the section of news about Madrid, which means that it probably refers to shows held in that city, although no further references have been found. We may highlight here the formula used to refer to the «dissolving views for polyorama». I wish to thank Daniel Pitarch for providing us with the reference for this last magic lantern show.

access to the optical workshop in which «all sorts of quartz and glass was created for spectacles and other objects»; the central door gave access to the shop itself, where customers could find «a wide range of all sorts of top quality spectacles and other useful and luxury articles from the field of optics»; and finally, the last door led to the optical laboratory that was open every night, which back then contained a panorama (maybe the same cosmorama?) with eight views (Sánchez, 2006, p. 161).

On the other hand, the move to the new location highlighted the good evolution of his business, as well as his social ascent. The sessions of phantasmagoria and cosmorama had helped Dalmau to make a name for himself in the field of optics, thanks to the quality of his instruments and of the materials featured in his shows. The cosmorama lenses, for example, were manufactured in the same shop, and we may assume that this was also the case for some of the slides or some other components of the magic lantern. Fernando VII Street —currently Ferran Street— was at the time one of the most important commercial areas of the city, where the main fashion stores and luxury establishments competed to draw the attention of passers-by (Romea, 1994, pp. 243-244). The memoirs of Josep Coroleu also point out the anticipation created by the opening of the new shop of the optician:

«In that month, and during the festivities for Saint Thomas [in 1848], all the attention focused on the luxurious shop set up by Mr. Dalmau, a manufacturer of lenses, spectacles, telescopes and all sorts of optics tools, on the street that continued after Fernando VII Street. This enterprise, with a scientific basis, is a remarkable advance, and thanks to it we will no longer need to pay a tribute to foreign nations to acquire many instruments and devices that are essential for different trades, or at least extremely useful for many particular uses» (Coroleu, 1946, p. 325).

This work is not the place to present the shows hosted by the optical laboratory of Fernando VII Street. We may just mention now that, although the lantern disappeared then from the shows of the optician, the polyorama effects that were introduced would later on be used with optical views. As we have already pointed out, after projecting dissolving views, Dalmau took an interest for including in his cosmorama repertoire different views with double light effect, which would also be referred to as polyorama, at least from 1850 onwards. From 1853 on, Dalmau presented a show with stereoscopic photography which also included translucent effects, and which was consequently called «animated binocular poly-stereoscope».

8. CONCLUSIONS

Although the period of exhibition of the magic lantern was rather short (1844-1848) within the series of shows presented by Dalmau (1843-1863), these performances were very popular during the years in which they were held. This popularity, on the other hand, seemed to have been lost before. After being in fashion with the arrival of Robertson himself, there are few documented references — at least in the newspapers of the time— regarding magic lantern shows in shops or theatres of Barcelona in the 1830s.

With regard to Dalmau, although at first the newness of the show was due to the phantasmagoria images, in 1845 the dissolving views helped the optician to earn the admiration of his audience. In this period, Dalmau watched closely the entertainment landscape of the city, and from it, he obtained new

themes for his programmes, as well as new devices for his shows. Some examples were the extraordinary phantasmagoria shows in which he included slides with images from the acclaimed opera *Robert le diable*, or the introduction of dissolving views, which was motivated by the presence of Mr. Robin in Barcelona. Finally, the success of his commercial formula, which combined the sale of optical material, scientific tools and spectacles with visual shows—and within this last category, with a combination of cosmorama and phantasmagoria— would allow Dalmau to set up his shop in one of the most popular streets of the city, and would make him rename the establishment as «Mr. Dalmau's optical laboratory»²⁹.

9. REFERENCES

- Artigas, J. (2008). La música de la llanterna. L'aniversari mozartià. Música i llanterna a Barcelona. In *Cinema i Modernitat: les transformacions de la percepció* (pp. 237-247). Girona, España: Fundació Museu del Cinema-Col·lecció Tomàs Mallol; Ajuntament de Girona.
- . (2003). El diorama, el darrer dins del magma d'espectacles precinematogràfics del segle XIX. In *La construcció del públic dels primers espectacles cinematogràfics* (pp. 181-198). Girona, España: Fundació Museu del Cinema-Col·lecció Tomàs Mallol; Ajuntament de Girona.
- . (1992). La llanterna màgica a Barcelona. Segles XVIII i XIX. *Cinematògraf*, 1, 65-84.
- Cabana, F. (1992). *Fàbriques i empresaris: els protagonistes de la revolució industrial a Catalunya*. Barcelona, España: Diputació de Barcelona.
- Coroleu, J. (1946), *Memorias de un menestral de Barcelona*, Barcelona, España: Ediciones Betis.
- Cuenca, C. (2017). *Le Cabinet optique de Mr. Dalmau. Art, science et spectacle à Barcelone au XIXe siècle (1843-1863)*. Mémoire de Master 2. Paris: France: Université Paris 1 Panthéon-Sorbonne.
- F. Rius, N. (2011). *Pau Audouard, fotògraf retratista de Barcelona. De la reputació a l'oblit (1856- 1918)*, Tesi Doctoral, Universitat de Barcelona; Université Sorbonne-Paris IV.
- Fàbregas, X. (1975). *Les Formes de diversió en la societat catalana romàntica*. Barcelona, España: Curial.
- Frutos Esteban, F. J. (2010). *Los ecos de una lámpara maravillosa: la linterna mágica en su contexto mediático*. Salamanca, España: Universidad de Salamanca, ICAA.
- . (2008). Las proyecciones audiovisuales mediante linterna mágica como objeto de estudio. *Trípodos*, (23), 161-176.

²⁹ This article includes the results from our Master's dissertation in History of Art from the Université Paris 1 Panthéon-Sorbonne in which we document and analyse the shows that the optician held throughout his career in his different shops in Barcelona from 1843 and 1863. The dissertation was directed by Mr. Pascal Rousseau, and it was possible thanks to the Avenir scholarship granted by the French Embassy (2016). For a comprehensive approach to the interaction between the different devices, see the abovementioned work (Cuenca, 2017). We are currently working on the same line of research as part of the project Entre Ciutats (HAR 2016-78745-P) with the Gracmon research group from the University of Barcelona, also thanks to the support of a scholarship granted by Obra Social «la Caixa» (2017).

- . (2001). Escenarios lúcidos de la memoria. In *Memorias de la Mirada: las imágenes como fenómeno cultural en la España contemporánea* (pp. 17-73). Santander, España: Fundación Marcelino Botín.
- . (1996). *La fascinación de la mirada: Los aparatos precinematográficos y sus posibilidades expresivas*. Valladolid, España: Semana Internacional de Cine de Valladolid.
- Fernández, L. M. (2006). *Tecnología, espectáculo, literatura: dispositivos ópticos en las letras españolas de los siglos XVIII y XIX*. Santiago de Compostela, España: Universidad de Santiago de Compostela.
- Maluquer de Motes, J. (1992). Los pioneros de la segunda revolución industrial en España: la Sociedad Española de Electricidad (1881- 1894). *Revista de Historia Industrial*, 2, 121-142.
- Mannoni, L. (1994). *Le grand art de la lumière et de l'ombre: archéologie du cinéma*. París, Francia: Nathan.
- Pitarch, D. (2017). Història d'un fantascop: una eina per a l'educació a la Girona del s.XIX. Conference at the *11è Seminari internacional sobre els antecedents i orígens del cinema* [proceedings published in 2018]. Girona, España: Fundació Museu del Cinema-Col·lecció Tomàs Mallol; Ajuntament de Girona.
- Roberts, P. (2017). Philip Carpenter and the Convergence of Science and Entertainment in the Early-Nineteenth Century Instrument Trade. *Science Museum Journal*. Doi: <http://dx.doi.org/10.15180/170707>
- . (2016). Building Media History from Fragments: A Material History of Philip Carpenter's Manufacturing Practice. *Early Popular Visual Culture*. 14 (4). Doi: <https://doi.org/10.1080/17460654.2016.1222930>
- Romea Castro, C. (1994). *Barcelona romántica y revolucionaria: una imagen de la ciudad: década de 1833 a 1843*. Barcelona, España: Universidad de Barcelona.
- Sánchez Miñana, J. & Lusa Monforte, G. (2009). De músico a óptico: los orígenes de Francesc Dalmau i Faura, pionero de la luz eléctrica y el teléfono en España. *Actes d'Història de la ciència i de la tècnica*, 2 (2), 87-98.
- Sánchez Miñana, J. (2006). Las primeras aplicaciones de la electricidad en Barcelona en torno a 1850. *Quaderns d'Història de l'Enginyeria*, 7, 115-195.
- Saurí & Matas (1849). *Manual histórico-topográfico, estadístico y administrativo: o sea guía general de Barcelona*. Barcelona, España: Imprenta y Librería de Manuel Saurí.
- Vega, J. (2010). *Ciencia, arte e ilusión en la España ilustrada*. Madrid, España: Polifemo.