

The decline of Immersive Journalism in Spain since 2018

El declive del periodismo inmersivo en España a partir de 2018

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RESUMEN

Introducción: Este trabajo presenta un análisis del periodismo inmersivo en el ámbito empresarial y profesional, tras la constatación de que la producción de vídeos informativos en formato 360° ha decaído a partir del año 2018. **Objetivos.** Analizar las causas del cese de la producción de vídeos en formato 360° en España a partir del año 2018, así como conocer la situación del periodismo inmersivo tal como la reflejan los últimos trabajos de investigación académica publicados en el ámbito científico. **Metodología.** Se analizan una serie de entrevistas semiestructuradas realizadas a los profesionales que realizaron las primeras experiencias inmersivas en España, así como los resultados de los últimos artículos publicados en el área de conocimiento de la comunicación. **Resultados.** La investigación académica en los últimos años muestra una situación optimista para las tecnologías inmersivas aplicadas a la comunicación; sin embargo, el interés de los medios de comunicación no parece acompañar a esta visión. **Conclusiones.** El escaso apoyo de los medios, la ausencia de tecnología para alcanzar una inmersión real de los usuarios, la escasa cultura visual de este tipo de productos en el público y, como consecuencia de ello, el bajo impacto en la audiencia son las claves de este descenso de la producción de piezas de periodismo inmersivo, frente al progresivo aumento en otros ámbitos como el videojuego o producciones audiovisuales de entretenimiento, en formato multimedia y de difusión o divulgación.

PALABRAS CLAVE: inmersivo; 360°; realidad virtual; Medialab; innovación; realidad aumentada; transmedia.

ABSTRACT

Introduction. This paper presents an analysis of immersive journalism in the business and professional sphere, following the finding that the production of news videos in 360° format has declined as of 2018. **Objectives.** We will focus on analyzing the causes of the cessation of 360° video production in Spain as of 2018, as well as knowing the situation of immersive journalism as reflected in the latest academic research papers published in the scientific scheme. **Methodology.** A series of semi-structured interviews conducted with professionals who carried out the first immersive experiences in Spain are analyzed, as well as the results of the latest articles published in the area of communication knowledge. **Results.** Academic research in recent years shows an optimistic situation for immersive technologies

applied to communication; however, the interest of the media does not seem to accompany this vision.

Conclusions. The scarce support of the media, the absence of technology to achieve a real immersion of users, the scarce visual culture of these types of products in the public, and, as a consequence, the low impact on the audience are the keys to this decline in the production of immersive journalism pieces, compared to the progressive increase in other areas such as video games or audiovisual productions for entertainment, in multimedia format and for broadcasting or dissemination.

KEYWORDS: Immersive; 360°; virtual reality; Medialab; innovation; augmented reality; transmedia.

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CONTENT

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Translation by Paula González (Universidad Católica Andrés Bello, Venezuela)

1. Introduction

Bringing the reader closer to the news, to the experience of witnessing the informative process, is something that journalism has tried for many years. We find the first experiences of immersive narratives in the testimony of the muckrakers at the dawn of the 20th century. Martha Gellhorn's reports on World War II, Walter Cronkite's work on CBS during the 1950s, the New Journalism movement in the 1960s, experiments with panoramic video and surround audio (Domínguez Martín, 2017), or Hunter S. Thompson's gonzo journalism in the 70s are, without a doubt, examples of the evolution of this type of communication. As a consequence of the boom in the creation of this type of product in both foreign and Spanish media, scientific and academic research has studied its characteristics and formats, motivated by the hybridization and multidisciplinary nature that arises from the union of journalistic narrative and transmedia technology.

The confluence of the journalistic story and new technologies have given rise to the generalization of terms such as products in virtual or augmented reality, as well as those that refer to the uses of these technologies in multimedia, cross-media, or transmedia format. Transmedia narrative is that multimedia and hypertextual communication based on the transmission of a journalistic piece through different media and platforms, which incorporates the participation of the receiver who, from an initial narrative universe, accesses multiple forms of expression and parallel stories that amplify that original content, assimilating the expressive formats of each of them. The role of the technology industry and the market for culture and content creation is essential in this process (Jenkins, 2003; Scolari, 2013). In this way, the transmedia journalistic narrative, taking advantage of the interactive resources offered by information technologies, seeks to encourage the participation of the user/spectator who becomes, in this way, part of the dissemination strategies of the piece, accessing and creating narratives that complement the basic or initial journalistic discourse (López Hidalgo, 2016). It also represents a challenge for journalists, displaying their work in different media and platforms, and providing their audience with information and basic training for the world around them (Gonçalves and Dos Santos, 2013).

Immersive journalism in the virtual environment is one in which the reader/spectator/user receives the information as something real. It is not just about creating a sense of presence or choosing the point of view but about feeling like a protagonist and living an immersive experience as if it were real. In this sense, we must refer to the conceptualization of immersion and presence by Slater and Wilbur (1997), which refer to the need to combine a high level of technology at the service of content creation and its connection with cognition (Heeter, 2003) to achieve the sensations and identification of the viewer with the environment and proposed actions (Mateer, 2017).

We verify in this study how transmedia narratives and immersive journalism have become a research object of great interest in the field of communication. The main lines of research that we find, correspond to the development of its own conceptual framework; the review of the evolution of transmedia

technology and how it makes the journalistic narrative evolve, and, of course, the analysis of the immersive products that we see in the media and the impact they cause on its users.

In the scientific field, we can find other definitions and descriptions of immersive journalism. The first was that of Nonny de la Peña, who began the path of research in immersive journalism, identifying it as that “news production in a way that allows people to obtain first-person experiences about events or situations described in journalistic stories.” (De la Peña et al., 2010). Eva Domínguez Martín (2015) raises two essential aspects of the immersive story. On the one hand, taking up De la Peña in the work cited above, the feeling of being part of the action, what she calls “being there”. And, on the other, the viewer’s interaction with the news. The immersion of the user, in this way, is achieved with techniques that range from the use of a 360-degree video camera to complex virtual reality scenarios, in which graphic hyper-realism can be accomplished which, together with the use of the aesthetics of the video-game (Domínguez Martín, 2015) and the cinematographic narrative, achieve a very complete effect of presence.

The first professional application of immersive journalism was the publication of *Harvest of Change* in *The Moine Register*, in 2014, where a non-experimental use can already be observed in the media (Barreda Ángeles, 2018; Benítez de Gracia and Pérez Seijo, 2018). Between 2016 and 2018, we find in Spain immersive productions of *El País* and *El Mundo* (López Hidalgo and Fernández Barrero, 2016) and other media that use virtual reality or 360-degree video, as well as specific channels on YouTube and mobile apps to publicize their production.

However, after these years, a drastic reduction in the production and monitoring of the innovation of immersive narratives in the Spanish media has been detected. In this work, we try to know the reasons that have led the media to abandon this type of production, either due to lack of financing, lack of interest from the communication group, or lack of support for the professionals or journalists who developed it.

2. Objectives

Based on the finding that the news media with the most immersive video production abandon the format at the end of 2018, this study sets out as its main objective to research the causes of the cessation of production, especially when in other areas, for example, education or divulgation, not only has production been maintained, but interest in it has also increased, taking advantage of the technical improvements that have been introduced in recent years. A second objective is to study the latest research work on this subject, analyzing the evolution that has occurred in its approach and to what extent it refers to the cessation of immersive video production in the news media.

3. Methodology

This work aims to answer three main questions, which we define below as research questions:

Rq1 What was the reason for the high production of immersive journalism pieces in Spain from 2016 to 2018?

Rq2 What happened so that, from this date on, we find fewer examples?

Rq3 What is the situation from the professional point of view and the development of these applications in the professional and business field in Spain?

To answer these questions, we present a total of five interviews with communication professionals related to 360-degree video. In the selection, not only the professional experience of the respondents has been taken into account, but they are authors of some of the most cited and studied works in the academic literature on the subject and this is the first time that they have been interviewed for a study on virtual formats. Three of the interviewees made videos in 360-degree format for *El País* between 2016 and 2018. *El País* was one of the most active media outlets in the production of 360-degree video pieces during the analyzed years. Furthermore, an interview with the editor who made several productions for the newspaper *Sur* of Malaga, one of the most active local media outlets in recent years, is included. And it concludes with the vision of an expert in content production for extended reality, who is still active today. The five professionals who have participated in the research are:

Noemí Ramírez: general director of products and clients at PRISA Noticias. She had a prominent role, as executive producer, in the documentary *Fukushima, vidas contaminadas* (01-05-2016) for El País. Saúl Ruiz: Audiovisual producer at El País. He was the director of *Caso Ayotzinapa, la tumba abierta* (26-09-2016) and *Los desplazados que ya perdonaron* (01-10-2016), among others for El País.

Pablo León: Editor of El País. Author of *La dehesa enferma* (16-05-2018) and *Silencio se rueda* (24-09-2018)

Jon Sedano: Editor of the newspaper *Sur* of Málaga and professor at the Faculty of Communication Sciences at the Universidad de Málaga. He made several 360-degree video reports for the newspaper *Sur* between 2016 and 2017.

Verónica Rodríguez: Communicator specialized in virtual reality and creator of content in extended reality.

The methodology proposed for conducting the interviews has been influenced by the health situation caused by the Covid-19 pandemic, so it has been decided to conduct interviews by email and online sessions (Schmidt et al., 2020). Regarding the type of interview, the semi-structured interview model was chosen (Folgueiras Bertomeu, 2016; Taguenca Belmonte and Vega Budar, 2012; Vargas Jiménez, 2012) based on 10 open questions to expand the results with the contributions that the subjects would like to contribute. The questions focused on four fundamental analysis variables and were aimed at knowing the following aspects: start of the works in their respective media; technology and equipment used; impression on the level of reception and satisfaction of their users on these productions; and, finally, professional vision about the situation and future of immersive journalism.

On the other hand, and from the field of scientific and academic research, we can verify that reflections have continued on this type of narrative and its future. Thus, we present an exploratory and systematized bibliographic review (Codina, 2020; Pérez Seijo et al., 2020) of the results of scientific research published in recent years in reference journals and publishers in the field of knowledge in communication. For the selection of the theoretical framework, not only the publications of Spanish authors have been considered, although the study corresponds to the national media, but also foreign ones that address transmedia narratives and the uses of transmedia technologies. The works have been filtered, in the first place, according to the topic, that is, those that adhere more clearly to the object of the research; next, a search of the works of the last three years was carried out by their quality indices (JCR and Scopus) and the number of citations, in the Google Scholar and Elsevier repositories, creating an updated database on the work object in Mendeley Reference Manager. For the definition of the fundamental concepts, the reference bibliography of this field of knowledge has been used, consolidated over the years for its contributions to the subject.

4. Immersive narratives in the scientific field

The latest research works on immersive journalism are focusing on the study of the experiences and techniques of augmented reality, virtual reality, or 360-degree video (Jauregui Caballero and Ortega Ponce, 2020; Pérez Seijo, 2021; Salaverría, 2019), now called extended reality. The objective of this type of product, as previously mentioned, is to tell a story (Benítez de Gracia and Herrera Damas, 2018b; Paíno Ambrosio and Rodríguez Fidalgo, 2019) and awaken emotions through empathy and the inclusion of the user (Sayán Casquino, 2020; Villa Montoya, 2018). Undoubtedly, these works coincide in affirming that the role of technology is decisive when it comes to narrating and amplifying the significant universe of the piece from the linguistic, spatial, sensory, or psychological level, which help us to know the impact immersive journalistic products have achieved, that is, how users see themselves represented and reality is shown through their interaction (Barreda-Ángeles, 2018; Colussi and Reis, 2020; Domínguez Martín, 2017; Jauregui Caballero and Ortega Ponce, 2020; López Hidalgo and Fernández Barrero, 2016).

The evolution of the study of narrative has led researchers to also address the potential of transmedia storytelling applied to journalism, taking into account the variety of languages that can be used and the malleability of the product to which transmedia resources can be added, adapting the narrative to different age segments, as well as the uses and customs of these consumers (Caerols Mateo et al., 2020; López Hidalgo and López Redondo, 2021; Marín, 2021; Palau Sampio and Sánchez García, 2020). In this way, and depending on the interaction, the narrative that has caused the greatest impact on the public is that of pieces that deal with social reporting, the webdocs that hybridize the interactive docu-

ment and docugames, which in turn help to generate in the viewer a greater sense of presence, empathy, or identification, that is, those pieces that generate greater proximity and affinity in viewers (Benítez de Gracia and Herrera Damas, 2018b; Nielsen and Sheets, 2019; Pérez Seijo, 2017; Villa Montoya, 2018; Uskali et al., 2021).

Along with the above, another of the most important lines of research developed by experts from the academic field has been the analysis of the experiences and projects developed by the media. At the end of the 1960s, Iván Sutherland developed, at the Lincoln Laboratory of the Massachusetts Institute of Technology, a prototype of a helmet that, equipped with two cameras, generated a virtual environment and an immersive effect on the user (Sutherland, 1968). These experiences have been continued by multiple researchers addressing the multimedia productions that were made from the existing interest in the generation of content with immersive technology and the implementation of audiovisual experimentation laboratories in many media outlets (Albalad Aiguabella et al., 2018; Barreda Ángeles, 2018; López Hidalgo, 2018; Zaragoza Fuster and García Avilés, 2018). Studies on immersive techniques with 360-degree journalism are the most developed model until augmented reality burst into the Spanish media (Willens, 2017; Benítez de Gracia and Herrera Damas, 2018a; Benítez de Gracia and Pérez Seijo, 2018; Cantero de Julián et al., 2020; Paino Ambrosio and Rodríguez Fidalgo, 2019).

The creation of innovation departments and laboratories was the response of some media outlets to the needs for innovation in technology and content, as a result of the economic and industrial crisis of the media (Méndez Majuelos, 2020; Pozo Montes and Larrondo Ureta, 2020; Benítez de Gracia and Pérez Seijo, 2018; García Avilés, 2018; Zaragoza Fuster and García Avilés, 2018). Undoubtedly, one of the most important media laboratories in Spain is Radio Televisión Española's laboratory, RTVE Lab. Interesting productions can be found on its website, such as those made with immersive narrative techniques for dissemination, although not in the journalistic sense defined by De la Peña (2010) and to which reference has been made previously.

Along with the public channel, other national and regional media outlets have stood out in the experimentation and specific development of these technologies, applying them to a journalistic and informative language, in general, among which El País (Carrero and García, 2021; Barreda Ángeles, 2018; Benítez de Gracia and Pérez Seijo, 2018; Caerols Mateo, et al., 2020; Gutiérrez Caneda et al., 2020; López Hidalgo and Fernández Barrero, 2016; Rocha and Pase, 2018; Sidorenko Bautista et al., 2020) and the productions of the newspapers Sur, El Español, La Vanguardia, El Confidencial, and La Sexta stand out (Benítez de Gracia and Herrera Damas, 2018, p. 156), using 360-degree technology for video with informative, social, and news content. Benítez de Gracia and Herrera Damas (2021, 2018) point out that several local media outlets began to produce 360-degree video since 2016. Among them, the newspaper Sur of Malaga stands out, becoming the local media outlet that most produced immersive videos between 2016 and 2017.

Finally, we also find studies that address the problems and risks for journalism from the misuse of immersive technology applied to narrative, as would be the case of the normative and stylistic vacuum that still exists in the media, as well as technical limitations at the time of both the creation and, above all, the reception of the content, which would lead to the loss of the true sense and meaning of the piece (Benítez de Gracia and Pérez Seijo, 2018; Gutiérrez Caneda et al., 2020; Paino Ambrosio and Rodríguez Fidalgo, 2019). In any case, the research results present an optimistic perspective both in the possibilities of immersion of the viewer in the content, and the characteristics of the stories, closer to the deepening, specialization, denunciation, and even dramatization of issues of a social and human nature (Barreda Ángeles, 2018; Carrizo, 2021; Brannon et al., 2021; Jauregui Caballero and Ortega Ponce, 2020; Paíno Ambrosio and Rodríguez Fidalgo, 2019).

In conclusion, and returning to the origins of all these texts, it can be affirmed that De la Peña's (2010) thesis that it will be the use made of technology that will make the difference between immersive journalism and interactive journalism, is still valid. This idea is maintained in the new research and developments of immersive journalism, both in the world of MediaLabs, journalism, teaching, or artificial intelligence (Manfredi Sánchez et al., 2019; Tejedor Calvo et al., 2020; Greber, 2021; López García and Vizoso, 2021; Pérez Seijo and Vizoso, 2021; Pjesivac et al., 2021) and an example of this is the development of volumetric virtual reality, which improves the immersive experience by allowing not only turning in 360 degrees on an axis but the movement through space. This technology, also

known as 6DoF (Six Degrees of Freedom), increases mobility by allowing movement forward and backward, as well as in height, compared to the previous system that only allows head movements in a static axis (Rosi, 2021). This technique is being used regularly in video games, museums, and educational or business environments. For example, the project to create a volumetric video version of the Trinity College Library in Dublin (O'Dwyer, 2021), or all the games created for the Oculus Quest or HTC Vive platform that already allow movement in 6DoF. Emblematic Group, Nonny de la Peña's company, is developing an inexpensive volumetric video technology called REACH.Love that allows any company or media outlet to create next-generation virtual products at a low cost (Wolozin, 2020).

5. Evolution of immersive video in the Spanish media.

Although the research results published in recent years show an optimistic projection of this type of technology applied to communication and its impact on journalism, the interest of the media seems to be taking a different path. This statement is supported by the interviews conducted for this work with professionals from the main media outlets who developed these technologies by applying them to journalism during the years on which this study focuses, from 2016 to 2018.

Regarding the initial interest of the media in the development of immersive narratives based on the application of virtual and augmented reality devices, although it is true that the media advanced in the use of a technology that was still immature at that time, they recognize that there was a lack of support from the brands that were promoting the technology, either because they were content platforms or because they were technology manufacturers. If this had happened, the immersive formats would have lasted longer or even consolidated.

The first products that we find from these developments, such as 360-degree video production, are also related to the availability of low-cost technologies for the production of these videos and the existence of companies specialized in this type of production, which have been hired to make some videos with more complex structures. In other cases, the beginning of the activity is related to the personal commitment of some editors interested in the subject, as was the case of the newspaper Sur, one of the local media outlets with the most production of this type during these years. We find a very similar case in some productions of El País from 2018 that start from the initiative of a certain editor, interested in this type of experience.

Regarding how this type of piece was developed within the media outlet and how it affected the organization of work, the interviewees agree in stating that the production of this type of format also requires a team of expert professionals and involves a complex production that later does not always obtain the expected audience result. Grupo Prisa and El País insist on the importance of having a specialized team with the ability to have specific viewers and integrate a format with highly technological production dynamics. These last aspects, the interviewees point out, have been the causes of the decline or abandonment, in their case, of this type of production. That is to say, the complexity of the production and the absence of teams within the media that can be dedicated exclusively to this type of work. However, they are not the only aspects since we cannot ignore the fact that, if these productions had had a great impact on the audience, the interest of the media would undoubtedly be maintained. Santos (2019) agrees with many of the conclusions that the interviewees give us, although he is more optimistic because he sees a challenge instead of a problem when he admits the need for the media to have a multidisciplinary technical team, a powerful technology.

The lack of a sufficient number of users with specific devices to take advantage of virtual formats is one of the main problems for the expansion of these videos. For example, the consulted professionals of Grupo Prisa refer to the immersion effect achieved by these videos compared to that obtained in a video game, such as absolute positioning whereby, when bringing the head closer to an object, the user approaches it, a fact that tricks the brain and makes it feel inside the recreated product. This is not achieved with traditional 360-degree videos, so, although some productions managed to create a greater immersion effect, in the end, none achieved the same effect as that of a video game or 3D recreation. New studies, however, also point to the possibility of an increase in interest in this technology by adding, to the previous ones, resources such as gamification at an intersection between journalism and video games, the so-called newsgames in which there is a flow of communication and complex arguments within a journalistic dynamic (García Ortega and García Avilés, 2020)

The experience of presence, therefore, in the opinion of professionals, has not been fully achieved, and when it has been achieved, we find that the majority of users do not have a habit of consuming immersive audiovisual content. In other words, the solution could have been found if these productions had been aimed at users who were already familiar with 360-degree videos, such as a younger audience accustomed to the use of these narratives. In this way, not only would this type of format be better used but it would also have connected with a generation that is further away from the use of news media.

In this sense, Jon Sedano, editor of the newspaper *Sur*, acknowledges that the production of this type of audiovisual piece is complex and that, in the end, no support is obtained from the readers that justifies the continuation of the production. This opinion is shared by Pablo León of *El País* when he states that when observing that consumer expectations did not grow, the media outlet stopped encouraging the creation of this type of content since the effort in production did not translate into a palpable impact among its readers. This idea, of the absence of impact on the public, has been extensively studied, especially regarding 360-degree experiences by Benítez de Gracia and Herrera Damas (2021, 2018). Similarly, the work of Huerta et al. (2007) draws attention not only to the consumption but also to the poor digital competence of the public to face and understand the products derived from this technology. This idea has also been developed by Caerols et al. (2020) when referring to the irregularity of production, the absence of normalization of many proposals, and the constant experimentation with different technologies and narratives. These, in the opinion of researchers in this field of knowledge, together with the difficulty of access and the dispersion of content on multiple platforms or spaces (Gutiérrez Caneda, 2020), are aspects that make it difficult to create habits of consuming immersive products.

The interviewees agree in emphasizing that they have been able to verify that the technology used to make 360-degree videos was barely known by the public, especially by the typical user for whom the videos were intended, a generalist reader. Given this contrasting situation of lack of interest from the business point of view and the technological and content production point of view, the future of immersive narratives in the Spanish media seems bleak. Regarding new experiences, they highlight the great moment that extensive reality is experiencing, which is the term currently used to refer to all immersive formats, including not only 360-degree video, but also virtual and augmented reality. In the opinion of Verónica Rodríguez, at this time, extensive reality is already being used in all kinds of environments, from scientific, artistic, or educational, to commercial, such as, for example, its use in the real estate sector.

About the future of immersion and 360-degree video, it doesn't seem like these fit the way readers want to receive information. The professionals interviewed admit the great possibilities of the format but they agree that users are not attracted by the immersive experience that these narratives offer. Given this, they state that 360-degree video in its journalistic use will not have much of a future, a forecast that is related to a way of presenting audiovisual content that provides too much information to the viewer, information that, in reality, the user neither requires nor wants. This connects us with the reflection made earlier regarding the ease of access to products and immersive content. It is possible that in the future, with the development of the metaverse that Mark Zuckerberg proposes as the future for social networks, this perception will change and information formats based on immersive technologies will be reconsidered.

Given the results of the interviews carried out, we can conclude that the professionals interviewed agree that it was at the end of 2018 when the media ended the period of experimentation with immersive technologies and, especially, with 360-degree video. In the latter case, the use of this resource will be abandoned or will be relegated to some videos of popular festivals without a script or post-production. The only media outlet that does seem it will maintain some activity in the production of this type of format, in the opinion of the interviewees, since it has done so in recent years, has been RTVE Lab, but more focused on information than news issues.

5. Conclusions

Based on the analysis of the latest academic publications on the subject and the interviews with professionals, it can be established that what motivated the high production of immersive pieces in Spain between 2016 and 2018, responding to Rq1, was the novelty that this technology offered to present

information differently, taking advantage of transmedia narratives, with greater depth and to connect with the consumption habits of viewers. If the products and pieces published in the media are organized by year of publication, we find that 2016 is the time when most of the production of immersive content is concentrated and where the greatest interest in experimentation with the format is observed on the part of the media. Since 2018, production begins to decrease.

As for the response to Rq2, the reason for the lack of production since 2018 is that these productions arise at a time of experimentation, rather than as a result of a commitment to an easily marketable format, which implies that, after the testing period and not obtaining the audience results or the necessary income to continue production, the format was canceled. In any case, what does seem certain is that they anticipated the implantation of these technologies as habitual consumption among the public.

Only a small part of the production is dedicated to journalistic products since most of the videos published only show the possibilities of the system and the advantages of immersion for the user but without generating informative content or evolving towards more complex multimedia products. The contents analyzed in the bibliography consulted move on the border of journalism and dissemination and, although there are many references in the theoretical frameworks on the influence of Nonny de la Peña, no example is found that follows in her footsteps. All the videos analyzed focus on the use of technology and the possibilities of the system, instead of delving into the capabilities of immersive video to bring the news closer to the user, as can be seen in De la Peña's work.

In summary, the decline of the format was motivated by, in the first place, the scarce support of the media, to which is added the non-standardization of the devices to achieve a real immersion of the users. On the other hand, from the reception area, the scarce visual culture of this type of product in the public and the low impact on the audience have been decisive for the gradual abandonment of this type of production in the Spanish media.

Finally, the current and future situation, as we raised in Rq3, both from a professional and business point of view, is that the media are reluctant to spend resources on the use of technology without being sure that consumers will accept it, which is why no Spanish media outlet maintains an active line of immersive video production. As for other topic areas, information dissemination will be the space where these narratives will still have continuity, as shown by the products that the RTVE Lab continues to publish, either in spaces created expressly for dissemination or in traditional information spaces to explain to the audience a specialized topic or some complex aspect of current affairs and with guaranteed expectation, for example: natural disasters, scientific information, or technological advances.

An example has been the information coverage of the eruption of the Cumbre Vieja volcano on the island of La Palma, in the Canary Islands. The Canarian public television, Radio Televisión Canaria, has given an example to media outlets with perhaps greater technological capacity, of how to deal with specialized and complex information with augmented reality and, above all, the use of drones in their news spaces. We have been able to see pieces in which the viewer could enter the bowels of the volcano and see the evolution of the eruption, causes and consequences of what was lived daily, and all this while respecting information with a high level of scientific specialization. Quite a challenge, without a doubt, for journalism in both public and private media. Meanwhile, immersive technologies continue to advance from a technological point of view and are the subject of profuse academic research on their characteristics and their impact on audiovisual consumers, whether from the journalistic, informative, recreational, or professional fields.

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