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A proposal for the classification of immersive journalism genres based on the use of virtual reality and 360° video

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Abstract

Introduction: The use of virtual reality and 360-degree video technologies in the field of journalism has led to the emergence of new lines of research, like the one addressed in this article. **Objectives:** This study focuses on the exploration of the different issues related to the production of pieces of the so-called immersive journalism and examines how the narrative elements of traditional journalism are reformulated in these immersive pieces. **Methods:** The study is based on the analysis of 2,178 pieces of immersive journalism produced by Spanish and international media companies, between 2012 and 2017. **Results and conclusions:** This analysis has allowed us to develop an innovative proposal for the classification of immersive journalism genres, which has not been done before. This typology is based on the analysis of the reformulation of the narrative elements of news storytelling within immersive journalism.

Keywords

Immersive journalism; virtual reality; 360-degree video; genres; immersion; immersive genres.

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Translation by **CA Martínez-Arcos** (PhD from the University of London)

1. Introduction

The technological origins of Virtual Reality (VR) can be traced back over half a century, but its true development occurred just a few years ago, with the proliferation of commercial visualisation devices and recent advances in 360-degree video technology, which have contributed to widespread adoption of VR technology by the general public. This process has occurred in parallel to the entry of media companies into the digital stage. The Internet has transformed the mechanisms of content production and access and has initiated a new era characterised by convergence. In this era, there is a diversity and multiplicity of screens that the public can use to consume information, which forces the media to reinvent themselves and look for new ways to survive in the current media panorama.

Within this context of change, the emergence of the so-called immersive journalism is very recent and is strongly linked to the aforementioned adoption of VR technology by the general public, which has been largely favoured by the lowering cost of visualisation devices. The first journalistic projects of this kind appeared timidly after 2014 (except for previous experimental examples that are also analysed in this study). These projects opened new possibilities to the journalistic profession as they took advantage of the features of the new technology to offer the public the possibility of immersing themselves into the narrative.

These advances reflect the interest that immersive journalism generates in media professionals as well as researchers and scholars. However, the novelty of this research has to do more with the research design than with its object of study. In this case, the analysis examines how VR journalism reformulates the elements of traditional journalism (journalist, sources, message, resources, editing, receiver, etc.) and the roles these elements play in immersive pieces. In a classic, linear news story, the journalist chooses the perspective and the part of reality that will be reported (directed point of view, third-person narration and passive consumption by the receiver), but in VR journalism, the receiver selects the point of view and becomes a “witness” of the events reported by the journalist.

Based on these premises and the analysis of more than 2,000 pieces of immersive journalism, this research offers a novel proposal for the classification of what has been termed “immersive journalism genres”, which has not been done before in immersive journalism studies.

2. Theoretical framework

In recent years there has been a growing interest in the possibilities offered by the use of VR and 360-degree video technologies for the creation of journalistic content, which has generated interest in the study of what has been called “immersive journalism”. In the last decade of the 20th century and the first one of the 21st century, different authors analysed the possible applications of this new technology to the field of communication -see Biocca & Levy (1995), De la Peña (2011) and De la Peña et al. (2010)-, but it was really after 2015 and especially between 2016 and 2017, when studies on the use of this new immersive technology in non-fiction narratives really experienced a boom.

This “boom” in the study of immersive journalism can be related to the production, in this period, of pieces created with this technology by media from around the world, which became the object of study of many journal articles, including: Aronson-Rath, Milward, Owen & Pitt (2015), Baía (2016), Benítez (2016), Benítez & Herrera (2017), Bohrer (2016), Costa (2017), Costa & Brasil (2017), Costa & Cordeiro (2016), De la Peña (2014), Domínguez (2017), Doyle, Gelman & Gill (2016), Fagundes &

Guizzo (2017), Gonçalves (2017), Guizzo (2016), Hardee (2016), Hijazi & Cuillier (2017), Jones (2017), Kishore, Navarro, Domínguez, De la Peña & Slater (2016), Kool (2016), López (2016), López & Fernández (2016), Pérez (2015; 2016; 2017), Pérez & Campos (2016a, 2016b, 2017), Pérez-Seijo & López-García (2017), Robson & Costa (2016), Rubio & Gértrudix (2016), Shin & Biocca (2017), Sidorenko, Cantero & Herranz (2017), Singh (2015), Sirkkunen, Väättäjä, Uskali & Rezaei (2016), Slater & Sánchez-Vives (2016), Uskali, Väättäjä & Sirkkunen (2017), Vázquez-Herrero & López-García (2017) and Witt, Kperogi, Writer, Bohrer & Negash (2016). The proliferation of research in this field included guides, like the one produced by The Associated Press, “A guide for journalist in a world of immersive 3-D content” (2017), which is oriented to news media professionals interested in working with VR technology.

When it comes to explaining what immersive journalism is, the most commonly accepted definition is the one formulated by Nonny de la Peña, a pioneer in this area. She uses this term to refer to “the production of news in a way that allows people to get first-person experiences of the events or situations described in news stories” (De la Peña et al. 2010: 291). This form of journalism generates a sense of presence that transports users to a different scenario where they can witness a certain news story and feel as if they are “truly there” (Aronson-Rath et al., 2015; Biocca and Levi, 1995; De la Peña, et al. 2010). This presence is achieved through different immersion systems (Cave or HMD), the creation of virtual worlds, which would be called three-dimensional recreation, and 360-degree video, which is the most common production in the media sector, given its lower cost and shorter production time (Pérez and Campos, 2017:102).

Based on the technological component, De la Peña et al. (2010) differentiate between interactive or low-level immersive journalism and high-level immersive journalism:

We have distinguished between what might be called interactive journalism or low level immersive journalism, which supplies information in novel forms such as computer games, online communities such as Second Life, and which can give people some level of experience of a situation as well as providing a means to navigate through the vast amount of digital information that may be available on a particular topic. By deep immersive journalism, on the contrary, we mean transferring people’s sensation of place to a space where a credible action is taking place that they perceive as really happening, and where, most importantly, it is their very body involved in this action. (De la Peña et al., 2010: 299)

Low-level immersive journalism includes other formats, such as news games and interactive documentaries, which are ways of exploring immersive narratives. These interactive formats involve a fourth wall that will act as a barrier, which prevents the user from real immersion (which is linked to the concept of presence) but allows participation and interaction. In the case of virtual reality, the concept of immersion is linked to “presence” as it provides a first-person experience of the narrated news story. As Domínguez (2013:94) points out:

Immersive journalism is expressed in its full potential with virtual and immersive reality technologies and equipment, which allow visual as well sensory experimentation in a three-dimensional synthetic environment. The development of sensory technologies that eliminate the physical frontier is the most fertile field of exploration for the experimentation of this idea of immersive journalism, since it allows to raise new communicative forms.

In this study, the concept of immersive journalism is used only to refer to pieces of journalism made with VR technology, either three-dimensional recreations or 360-degree video recordings that require viewing glasses (Head-Mounted Display or HMD) or the CAVE system (Cruz-Neira et al. 1992); to the type of journalism that De la Peña et al. (2010) call high-level immersive journalism, which provokes “response as if real” (RAIR). In other words, we refer to an incarnated type of journalism that transports users to another reality (the news story), catches their attention and makes them feel part of it, and leads them to react within that virtual environment as if they were in the physical world. The latter issue is linked, again, to the aforementioned concept of presence that enables an amplification of the multisensory feedback in users (Hardee, 2016; Zahoric & Jeninson, 1998). This is the main difference with respect to interactive media.

3. Methods

The study presented here has been articulated according to the following methodological issues:

3.1. Research hypothesis

The hypothesis that will be tested in this research is:

1. Journalistic pieces produced with VR or 360-degree video (immersive journalism) technology contribute to the creation of a new typology of journalistic genres that could be termed “immersive journalistic genres”.

3.2. Research objectives

To address this hypothesis, the following research objectives have been established:

1. Identify journalistic pieces created with VR and 360-degree video by media companies between 2012 and 2017, which will be called “immersive journalism pieces”.
2. Identify the narrative elements that are involved in the communicative process of the pieces under study, as well as the possible innovations they introduce.
3. Identify the roles played by those elements.
4. Develop a proposal for the classification of the sample into “immersive journalism genres”.

3.3. Data collection and analysis

To achieve the research objectives, we performed qualitative and quantitative content analysis on the journalistic pieces created with VR and/or 360-degree video technologies by media companies between 2012 and 2017.

The analysis focuses on variables related to the informative treatment of the pieces, such as: issue, presence of the journalist, presence of sources, exposition of facts and point of view from which the user views the story. The selection of these variables responds to the need to identify the innovations involved in the use of VR and 360-degree video technologies in news storytelling. Traditional journalism and traditional journalism genres will be the reference to identify these innovations.

The period of analysis covers from 15 January to 30 March 2018, which is a total of 11 weeks, in order to include pieces developed until December 2017. Data was processed with SPSS. Inter-coder reliability was tested on 300 randomly selected pieces of immersive journalism, corresponding to 15% of the sample, which were re-encoded by a second researcher. A new data matrix was created with the data obtained from this sub-sample in the first and second analyses. SPSS was used to calculate Cohen's kappa coefficient. The results show that all the variables have a value greater than 0.9, which indicates an almost perfect degree of agreement (Landis & Koch, 1977).

4. Results

4.1. Journalism content created with VR and 360-degree video technologies (2012-2017)

The identification of the news pieces was based on the following three criteria:

1. The production of the piece must involve VR and/or the 360-degree video technologies and allow viewing through VR goggles.
2. The piece must be journalistic in nature and must be produced by a media company or be classified as “informative”.
3. The piece must have been produced between 2012 and 2017.

In relation to the first criterion, it was established that the piece should use VR and/or 360-degree video technologies and allow viewing through VR goggles, which can be paired to a mobile device (like Google Cardboard or Samsung Gear VR), a computer or game console (like Oculus Rift, HTC or PlayStation VR) or are part of an all-in-one device. This criterion excludes those pieces that are recorded with 360-degree technology but do not offer viewing through VR goggles.

Based on this first criterion, the search was limited to:

1. The main content platforms for mobile devices, iOS and Android: Apple Store and Google Play/Daydream.
2. The main VR content provider platforms: Oculus Store (for Oculus Rift and Gear VR), Samsung VR (for Gear VR), VIVEPORT (for HTC Vive) and PS store (for PlayStation VR). In addition, we added the digital distribution platform Steam VR, managed by Valve Corporation (the developer of the HTC Vive glasses), because it is an important company in the sector and offers content for HTC Vive, Oculus Rift and/or Windows Mixed Reality).

The analysis, therefore, did not consider those pieces that were recorded in 360-degree but did not have an application that allowed their viewing with VR goggles or are not housed within a virtual reality store. It is important to remember that this research aims to know what media companies are really betting on the user's immersion in the story (in terms of presence) and have developed specific content for this format that eliminates the fourth wall barrier; either the creation of their own app or making it available to the user on the platforms of the main VR companies.

In relation to the second criterion, for the search on the aforementioned platforms we filtered the contents by category. This selection of content was different on each platform. In the case of Samsung VR, for example, there is a specific category of “news and documentaries”, while Oculus' store has the section “documentaries and history”. In VIVEPORT, it was necessary to carry out the search in

three different sections: “news”, “documentaries” and “Video 360”, since a previous review allowed us to identify news pieces in these three sections.

In the case of Google Play, the platform introduces a category called Daydream, which includes all the contents available for VR goggles. Once inside this category were searched for content developed by news media companies. In Apple Store we used the keywords “VR” and “video 360” and then selected those results linked to some type of news media company or specialised production company.

Finally, a chronological selection criterion was established: from 2012, the year in which the first piece of “immersive journalism” was published, according to the scientific literature, until December 2017.

Based on the three aforementioned criteria, it was possible to identify a total of 2,178 “pieces of immersive journalism” produced around the world.

4.2. Narrative elements in the face of VR and its main innovations

Today, the incorporation of virtual reality in journalism requires a reconfiguration of the traditional journalism formulas and genres when it comes to news storytelling. The main innovations in this regard are based on two aspects: on the one hand, the technological component, which is substantially modifying the way in which journalism pieces are produced; and, on the other, the narrative components, which intervene in the communicative process and will be intrinsically linked to the technological aspect (360-degree video, three-dimensional reconstruction, creation of avatars, etc.) and therefore will also be modified to some extent. It is important to remember that journalism has always tried to connect the public with news stories. Historically, this connection has been carried out through the story that the journalist presents, for example, in the case of a war, in a chronicle. In it, the journalist offers an account of his own experience from the place of events, describing with his own words what happens, whether on the radio or on the pages of a newspaper, which creates an image in the mind of the audience who reads or hears the information. With television, this “image” is real, so the viewer does not need to “imagine” what is narrated words and can see it directly on the screen, which in turn will act as a barrier between the “there” (the event) and the “here” (the receiver). However, immersive journalism based on VR or 360-degree video allows the spectator to go further, overcoming the barrier of the TV (or the computer screen) and arriving directly in the scene of the events. In other words, as Nonny de la Peña argues:

The basic principles of journalism do not change (...) The only difference is the feeling of being present in story; of witnessing a man who faints from hunger or being the victim of a bomb attack (De la Peña, 2015: Min. 8’35” -8’50”).

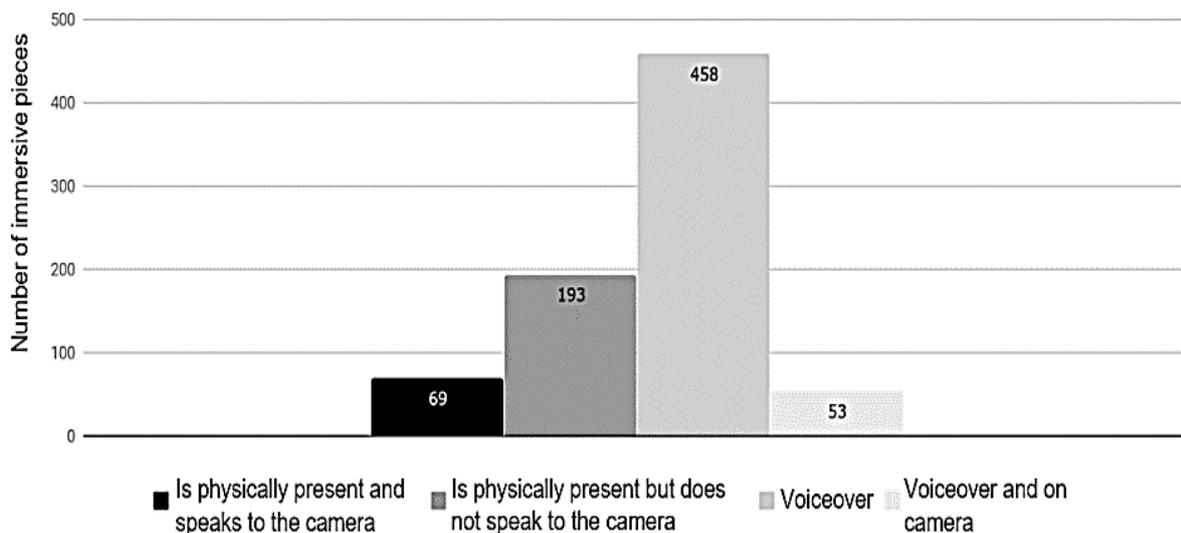
This aspect triggers the most substantial changes in relation to what was being done so far in journalism. As a result of this new reality that allows us to talk about the new immersive journalism, the following narrative elements can be identified:

1. Issue addressed: in this regard there will be no changes with respect to traditional journalism. In the case of the analysed sample, we have analysed pieces corresponding to 33 issues, such as: poverty and inequality, nature, terrorism, economy and employment, culture, gender violence, education, etc. However, we also identified pieces of fiction produced by media companies. The most common pieces are those related to sports and cars (269), followed by tourism and travel

(211) and culture (189); while the least common are those that address issues related to gender violence (1 piece), death (2) and gender identity and sexual orientation (6). Projects on nature will also be very common, although these are divided into three blocks (according to the classification we established at the time of codification): Nature from a general point of view, for example: flora and fauna (145 pieces); pollution and environmental awareness on the negative effects of human action on the environment (58); and natural disasters and their consequences for the population (56). VR and 360-degree technologies open the way to tell new realities in a more attractive way than traditional journalism was doing. The clearest example of this can be seen in stories related to risk experiences or activities, since the role of the viewer-user changes completely to be able to experience them in first person.

2. Journalist's presence: in this case the journalist may appear in four different ways: physically and speaking directly to the camera; physically but without addressing the camera (does not provide information), as a narrator (with voiceover) or both voice over and on camera, at different times within the same piece. Specifically, the journalist appears in 35.4% of the sample of pieces, with the following distribution (Figure 1):

Figure 1. Presence of the journalist

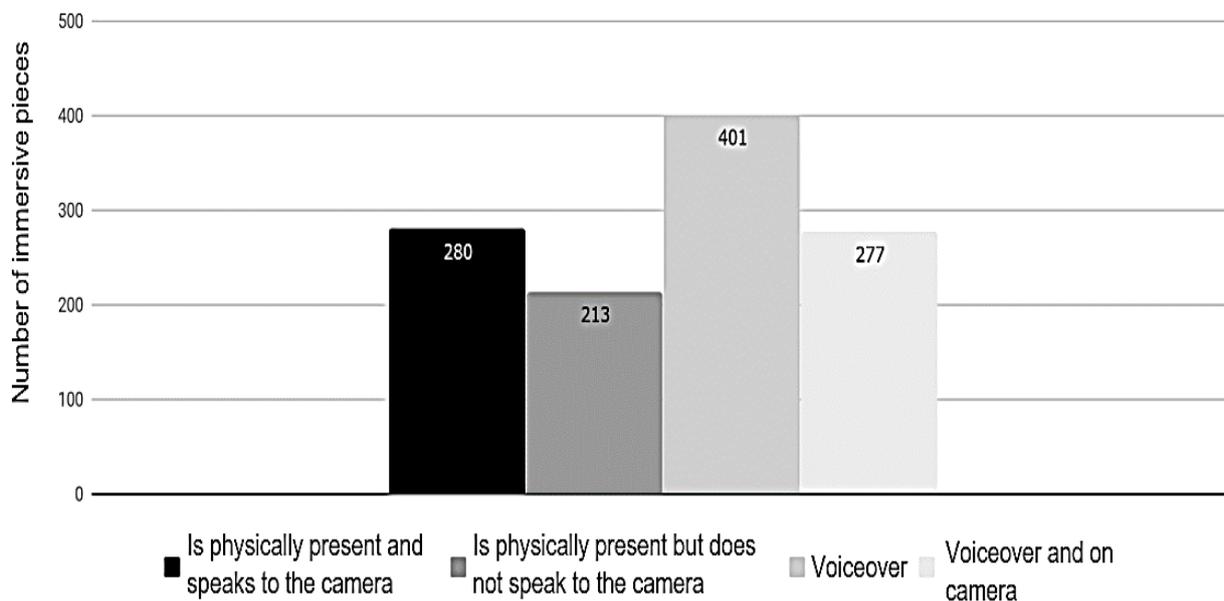


Source: Authors' own creation

Taking into account the presence of the journalist in the different genres of traditional journalism, there are no significant differences. In this regard within immersive journalism, there is an outstanding large number of pieces where the journalist appears physically but does not speak to camera, its presence does not contribute anything to the piece from the informative point of view: he is holding the camera, walking with it, or holding a microphone, which are technical tasks that are not shown in traditional pieces.

3. Presence of sources: As in the case of the journalist, sources also appear in different ways although, although most pieces, 53.67% of the sample, include the source, either physically, in voiceover, or through statements without speaking directly to the camera, as shown in Figure 2:

Figure 2. Presence of the source

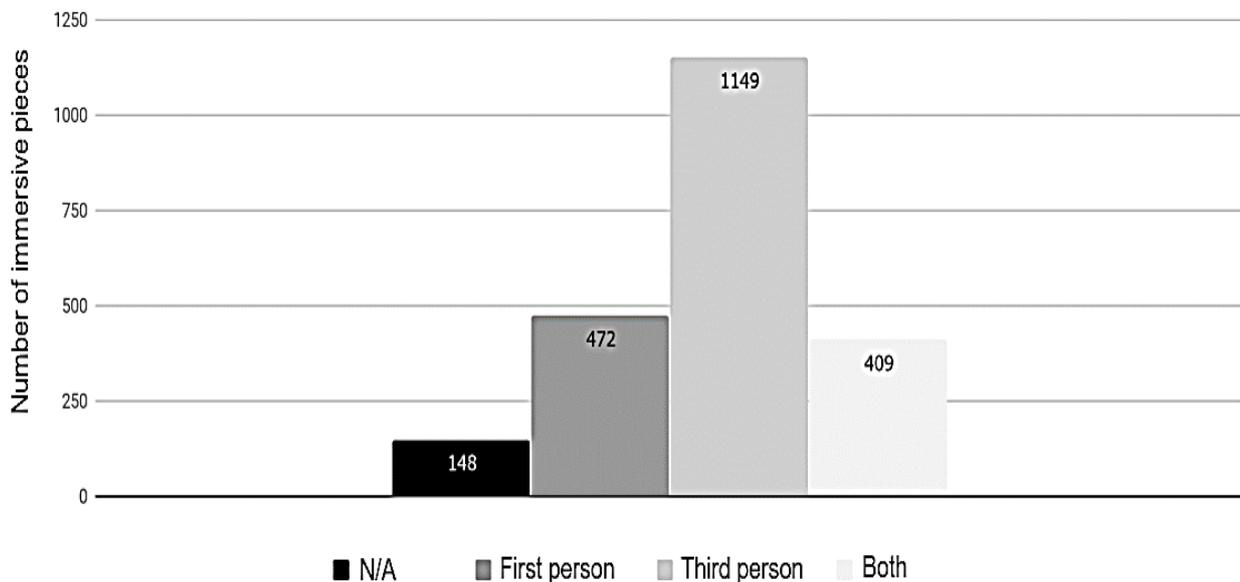


Source: Authors' own creation

The most frequent mode in which sources appear is voiceover, but in this case, they are usually accompanied by images of their everyday life. The source guides the user along the piece, playing the role previously assigned to the journalist, but in this case. When the source speaks directly to the camera (corresponding to the user's gaze), he or she describes what happens from his or her point of view and personal experience. There are pieces that capture conversations, speeches or lectures, to provide information to the user/viewer, but these statements have not been produced exclusively for the piece. That is to say, the source appears physically but does not speak directly to camera.

4. Exposition of facts: it can be done in first person, so it is the source that exposes the facts from his or her own point of view, or it can be the journalist who from a third-person perspective describes what is happening, or both can be combined (through an interview) (Figure 3). Pieces of fiction and those pieces that offer no information do not do any kind of exposition. In addition, there is another type of exposition that can be called "experiences". It occurs in pieces that do not inform about anything but offer the user an experience such as riding on a roller coaster, as shown in Figure 3. These pieces do not do any exposition in first or third person and have been classified as "not applicable".

Figure 3. Exposition of facts



Source: Authors' own creation

Different verbal resources can be used to achieve greater involvement of the user in the story both when the journalist speaks on camera and when he or she uses voiceover. Unlike classic journalistic formats, where the third person is used to look for the exposition of facts in an impersonal way, in this type of immersive news pieces, the second person singular and plural can be used, implying the user directly in the action. For example, *The Land of Salt and Fire* (NYT VR, 2017), a piece on the shepherds and salt merchants in Afar (Ethiopia) that repeatedly makes direct allusions to the user, with phrases such as “To understand how this place is possible, I’ll take you to the white. To the Salt” and “It is so hot you can imagine how”.

5. User’s point of view: In this regard, two modalities have been identified: spectator/witness and protagonist/victim. However, some pieces combine both perspectives at different times. The first perspective is the most common (2,130 pieces), while the second one, protagonist/victim is uncommon (35 and 13 pieces, respectively). In cases where the user plays the role of the victim there is certain degree of fiction, because the people who appear in the piece address the user as if he or she were part of the story. Likewise, these pieces where the user the protagonist may involve the use of avatars. In view of these aspects, important innovations have occurred in relation to this narrative element with respect to traditional journalism.

Departing from this analysis of the narrative elements that intervene in immersive journalism pieces, to be able to establish a new classification of journalistic genres based on the use of VR (what we call “immersive journalism genres”), it is necessary to analyse the role played by the narrative elements in the journalistic pieces that have been produced with this technology and can be called “immersive pieces”.

4.3. Roles played by narrative elements in immersive journalism pieces

This analysis has allowed us to identify a series of reformulations of the roles played by the narrative elements that intervene in the immersive pieces compared to traditional audiovisual pieces. The roles in question are the following:

- **Theme's role:** in this case, the theme influences, as in traditional journalism, in the differentiation between facts and fiction. Therefore, no significant changes are contemplated within immersive journalism.
- **Journalist's role:** The journalist plays an essential role not only from a technical point of view but also in terms of content. The journalist does the same work in classic audiovisual products and in immersive pieces, being responsible for the work of production, editing and, frequently, publication on the corresponding platform. The journalist can present the facts on camera (as in interpretive genres like the chronicle) or in voiceover (the third-person narration typical of the news and information genres). This also occurs in immersive journalism projects so the journalist may also appear in different forms. However, the most novel difference between audiovisual and immersive pieces has to do with the fact that, although the hand of the journalist is undoubtedly present in both cases, in traditional audiovisual projects his intervention is always observed in some way (for example, in the editing), whereas in immersive pieces the journalist's intervention of (on camera and voiceover) and editing work is not noticeable.
- **Sources' role:** Sources are responsible for telling the news facts in first person (on camera and voiceover). Their role cannot change with respect to traditional journalism, as they must remain objective. However, immersive projects introduce a change that has to do with who tells information, because in a traditional piece the journalist is often the one who communicates the information, while in immersive pieces the information flows directly from the source to the user. This question is very noticeable when the source speaks directly to the camera, coinciding with the user's view.
- **Editing's role:** In immersive projects, editing is carried out by the user, who can decide the angle and how to consume the content. In a traditional news, it is the journalist who assembles the different planes, and the one that makes the montage. The journalist, therefore, performs a selection and an interpretation of reality. In immersive pieces, the resources are reality and there are no cuts.
- **Receiver's role:** in traditional journalism the role of the receiver is to be a passive consumer, but in an immersive piece the receiver can play two roles: the spectator who access the story where he or she can become a witness and, sometimes, even the protagonist or victim. At the same time, as mentioned, the receiver directs the 'montage', insofar as he or she can decide anytime the angle of the information presented.

4.4. Proposal for the classification of immersive journalism genres

The previous analysis has allowed us to develop a proposal for the classification of “immersive journalism genres”. However, the great advances in VR and 360-degree technologies keep this proposal open to changes and updating. This classification proposal, which is based on the sample of immersive pieces (2,178) and takes into consideration the narrative elements of the communication process and the roles they play in immersive pieces, has allowed us to differentiate six genres: Informative genres, testimonial genres, news-testimonial genres, descriptive genres, experiential genres and dramatised genres. These genres are described below:

- 1) Informative genre: it stands out for the descriptive presentation of facts by the journalist, on-camera and/or voiceover, throughout the duration of piece. In general, thus type of immersive pieces present are real images and sound through 360-degree video technology. An example of this type is “Migrant Crisis” (2015), a project produced by Sky News and Jaunt VR that narrates the arrival of a group of refugees in the coasts of Greece. In it, Sky News correspondent, Alistair Bunkall narrates the event, sometimes on camera (on the beach) and some others in voiceover, while the images capture the fear of these refugee families descending from rafts (Image 1).

Image 1. Sky News correspondent, Alistair Bunkall, speaking on camera in “Migrant Crisis” (Sky News and Jaunt VR, 2015).



Source: Screenshot of the Jaunt VR app.

- 2) Testimonial genre: Includes immersive pieces in which the story is told directly by its protagonists. That is, the journalist does not narrate what has happened. The story is told form

the point of view of the victim, not only in certain moments but throughout the whole piece, as the journalist used to do it (in informative genres). As in informative genres, in this case the sources can appear on-camera and/or through voiceover. Likewise, these pieces are mainly recorded with 360-degree video technology, with real images that accompany the testimony of those affected. This is what happens in “Phiona. A VR Portrait of the Queen of Katwe” (ABC News and Jaunt VR, 2016), in which the spectator can accompany the female protagonist, Phiona Mutesi, while she narrates her life story in Katwe (Uganda) and how she is using her chess skills to give hope to children living in the slums of this country (Image 2).

Image 2. “Phiona. A VR Portrait of the Queen of Katwe” (ABC News AND Jaunt VR, 2016).



Source: Screenshot of the Jaunt VR app.

- 3) Informative-testimonial genre: Refers to those pieces where the journalist and the source appear at the same time. The journalist (on-camera and voiceover) exposes the facts in third person, while the source (on-camera and voiceover) supplements the information. These pieces may include interviews in which the journalist and the source appear simultaneously, although this is generally uncommon. The most common thing is when the source appears on-camera while the journalist appears in voiceover. An example of this genre is the piece titled “Rio de Lama” (Academia de Filmes, Beenoculus and Maria Farinha Films, 2016), which relates the environmental catastrophe that occurred in Brazil in 2015 and alternates the journalist’s narration in voiceover with the victims’ statements (Image 3):

Image 3. “Rio de Lama” (Academia de Filmes, Beenoculus and Maria Farinha Films, 2016).



Source: Screenshot of the Rio de Lama app.

- 4) Descriptive genre: includes pieces where the journalist and the source do not intervene, so the user is given complete freedom to explore and interpret what he sees. In some cases, text may appear to provide the user with location and contextualisation data. This is the case of “59 rescues in 2016, Witness the Last” (The New York Times, 2016), a piece that takes the user aboard the Bourbon Argos on a rescue mission carried out by Doctors Without Borders, in which they rescue a group of African immigrants in the Mediterranean Sea (Image 4). It does not show the journalist (neither on-camera or voice-over), nor statements made by the sources. The piece only provides brief text information about the place, the number of rescued immigrants and days of travel (see image 4).

Image 4. “59 rescues in 2016, Witness the Last” (The New York Times, 2016).



Source: Screenshot of the NYTVR app.

Other pieces in this category do not include textual information, like *La Corona de Espinas* (Yorokobu, 2016), which takes the spectator to the headquarters of the Cultural Heritage Institute of Spain to discover the interior of this architectural jewel created by Fernando Higuera and Antonio Miró and the undergoing restoration.

- 5) Dramatised genre: it includes pieces that present dramatisation of events, resembling television docudramas. These pieces digitally recreate news events and can combine real audio and images with three-dimensional recreations, which can make use of motion capture systems and avatars. An example of this type of immersive genre is *Hunger in L.A.* (2012), which offers a three-dimensional reconstruction of a real-life event that took place in Los Angeles and of which there was only audio available at that time of; *Kiya* (2016), which relives the moment in which two women attempt, without success, to save their sister from being killed by her ex-boyfriend (Image 5). The events were recreated by actors wearing motion capture suits, and the setting was based on photographs of the crime scene. So, although the sound is real, the images are CGI to show the user how the events unfolded.

Image 5. *Kiya* (Emblematic Group, 2016).



Source: Screenshot of *Kiya* project.

- 6) Experiential genre: it includes pieces that do not deal with particular facts or events, but show a problem (poverty, inequality, exclusion, violence, etc.) and place the user in the place of the victim. This type of pieces may include real images and/or audios that give greater realism to what is narrated. An example of this genre is *The Guardian's* “6x9 a Virtual Experience of Solitary Confinement” (Image 6), which is a recreation of an isolation cell from an American prison. In it, the user “remains confined” and experiences the life of real prisoners subjected to this type of confinement.

Image 6. Recreation of a solitary confinement cell in “6x9 a Virtual Experience of Solitary Confinement” (*The Guardian*, 2016).



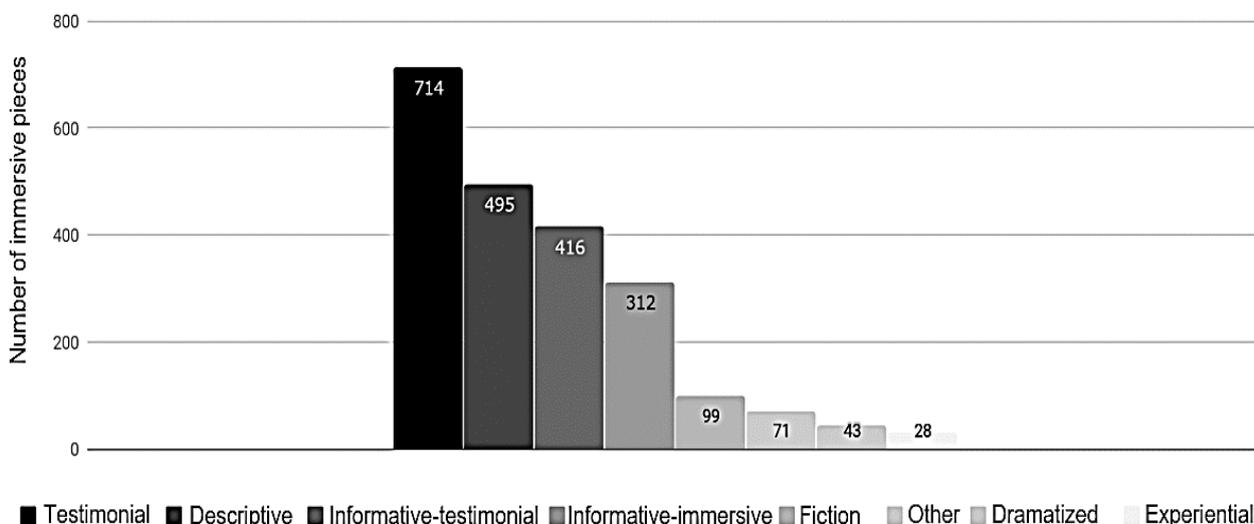
Source: Screenshot of the 6x9 app.

Two important observations need to be made to understand this classification. First, not all genres are suitable for the technologies under study. This is the case of the use of VR in opinion genres. This does not mean these pieces do not exist, but rather that VR technology is normally used to allow the user explore and witness events and is, therefore, not the most suitable for genres that only seek to express the opinion or value judgement of a particular medium or journalist. Second, the analysis has also allowed us to detect other types of genres that in this case would be classified as fiction, not information.

4.5. Classification of the sample into immersive journalism genres

Based on the previous proposal for the classification of immersive genres, the following figure presents the classification of the selected sample:

Figure 4. Distribution of immersive journalistic genres



Source: Authors' own creation

The results reflect a preference for the testimonial genre, which represents 32.78% of the sample (714 pieces), followed by the informative-testimonial genre, which reaches 19.1% of the sample (416 pieces). Thus, sources appear in more than half of the sample (51.82%), in its different forms (speaking on-camera, silence on-camera, in voiceover, or alternating physical presence with voiceover). For its part, the informative genre represents 14.33% of the sample (312 pieces). These data reveal that in the sample of pieces of immersive journalism give more importance to the testimony of the source than to the journalist.

The descriptive genre, meanwhile, represents 3% of the sample (495 pieces). It is the second most common, behind the testimonial genre. While the dramatised and experiential genres do not exceed 2% of the sample (with 43 and 28 pieces, respectively). These percentages, much lower than those other genres, may be due to their longer production process and higher economic costs for the media.

On the other hand, with regards to the fiction genre, it represents 4.54% of the sample (99 pieces). Considering that the sample was filtered by media companies and content, it is striking that fiction projects were also identified, although to a lesser extent. In addition, there are 71 pieces (3.29%) that do not correspond to any of the immersive genres previously established: performing arts works, which include some kind of theatrical or musical representation, provide no information and cannot be classified as “fiction”; and pieces that present “risk experiences and activities” and provide no information.

5. Conclusions

The analysis confirmed our initial hypothesis: that journalism pieces based on VR or 360-degree video (immersive journalism) constitute a new type of journalistic genres that could be termed “immersive journalism genres”. The classification proposal identifies six major genres: informative immersive,

testimonial, informative-testimonial, descriptive, dramatised and experiential. This proposal derives from the innovations introduced by VR and 360-degree video technologies, which in turn allow the reformulation of the traditional roles played by the narrative elements (topic, journalist, source, editing and receiver) of journalism pieces.

The analysis presented in this article opens a new line of research that has to do with the innovations that are occurring in news storytelling (informative genres and formats), where the main changes derive from the use of VR and 360-degree video technologies in the world of journalism. That is why concepts such as “immersive journalism”, “immersive pieces” and “immersive report” begin to gather strength, by highlighting not technology itself, but its use for storytelling, which has been our subject of study.

If we would have to highlight the substantial changes that immersive journalism brings about and that have allowed us to develop this proposal for the classification of “immersive journalism genres”, which had not done before, it would certainly be the new role adopted by the spectator/user, who has become a “360-degree spectator”. To make this possible, there have been changes in the role played by the other narrative elements involved in the construction of an “immersive piece or report”.

Research on immersive technologies is continuously evolving and for this reason this article represents a first open approximation to the so-called “immersive journalism genres”.

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