RETOS Y DESAFÍOS DEL PERIODISMO DE INMERSIÓN:

narrativas, formatos y prácticas profesionales

Immersive journalism in times of lockdowns

PERIODISMO INMERSIVO EN TIEMPOS DE CONFINAMIENTOS

María José Benítez de Gracia
Universidad Camilo José Cela
mariajose.benitez@ucjc.edu
ⓘ 0000-0002-1101-004X
Susana Herrera Damas
Universidad Carlos III de Madrid
dherrera@hum.uc3m.es
ⓘ 0000-0002-1755-1621
António Baía Reis
Universidad Carlos III de Madrid
antonio.baia@grupoasterius.com
ⓘ 0000-0001-7451-1725

Resumen

El objetivo de este texto es analizar la cobertura en clave esférica de unos hechos tan inéditos como los confinamientos que se produjeron en todo el mundo en el año 2020 con motivo de la crisis provocada por el covid-19. Pese a las restricciones, algunas producciones permiten documentar audiovisualmente este escenario mundial tan insólito al tiempo que certifican los aciertos y errores en el manejo de un formato tan complejo como versátil para su empleo con un propósito periodístico.

Palabras clave

Periodismo inmersivo, narrativa inmersiva, vídeo en 360º, confinamientos, 2020.

Abstract

The aim of this paper is to analyze the news 360º coverage of such unprecedented events as the confinements that took place worldwide in 2020 due to the crisis caused by the covid-19. Despite the restrictions, some productions make it possible to document this unusual world scenario while certifying the rights and wrongs in the handling of a format as complex as versatile for its use for journalistic purposes.

Keywords

Immersive journalism, immersive storytelling, 360º video, lockdowns, 2020.

Sumario / *Summary*

1. Introduction

In 2013, Hunger in Los Angeles presented some of the possibilities offered by immersive journalism. A computer graphic environment recreated a diabetic man fainting after a drop in sugar levels while he waited in line at a food bank in Los Angeles. Combined with a very recent version of what would be the new generation of VR headset, the viewer accessed this scene in the first person and could reach out to the individual who was on the ground (De la Peña, 2015).

Since this first publication, immersive journalism has been characterized by "its ability to allow the viewer to actually enter a virtually recreated scenario representing the news story" (De la Peña *et al.* 2020: 292), "transporting" him/her to the site where the action takes place (Domínguez, 2013: 156; Pavlik, 2015). It has been suggested that with the help of virtual reality glasses combined with 360º video, the viewer can change the point of view of the scene depending on the visual angle and experiencing an innovative full body sensation as if they were actually there (Owen *et al.*, 2015; Dolan & Parets, 2015; Doyle *et al.*, 2016; Sirkkunen *et al.*, 2016; Pérez-Seijo, 2016; Bucher, 2017; Sidorenko *et al.*, 2017: 103; Hardee & McMahan, 2017: 4; Jones, 2017; Ryan, 2017: 4; Baía Reis & Coelho, 2018: 3; Gynnild *et al.*, 2021: 2).

Some authors suggest that this correlation between the actions that the subject carries out, like turning one's head and the reactions of the setting, creates the illusion of being inside the image (Domínguez, 2017: 5), or Place Illusion (Slater, 2009). In this way, virtual reality experiences not only feel more real than other journalistic storytelling formats, but also offer the advantage of creating a strong sense of emotional connection to people, events and places (Gynnild *et al.*, 2021: 2).

In the seminal conception of immersive journalism, the place of the digital avatar is central in successfully generating immersion (De la Peña, *et al.*, 2010). Presenting some form of virtual body in 360-degree video filmmaking is nevertheless very common in action and extreme sports videos, where, for example, the body of the athlete is very present in the scene while one, e.g., rides through rough terrain, or flies on a paraglider. Following Sánchez Laws (2020: 40), this-first person view of such extreme sports examples, even though missing the interaction component, is quite aligned with the ideas presented by De la Peña and colleagues.

Along with above-mentioned topics, immersive journalism also has a component of distraction and entertainment (Suh *et al.*, 2018: 436), with the aim of generating a pleasant experience for the viewer, either inviting the viewer to "travel" to unusual or inaccessible places (e.g., a mountain, a glacier, the bottom of the sea, a desert, the South Pole, etc.) or simulating some kind of intense experience such as a roller coaster ride, bungee jumping or an acrobatic flight.

This ability to represent events in such a realistic way has been harnessed by numerous, diverse and prestigious media outlets, which, driven by journalistic curiosity, the need to explore new business models and the desire to be innovative (Watson, 2017: 10), have produced several immersive pieces, especially between 2015 and 2018 (Sirkkunen *et al.*, 2020).

From the various media outlets, one could mention as the most relevant ones The New York Times, The Guardian, Associated Press, Sky, USA Today, The Washington Post, ABC News, Wall Street Journal, Discovery Channel, BBC, RTVE and Euronews. Also specialized content media such as National Geographic, Discovery or ARTE.

The case of The New York Times is particularly relevant given that it created a special section, The Daily 360 (Hardee & McMahan, 2017: 2), specifically dedicated to the daily production of immersive pieces. From its creation in November 2016 to January 2018, the date of its last update, it has published a total of 371 pieces.

Along with the publications of the media, in the field of immersive journalism it is necessary to consider other pieces produced by companies and producers[1], not linked or identified as media, but that have produced this type of content, either independently, to through their own platforms or applications, well collaborating with said media, since the beginnings of immersive journalism.

This coexistence of actors has a double justification. On the one hand, the novelty of the format and the need for experimentation and learning of immersive narratives. On the other hand, the current context of technological evolution that, in recent decades, has influenced the distribution of messages, generating a disruptive change in the sender-receiver relationship. The traditional role of major media outlets being the predominant source of news stories has been replaced by a rather complex ecosystem of other actors and producers in the construction of stories, generating new definitions of professional profiles: social media producer, user engagement specialist, or Facebook live producer (Adornato, 2017), and opening new approaches and definitions for its study such as the so-called alternative or citizen journalism (Antony & Thomas, 2010).

One of the purposes of these kind of features is to show traumatic realities such as catastrophes, terrorist acts, wars or any other form of violation of human rights. This was demonstrated by the first pieces led by journalist and researcher Nonny de la Peña and her team, The Emblematic, from the University of Southern California. We also find this social purpose focused on issues and injustices in numerous productions published in very diverse media, especially from 2015, the year in which the format began spreading. These productions address

---

1.   Some of the first production companies specialized in this kind of storytelling have been the Swiss producer Global Vision Communication, the Dutch producer Yellow Bird, the American companies Immersive Media, Jaunt, Ryot and Vrse, as well as the Spanish companies Visyon or InMediaStudio.

social issues such as isolation in prison, diseases and epidemics, poverty and economic inequality, refugee crises, wars and terrorist acts, as well as different kinds of calamities, both caused by nature and men.

1.1. Towards immersive journalism with 360 video: presence, immersion, and empathy

Immersion is not something new to journalism. The feeling of immersion in combination with information to enhance realism and place the reader or viewer in the scene is a narrative technique that has a long tradition in journalism (Kovach, 2013). Although placing the viewer in the scene is a rather old phenomenon in journalism, it was only in the late nineteenth century and early twentieth century that one finds examples of journalistic practices where journalists immerse themselves within the story first as to provide the reader with an ultimate realistic perspective of the depicted news stories. One of the first to do so was Elizabeth Jane Cochran, better known by her pseudonym Nellie Bly (Marchena, 2019). Within the so-called "New journalism", Truman Capote or Tom Wolfe will follow Cochran's steps to provide his readership with an all-encompassing description through the subjective or emotional life of the characters (Wolfe, 2012: 35).

Kovach defines journalism as "storytelling with a purpose", that provides "people with information they need to understand the world" (Kovach, 2013: 204). Furthermore, this author also argues that for blending information and storytelling, journalists should rethink the basic elements of news - who, what, when, where, why, and how. To do this, it is necessary to think of who as character, when as chronology, where as setting, and how as narrative (Kovach, 2013: 204).

In this sense, and following the previously mentioned media practices that put the audience at the center, with immersive journalism comes a paradigm shift regarding the journalist-spectator relationship to bring the public closer to this all-encompassing understanding of reality: "the viewer becomes immersed in the news", as if almost becoming the journalist himself (Jones, 2017: 182), a kind of "spectator" role (Shawyer, 2019) where by "being inside" the news stories, the audience becomes proactive by constructing their own interpretation of the facts. Moreover, the viewer can become a participant in the depicted reality, which becomes an advantage, thus bringing the audience experience of new stories to new levels, providing them with "unprecedented access to the sights and sounds, and possibly feelings and emotions, that accompany the news" (De la Peña *et al.*, 2010: 292).

The understanding about how immersive journalism generates in the viewer the sensation of being inside a real scene is based on the concept of presence, taken from research in virtual reality (De la Peña *et al.*, 2010: 294). Following Sánchez and Slater, the concept of presence is different from that of immersion. While the degree of immersion is "an objective property of a system –the extent of field of view, the number of sensory systems it simulates, the quality of rendering in each, the extent of tracking, the realism of the displayed images, the frame-rate, latency, etc.– that in principle can be measured independently of the human experience that it engenders", presence, however, "is the human response to this system". That is, "the sense of 'being there' in the virtual environment" (Sánchez & Slater; 2005), "even though you know that you are not there" (De la Peña *et al.*, 2010: 294).

Immersive VR systems combined with 360° videos are the most common technology currently being used to create immersive experiences (Hardee & McMahan, 2017: 7). Nevertheless, many authors argue that the combination of 360º footage with an immersive visualization system is not enough to generate the feeling of presence.

Ijsselsteijn, De-Ridder, Freeman & Avons (2000: 3960) separate the technological characteristics of the system that are aimed at making the medium as transparent as possible (*media form*) from those related to the content (*content factors*), like the objects, actors and events represented in the narration.

Domínguez (2017: 4) emphasizes the importance of factors related to content when generating immersion. More specifically, she states that to achieve the feeling of presence, the combined use of the following narrative aspects is fundamental (Domínguez, 2013: 289):

— the use of a subjective point of view
— the elimination of elements that demonstrate mediation; and
— the encouragement of audience participation

Other authors have confirmed the existence of this type of content factors. Following De-Bruin and colleges, one of the main elements of immersive journalism is the use of immersive features in the narrative (De-Bruin *et al.*, 2020). When these resources are not used correctly, there is a break in the sense of presence.

Still according to Domínguez (2017: 4), "the visual representation will be more immersive the more the narrator's visual perspective converges with that of the observer" (Domínguez, 2013: 173). In other words, the camera lens must match the viewer's eye height (subjective camera). The appearance within the representation of elements that make mediation evident can diminish the feeling of being in the event. Slater uses the term "break in presence" to refer to the "aspect of the image that is not in correlation with the rest of the image"

(Slater *et al.*, 2009: 202). If applied to immersive reporting, this break occurs when the stitching lines are visualized in between scenes; overprints are used (pop-up windows, cartouches, signs, etc.) that show up "floating" in the scene in front of the viewer; montage is evidenced through quite obvious or striking transitions; and also, when the figure of the journalist and/or the production team is kept within the represented scene.

Dolan & Parets (2015) define four models of viewer influence in 360º video narration:

1.   Observant passive: The viewer does not exist in the world, nor can he influence the story. The storyteller retains complete control of the action and information presented to the viewer.
2.   Observant active: The viewer does not exist in the world, but rather floats amidst the content. The "active" aspect is limited by a predetermined set of choices (nodes) laid out by the storyteller, by which the storyteller has constructed a variety of outcomes for the observer. The storyteller explicitly intrudes on the user experience through freeze frames, narration, subtitles, and annotations; or, the storyteller covertly empowers the viewer's gaze to follow a specific character's journey.
3.   Participant passive: The viewer exists in the world as a character or a story device, but the story does not ask anything of him/her.
4.   Participant active: The viewer exists in the world as a character or a story device and has influence over his/her "own" story. The world acknowledges and addresses the viewer's existence, and he can interact with the world.

Even if the level of participation of the viewer within the environment represented in 360º video is passive (i.e. the user does not participate in the course of the action), Ijsselsteijn and a number of authors regard "the possibility of real-time action in virtual space as key to achieving a sense of presence" (Ijsselsteijn *et al.*, 2001: 180).

Moreover, Kate Nash suggests that the use of some narrative resources can enhance the sense of participation. For example:

— the use of wide shots with a point of view at or just above eye level
— the use of direct address such as looks to camera or the offer of an object; and
— the inclusion of a scene in which the subject/victim and the viewer are positioned as though seated together on the ground with the former presenting their testimony (Nash, 2018: 126).

Some studies have confirmed that representing the viewer within an immersive news story can help them feel as part of the story (Weil & De la Peña, 2008; Slater *et al.*, 2010; Jaunt, 2016: 44; Steed *et al.*, 2018: 12). In this sense, when the viewer looks down, he sees himself within the event by means of an alter ego or avatar. Nevertheless, one should take into consideration some technical difficulties that may arise in this type of production.

Finally, it is possible to generate some participation by simulating the viewer's movement within the immersive environment. To achieve this, and according to Domínguez (2013: 273), one must combine continuous movement instead of scene montage, first-person focalization through the use of the subjective camera and the interest of the viewer to explore the scene. However, and given that there will not be a correspondence between the camera's movement and the viewer's position, who will actually remain static, special attention should be given not to generate discomfort or sickness (Hardee & McMahan, 2017: 7).

Ultimately, this idea of a first-person experience is what makes the case for arguing that immersive journalism allows the viewer to approach complex and distant realities and situations, creating an innovative way of generating empathy towards them.

From a communication studies perspective, audiences respond and react to media characters through identification. Following Muñiz & Igartua (2008: 33), the identification process comprises different psychological constructs. One of them is empathy, which can be of two types: emotional and cognitive. The first refers to the ability to feel what the protagonists feel, to become emotionally involved in a vicarious way or to feel concerned about their problems. That is to say, experiencing the same feelings that the characters experience and, also, worrying about their destiny or situation, which is associated with emotions such as compassion, tension or suspense.

Cognitive empathy refers to the fact of understanding, understanding or putting oneself in the place of the protagonists, which is related to the ability to adopt the other's point of view (perspective-taking) and allows the viewer to imagine what the thoughts, feelings and mental states of the characters in the narrative (Igartua & Paez, 1998: 424).

The first studies on immersive journalism indicate its likely link with the idea of empathy due to the greater degree of identification of the viewer with the protagonist and issues of a given story. According to Eva Domínguez, "when narrative revolves around a character, his emotions, his personality, and his biography, empathy can be awakened" (Domínguez, 2013: 297). And, what could be more important, this degree of identification goes beyond the character, since it can be extended to the very context or reality transmitted. Following this author, the goal of personification is not empathy towards the digitally embodied

character "but rather identification with the reality that one wants to convey" (Domínguez, 2013: 298).

Chris Milk, director of the immersive short film Clouds over Sidra (2015), is one of the first authors that refers to the concept of empathy within immersive storytelling and compares virtual reality with a "machine through we become more compassionate, empathetic, connected and, ultimate, we become more humans" (Milk, 2015).

De la Peña refers to the concept of empathy as a result of what she calls "duality presence", the feeling of being in two places at once "that allows to tap into the feeling of empathy" (De la Peña, 2015).

This encompasses many new opportunities for social engagement. Recent research highlights the value of empathy in generating an eventual change of opinion and behavior in the audience. Immersive journalism "adds another layer of immersion by arousing empathy and embodied cognition" (Shin & Biocca, 2018: 18). Sundar and coworkers found that participants who experienced the stories using VR and 360-video perceived a higher degree of source credibility, story-sharing intention and feelings of empathy" than those who read the same stories using text with pictures (Sundar *et al.*, 2017: 672). In its turn, this adds an unprecedented value to a journalistic approach in which "people care about vulnerable groups" (Shin, 2017: 66).

1.2. Immersive journalism with 360 video during the lockdowns

Seven years after *Hunger in Los Angeles*, the lockdowns caused by the Covid-19 coronavirus has accentuated this type of traumatic scenes shown through immersive journalism. The need to wait in a queue for a long time to get food or medicine reaches rich and poor likewise. The relationship with the story formerly viewed through the virtual reality glasses has changed: it is no longer a distant, far-removed situation. Now, if the viewer is tired, he or she may not disengage by removing the goggles (Gregory, 2016). In other words, the audience still "views" the news story, yet the representation becomes the viewer's own reality.

The paradox in the closeness/distance relationship was shattered as a consequence of the exceptional situation that erupted across the globe with the spread of the lockdowns generated by the variant of the coronavirus, Covid-19. Since the official declaration on the existence of the virus issued by China on December 31, the announcement of the lockdowns by World Health Organization on March 11 and the first outbreaks in countries such as Italy, Iran and Spain, the various governments adopted a series of measures forcing their citizens to

remain at home as the only way to stop the spread of contagion. This imposes a dystopian scenario at a global level that leaves streets and public spaces empty, without any activity and with an unusual silence.

Following a series of search criteria on YouTube (see Methodology section) we found out that several immersive productions using 360º video started to appear on this platform from the very first moments of confinement worldwide, i.e., since January 2020. Trying to show the viewer the usual spaces with which he/she had lost contact, these are pieces that, for the most part, invite the viewer to observe these exceptional situations, for example, public spaces devoid of people or activity, or show the changes to some of the most basic routines such as traveling on public transport or shopping in a supermarket. Thus, immersive journalism with 360-degree video acquires a new value, as the viewer approaches remote and distant places to see and explore the same scenario that is repeated in almost all parts of the planet. However, contrary to the previously published features, this shown reality is no longer unknown to the viewer, but rather represents part of an everyday environment which is repeated in most countries of the world in an almost similar way.

The first immersive piece with 360-degree video appears shortly under a month after the epidemic became official. This piece –*In the streets of China, where the coronavirus epidemic occurs*– is an 8:40 minute work published on January 24 by the Turkish TVR Virtual Reality Channel. The viewer can walk the streets of Beijing in first person view on the day the Chinese New Year is celebrated. The new epidemic, its spread and the first recommendations to prevent contagion are described as the viewer walks through a scenario of relative calm, albeit already finding that wearing masks is mandatory. In February, more pieces were published, including those produced by one of the Chinese government-funded television stations, CGTN. Basically, these pieces tour public spaces in the city of Wuhan or show inside hospitals in an attempt to convince the population that the situation was fully under control.

Especially, during March and April (table 1), we come across an increasing number of features published in this format. Especially noteworthy are such pieces that take the viewer to a scenario of solitude common in many capital cities of the world. This is the case, for example, of *The abandoned city of Budapest in a global pandemic*, published in March by the Hungarian photographer and producer Gábor N. Szidor; *Paris under lockdown*, by the French producer Targo; *London before & after lockdown*, by The 360 Guy; *Ciudades vacías por el coronavirus*, produced by RTVE's Innovation Lab or *Lockdown around the world*, a 7:40-minute National Geographic feature presented by 5 of its photographers who were asked to document their cities during lockdowns.

Table 1

Distribution of publications by source

	January	February	March	April	May
Media company	1	3	10	10	3
NGO	0	0	1	0	0
Independent journalist	0	0	3	7	2
360º video company producer	0	0	10	15	2
University	0	0	0	0	1
Total	1	3	24	32	8

In this context, the overall aim of this paper is to analyze how media and producers from all over the world have used spherical video in immersive features during the coronavirus crisis from an international perspective (January–June 2020). More specifically, we are interested in answering 3 research questions:

— RQ1: What media have produced immersive features during the coronavirus crisis?
— RQ2: What kind of topics were covered?
— RQ3: What have been the immersive narrative techniques used by the different productions?

2. Methods

To answer the research questions, we have carried out an exploratory study based on a content analysis on a sample of immersive features published by media and producers from a range of countries in YouTube. This quantitative technique is the research method par excellence in Communication and allows "to provide knowledge, new insights, a representation of the facts and a practical guide for action" (Krippendorff, 2018).

Based on previous immersive storytelling analysis methods (Ijsselsteijn *et al.*, 2001; Domínguez, 2013), this study has focused on three aspects: the source, the topics and the diverse immersive narrative techniques used by the different productions. These variables allow us to obtain a clear understanding of how international media outlets and producers have used immersive journalism for covering the covid-19 crisis.

2.1. Measures

In order to analyze the treatment given to immersive 360-degree video features, we took into account the following 13 variables:

Variables to analyze basic journalists' factors:

a) Media
b) Country
c) Language
d) Month
e) Length
f) Topic of the piece

Variables to analyze immersive narrative techniques:

g) Focus
h) Camera placement
i) Space treatment
j) Sound
k) Personal interaction
l) Environment interaction
m) Computer-generated imagery layers

2.2. Sample

For the analysis sample, we selected 68 immersive 360º video features, according to the following criteria:

— the features were selected from YouTube, which is the most used pla-tform to distribute these pieces. Searches on YouTube combined the terms virus, coronavirus, covid-19, outbreak, pandemic, lockdown, 360 video, virtual reality
— the period of analysis ranged from January 24 –the date in which we found the first immersive feature covering this issue– to May 20, when lockdown started easing in most countries
— the features were created from real 360º video images, excluding the ones generated by graphics computer
— the pieces offered the user to control their point of view

— the pieces were published by media communication companies, 360º producer companies and independent journalists from all over the world. In "others" category we included NGOs and universities.

In a first search, we found 185 items. After a verification process, we eliminated 117 of these items for one (or several) of the following reasons:

— it was a repeated piece
— it was user-generated content. The author has not got a professional profile, that means, (s)he is not a journalist, social media producer, user engagement specialist, or Facebook live producer
— it could not be considered as an immersive feature
— it hadn't been published between January to May 2020
— it used CGI instead of 360º video
— it had been filmed in 360º, but it did not allow the user to control their point of view

After this verification process, we obtained a definitive sample of n=68 features. Aware that it is a small sample and could make it difficult to obtain statistically significant differences, we show the results in frequencies and percentages and focus on the larger tendencies in the use of these pieces.

2.3. Validity and reliability of the instrument

Content analysis was conducted by the authors. In this sense, and in order to verify and assure that the coding criteria were not discrepant and the measurements were reliable (Wimmer & Dominick, 2010), we conducted a previous trial by means if a pre-test/post-test approach, measuring its reliability using the Cronbach's alpha coefficient. (a) with the statistical software SPSS (version 26.0). Then, we applied this test on 20% of the sample and the two data sets in encodings carried out at different times. The obtained results –topic of the piece (α=.98), focus (α=.95), camera placement (α=.90), space treatment (α=.94), personal interaction (α=1), environment interaction (α=.86), computer-generated imagery layers (α=.96)– confirmed the validity of the instrument and allowed us to use it to encode the entire sample. Moreover, we encoded the data in Excel and then exported it into SPSS to obtain its associated frequencies, as well as a contingency analysis. Finally, we interpreted the results, with the main outcomes presented in the following section.

3. Results

3.1. Immersive 360º video production as a reality present in various countries

The 68 features were produced by a total of 21 countries. The US leads the ranking, accounting 28 pieces (41.1% of the total sample). Significantly astray from the US leadership, China published 9 pieces (13.2%), the United Kingdom, Italy, Turkey and France, 3 pieces (4.3%), Brazil (3%), Peru (3%), New Zealand (3%) and Switzerland (3%). The rest of the countries are Austria, Canada, Chile, South Korea, Philippines, Ireland, Japan, Russia, Singapore, Spain and Ukraine, each producing a 1.5% of the total sample. In Spain, we only found one piece, published by the RTVE Innovation Lab. This fact confirms the latter public broadcaster's commitment to this format, although it also shows a certain decline in immersive production by other actors. Regarding the publication date, 47% of the sample was published in April, 35% in March, 12% in May; 4% in February and 2% in January:

Graph 1.

Distribution of publications by country from January to May (% of the total sample)
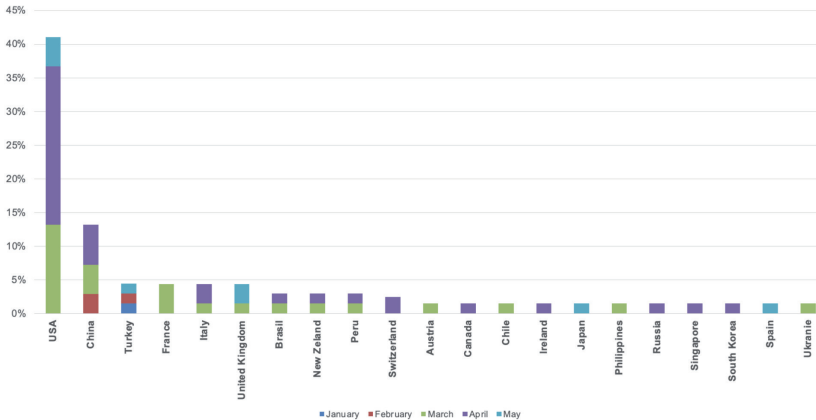
Source: Prepared by the authors

3.2. Production is not led by mainstream media

Contrary to what previous studies had found (Doyle *et al.*, 2016; Sirkkunen *et al.*, 2016; Pérez-Seijo, 2016), these productions are no longer led by mainstream media. Their origins are diverse, both in terms of countries and authorship, and they rank among the media, producers, independent journalists and private initiatives. In fact, 27 (40%) features issues from modest, regional or local media. This is the case of El Crítico, a Peruvian media outlet, with 3% of productions, the Turkish television channel TVR Sanal Gerçeklik, with 3%, and Luzernerch, a Swiss media also with 3% of total productions. There are a few exceptions which are from public television, such as the case of the Chinese channel CGTN, that produces 12% of the sample. This is also the case of the only piece that we found in Spain and of another piece published by the Turkish Radio and Television channel TRT World.

Audiovisual and virtual reality producer companies account 27 pieces (39.7% of the total sample). At this point, Urbanist: History of Cities (8.8% of the total number of pieces) or 360Tour (5.9%), both from the USA, stand out. The initiative of independent journalists is also noticeable, with 12 pieces (17.6%). To a lesser extent, we found productions from universities (1.5%) and non-profit organizations (1.5%).

3.3. The features tend to last longer

The uniqueness of the format requires that the pieces be brief –no more than 3 to 5 minutes–. However, some features last longer as can be seen in the following table:

Table 2

Length of the analyzed features

Length (in minutes)	Number of the pieces	Percentage of the total sample
Less than 1	1	1.5%
From 1 to 3	14	20.6%
From 3 to 5	13	19.1%
From 5 to 10	15	22.1%
From 10 to 15	10	14.7%
More than 15	15	22.1%

3.4. 63.2% of the features show empty streets and spaces

This is the main used topic. We find it in 43 features that we may classify into three types:

1. 29 pieces that focus on touring empty public thoroughfares, such as streets, highways or roads, through different transport means such as by car, motorcycle, bicycle or on foot (42.6%). In all of them, the viewer's gaze follows the movement of the camera simulating a certain level of viewer action, especially in such cases where the camera appears positioned at eye level.
2. 9 pieces (13.2% of the features) show outdoor public spaces devoid of people, such as parks, squares, beaches, recreational or commercial areas, etc. In these cases, the camera is kept in a fixed location so that the viewer accesses the sites passively as a mere observer. We highlight *Paris Under Lock*down, produced by the French company Targo that shows several emblematic sites in the city of Paris without any people or activity.
3. The third group are 5 features that recreates some sort of activity within a closed public space, offering the viewer the possibility of exploring (on foot) inside a supermarket, an airport, a museum, a means of transportation, etc. and simulate daily activity in each respective place. One of the earliest pieces is a 360º view of the daily commute in Beijing during the Covid-19 outbreak. Published in February, it offers the viewer the chance to take a tour on different means of public transport (bus, metro) as if the viewer were actually there.

Other topics are less frequent. 14 pieces (20.6%) explain the situation in some depth. 5.9% of the pieces show hospitals where the virus is being combatted. They correspond mainly to the Chinese channel CGTN. Another 2.9% denounce an aspect of reality. This is the case of the piece *Covid-19 in São Paulo*, published by the Brazilian production company Vila 360 Realidade Virtual, which shows the economic difficulties faced by the inhabitants of the city of São Paulo during the confinement. 4.5% offers the viewer the possibility of visiting relaxing places with beautiful scenery, oblivious to the crisis. Finally, 2.9% of the features provide tips to fight against the virus. An example is the video *Coronavirus - How to protect yourself!* From a first-person point of view a series of preventive recommendations are given to avoid the disease by handwashing or maintaining distance from people.

Graph 2

Topic of the features (in frequencies and % of the total sample)
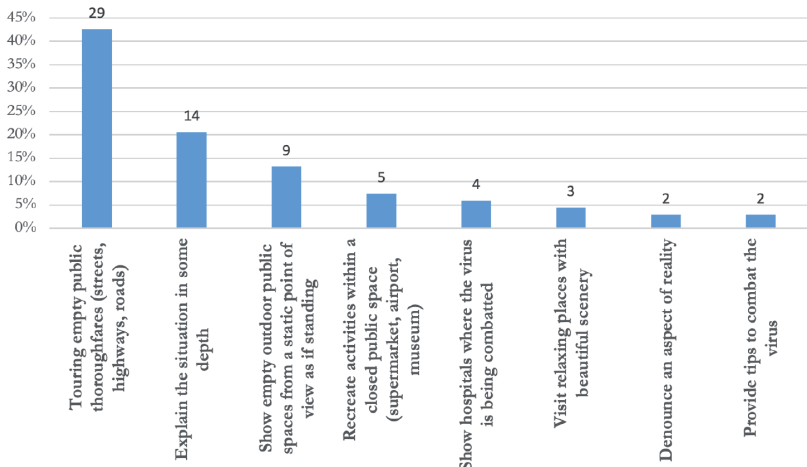
3.5. In 60.4% the viewer becomes a passive observer

This means that, in the representation, the viewer, once the viewer puts on the VR glasses assumes the role of ("becomes") a mere observer without taking any part in the action. In 33.8%, on the other hand, the viewer is engaged as an active observer, with a certain degree of interaction. This is achieved through the combined use of a moving camera and another subjective camera that renders a first-person focus. Only 2.9% take a more active role by appearing partially represented in a sort of character with whom they identify as if it were themselves, thus assuming ownership of their actions. This is the case in *Coronavirus: how to protect yourself!* in which the viewer becomes the protagonist of the narration and "engages" in a routine of daily activities to prevent contagion: washing hands, taking vitamins, wearing gloves and a mask to go outside, etc. In the remaining 2.9%, there is no single standard.

3.6. Sound is taken into account in 64.7% of the analyzed features

Although it is a very important component in terms of immersion (Biocca & Delaney, 1995; Lombard & Ditton, 1997; Rothe & Hußmann, 2018), the sound is

only taken into account in 64.7% of the features we have analyzed. 26.5% of the pieces add an accompanying soundtrack, but without giving it a specific function. In the remaining 8.8%, there is no audio whatsoever: the piece is fully silent and only images are shown.

Different resources are used in order to increase the immersive experience through sound. In 23.5%, the ambient sound is maintained, which is adequate when silence acquires informative value, broken only by the sound of the wind, ambulances, the words of an occasional passerby or the odd traffic noise. In 5.9%, we find a combined use of the soundtrack together with the ambient sound. Yet, in 75% of the cases analyzed, most lack a voice-over narration. When there is a voice, it is a narrator whose function it is to explain and/or describe the situation shown by the representation (25%): in 13.2% of these cases, this voice is also accompanied by a soundtrack or ambient sound, while in the remaining 11.8%, the narrative voice is on its own.

The voices of witnesses offering some type of testimony become important in 4.4% of cases, an absence that is justified in the context of a situation with few people on the streets together with the rules of social distancing. Finally, in the remaining 5.9%, more than two audio resources are combined (Graph 3).

Graph 3

Use of the sound (in frequencies and % of the total sample)
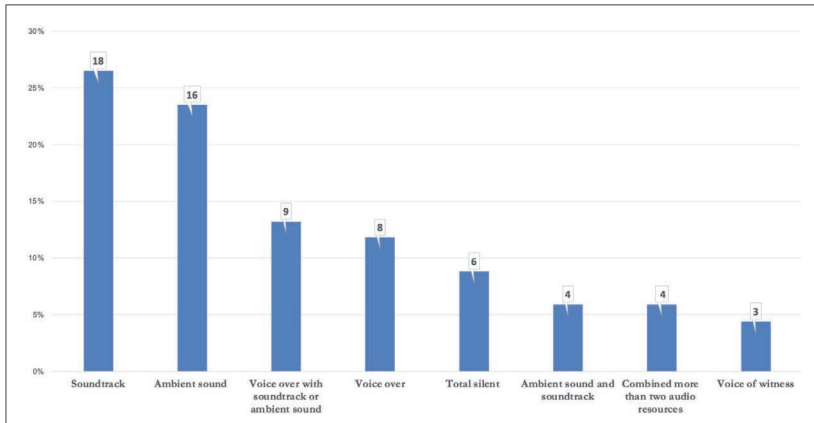
3.7. The illusion of movement does not always work properly

We also analyzed how camera movements are used. In 28 pieces (41.2%), the camera is placed on a means of transport –car, motorcycle or bicycle– which produces this sense of movement. However, this feeling is somewhat unreal when the camera is located above the viewer's gaze. In some cases, there are shaky camera movements, which may cause dizziness (Nielsen *et al.*, 2016: 231). To prevent them, it is more advisable to set the camera in the vehicle so that the viewer may pretend to be the driver or a passenger. However, we only find this use in 2.9% of the sample.

On other occasions, movement is generated by the journalist who carries the camera. This is the case in 21 pieces (30.9%) of the analyzed features. In such a case, it would be preferable to set it on a helmet, as close as possible to eye level. However, in the pieces analyzed, the camera is carried on a pole that betrays mediation when not edited off.

In 2.9% of cases, scenes are filmed using an aerial device (drone). This not only does not favor immersion but also reduces the sense of presence since overhead shots provoke a greater distancing. Finally, the remaining 3% combines the movement of a camera carried by the journalist who is walking with that of a camera set in a car or a drone.

4. Conclusion

One of the main changes that we found when analyzing the coverage of Covid-19 in an immersive key is the paradigm shift in the closeness/distance relationship between the viewer and the story. When the viewer puts on the glasses, the viewer no longer observes the reality of another, located in a remote place. On the contrary, the situations seen are familiar. Shopping in a supermarket overwhelmed by the new rules of hygiene and social distancing, watching public spaces surrounded by unusual silence or walking through streets devoid of people and activity are some of the most common representations.

A recent study warns of the psychological changes that confinement conditions can produce, since they affect the "disappearance of places from our daily experience […], our sense of place" (Riva & Wiederhold, 2020: 277). In this sense, these authors claim that immersive narratives can help "to counter the disappearance of places and communities generated by the coronavirus" (278).

The analysis of the 68 features selected during the first months of the lockdowns (January-May 2020) confirms the potential that spherical video offers for journalism. When we analyze their intention, we find that 63.2% are showing

empty spaces and streets that the viewer may "visit" in different ways: on foot or a means of transport, generating a certain illusion of movement (42.6%), observing the scene from a static point of view as if standing (13.2%), or showing some activity such as riding on public transport (7.4%). Some pieces aim at explaining specific aspects of the situation in some depth (20.6%).

The publications come from 21 countries and 43 different agents. Media and film producers together account for 79.4% of the sample. The initiatives by independent journalists amount to 17.6%. Also, there is a 3% of the initiatives by universities (1.5%) and cultural organization (1.5%. Although it would require further analysis, some of the causes of this decline by the media could be explained by the saturation in the newsrooms due to the demands of daily coverage, the difficulty to go out into the streets and the complexity of this type of production.

Most of these initiatives are occasional, although some media and production companies show a more stable commitment. This is the case of the Chinese television channel CGTN (which concentrates 11.8% of the total), of the audiovisual producers Urbanist: History of cities (8.8%) and 360 Tour (5.9%) and also from the independent journalist Dorfi360, author of 5.9% of the total.

The analysis reveals a practice still "under construction", something that can be clearly seen when examining the use of certain narrative resources. Based on distinct published reports from several industry organizations and media outlets about what they consider good practices in immersive journalism (Owen, Pitt, Aronson-Rath & Milward, 2015; Doyle, Gelman & Gill, 2016; Jaunt, 2017; Oculus, 2017; Watson, 2017; Frontline & Emblematic, 2018), some aspects that could be improved are:

1. excessive length, beyond what is recommended. This may lead to fatigue and the viewer gives up viewing before the end
2. the absence of a narrative voice in almost 75% of the analyzed features
3. the lack of interaction with the viewer, which although logically should be simulated, would be effective in promoting viewer participation
4. the location of the camera in places that are emotionally distancing, or
5. the treatment of audio in 35.3% of the pieces analyzed, despite being an extremely important element in immersive narratives

Along with these, the use of some resources refers to a gradual professionalization of this kind of feature. We highlight, for instance:

1. the adequate treatment of the journalist and the recording equipment in more than half of the sample

2. the correct use of overprints
3. the successful use of the cut transition in the cases analyzed, or
4. the appropriate use of audio in some of the analyzed features, which contributes to the purpose of the text to resort to silence in a diegetic way as a metaphor for absence, solitude, emptiness and isolation.

Otherwise, the existence of these lights and shadows confirms that this modality is still in an initial stage of development, as can be expected from a kind of production that is technically very complex since it breaks many of the rules of conventional audiovisual narrative. At the same time, this opens up a huge range of narrative and expressive possibilities.

Funding

5. References

Adornato, Anthony (2017): *Mobile and Social Media Journalism: A Practical Guide*. California: CQ Press/SAGE.

Antony, Mary Grace & Thomas, Ryan J. (2010): "This is citizen journalism at its finest': YouTube and the public sphere in the Oscar Grant shooting incident", in *New Media & Society*, pp.1280-1296. https://doi.org/10.1177/1461444810362492

Baía Reis, António & Coelho, António Fernando Vasconcelos Cunha Castro (2018): "Virtual Reality and Journalism: A gateway to conceptualizing immersive journalism", in *Digital Journalism*, vol. 6, nº 8, pp. 1090–1100.

Brillhart, Jessica (2016). "In the blink of a mind-attention", in *Medium*. https://medium.com/the-language-of-vr/in-the-blink-of-a-mind-attention-1fdff60fa045

De-Bruin, Kiki; De-Haan, Yael; Kruikemeier, Sanne; Lecheler, Sophie & Goutier, Nele (2020): "A first-person promise? A content-analysis of immersive journalistic productions", in *Journalism, first online*. https://doi.org/10.1177/1464884920922006

De la Peña, Nonny, Weil, Peggy, Llobera, Joan, Spanlang, Bernhard, Friedman, Doron, Sánchez-Vives, María V. & Slater, Mel (2010): "IJ: Immersive virtual reality for the first-person experience of news", in *Presence: Teleoperators and Virtual Environments*, vol. 19, nº 4, pp. 291-301. https://dl.acm.org/doi/abs/10.1162/PRES_a_00005

Domínguez, Eva (2017): "Going beyond the classic news narrative convention: The background to and challenges of immersion in journalism", in *Frontiers in Digital Humanities*, vol. 4, nº 10.

Doyle, Patrick, Gelman, Mitch & Gill, Sam (2016): "Viewing the future? Virtual reality in journalism", in *Knight Foundation by USA Today*. https://knightfoundation.org/reports/vrjournalism/

Emblematic (2018): "Creating Virtual Reality Journalism: A Guide for Best Practices", in *Frontline*. http://apps.frontline.org/vr-report/

Gregory, Sam (2016): "Immersive witnessing: From empathy and outrage to action", in *Witness*. https://blog.witness.org/2016/08/immersive-witnessing-from-empathy-and-outrage-to-action

Gynnild, Astrid; Uskali, Turo; Jones, Sarah & Sirkkunen, Esa (2021): "What is immersive journalism?", in Uskali, Turo, Gynnild, Astrid, Jones, Sarah & Sirkkunen, Esa (eds.): *Immersive Journalism as Storytelling: Ethics, Production and Design*. New York: Taylor & Francis.

Herranz de la Casa, José María; Sidorenko, Pavel & Cantero, Juan Ignacio (2019): "Realidad virtual y periodismo inmersivo: nuevas formas de contar historias para los periodistas", in Ufarte, María José (coord.). *Nuevos perfiles profesionales para el mercado periodístico*. Sevilla: Comunicación Social, pp. 127-146.

Ijsselsteijn, Wijnand A.; De-Ridder, Huib; Freeman, Jonathan & Avons, S.E. (2000): "Presence: Concept, determinants, and measurement", in Rogowitz, Bernice E. & Pappas, Thrasyvoulos N. (eds.): *Proceedings of the SPIE, Human vision and electronic imaging*, pp. 520-530. http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.13.4919&rep=rep1&t ype=pdf

Jaunt (2017): *The Cinematic VR Field Guide. A Guide to Best Practices for Shooting 360°*. https://www.jauntvr.com/cdn/uploads/jaunt-vr– field-guide.pdf

Jones, Sarah (2017): "Disrupting the narrative: immersive journalism in virtual reality", in *Journal of Media Practice*, vol. 18, nºs. 2-3, pp. 171-185, doi: 10.1080/14682753.2017.1374677

Kent, Tom (2015): "An ethical reality check for virtual reality journalism", in *Medium*. https://medium.com/@tjrkent/an-ethical-reality-check-for-virtual-reality-journalism-8e5230673507

Kovach, Bill & Rosenstiel, Tom (2013): *The elements of journalism: What newspeople should know and the public should expect*. Three Rivers Press.

Lombard, Matthew & Ditton, Theresa (1997): "At the heart of it all: The concept of presence", in *Journal of Computer-Mediated Communication,* vol. 3, nº 2. http://jcmc.indiana.edu/vol3/issue2/lombard.html

Marchena, Domingo (2019): "La periodista que desafió a Julio Verne... y venció", in *La Vanguardia*. https://www.lavanguardia.com/ocio/viajes/20190426/461718491228/nellie-bly-julio-verne-phileas– fogg-la-vuelta-al-mundo-en-80-dias-periodismo-viajes.html

Men, Liang, Bryan-Kinns, Nick, Hassard, Amelia Shivani & Ma, Zixiang (2017): "The impact of transitions on user experience in virtual reality", in Rouse, Rebecca, Koenitz Hartmut & Mads, Haahr (eds.): *Proceedings of the IEEE Virtual Reality*. IEEE, pp. 285-286.

Milk, Chris (2015): "How virtual reality can create the ultimate empathy machine". *TED Talks*. https://www.ted.com/talks/chris_milk_how_virtual_reality_can_create_the_ultimate_empathy_machine

Nash, Kate (2018): "Virtual reality witness: exploring the ethics of mediated presence", in *Studies in Documentary Film*, vol. 12, nº 2, pp. 119-131.

Nielsen, Lasse T., Møller, Matias B., Hartmeyer, Sune D., Ljung, Troels C.M., Nilsson, Niels C., Nordahl, Rolf. & Serafin, Stefania. (2016): "Missing the point: an exploration of how to guide users' attention during cinematic virtual reality", in *Proceedings of the 22nd ACM Conference on virtual reality software and technology* ACM, pp. 229-232.

Oculus (2017): "Best Practices Guide", in *Oculus*. https://developer.oculus.com/resources/hands-design-bp/

Owen, Taylor; Pitt, Fergus, Aronson-Rath, Raney & Milward, James (2015): "Virtual reality journalism", in *Tow Center for Digital Journalism*. https://www.cjr.org/tow_center_reports/virtual_reality_journalism.php

Pérez-Seijo, Sara & López-García, Xosé (2019): "La ética del periodismo inmersivo a debate", in *Hipertext.net*, nº 18, pp. 1-13. https://www.raco.cat/index.php/Hipertext/article/view/10.31009-hipertext.net.2019.i18.01

Riva, Giuseppe & Wiederhold, Brenda K. (2020): "How cyberpsychology and virtual reality can help us to overcome the psychological burden of coronavirus", in *Cyberpsychology, Behavior and Social Networking*, vol. 23, nº 5, pp. 277-279.

Rothe, Sylvia & Hußmann, Heinrich (2018): "Guiding the viewer in cinematic virtual reality by diegetic cues", in *Lecture Notes in Computer Science*, nº 10850, pp. 101-117.

Sánchez Laws, Ana Luisa (2019): *Conceptualising immersive journalism*. New York: Routledge.

Shawyer, Susanne (2019): "Emancipated Spect-actors: Boal, Rancière, and the Twenty-First-Century Spectator", in *Performance Matters*, vol. 5, nº 2, pp. 41-54.

Sirkkunen, Esa, Väätäjä, Heli, Uskali, Turo & Rezaei, Parisa Pour (2016): "Journalism in virtual reality: Opportunities and future research challenges", in *Academic MindTrek'16: Proceedings of the 20th International Academic Mind Trek Conference*. Association for Computing Machinery, pp. 297-303.

Sirkkunen, Esa; Vázquez-Herrero, Jorge; Uskali, Turo; Väätäjä, Heli (2020): "Exploring the immersive journalism landscape", in Uskali, Turo; Gynnild, Astrid; Jones, Sarah; Sirkkunen, Esa (eds.): *Immersive journalism as storytelling. Ethics, production, and design*. New York: Routledge, pp. 13-24. https://doi.org/10.4324/9780429437748-3

Slater, Mel (2009): "Place illusion and plausibility can lead to realistic behavior in immersive virtual environments", in *Philosophical Transactions of the Royal Society B: Biological Sciences*, nº 364, pp. 3549-3557. doi:10.1098/rstb.2009.0138

Syrett, Hannah, Calvi, Licia & Van Gisbergen, M.S. (2017): "The Oculus Rift Film Experience: A Case Study on Understanding Films in a Head Mounted Display", in *Intelligent Technologies for Interactive Entertainment: 8th International Conference*, Springer, pp. 197-208.

Suh, Ayoung; Wang, Guan; Gu, Wenying & Wagner, Christian (2018): "Enhancing Audience Engagement Through Immersive 360-Degree Videos: An Experimental Study", in *International Conference on Augmented Cognition*, SpringerS

Tecnic, Anes (2018): *Guidance in a 360-degree video with the help of special effects. Attracting attention to a specific object or segment in a 360-degree video using graphical elements, lights, and colours*. Bachelor Thesis. Linnaeus University.

Watson, Zillah (2017): "VR for News: The New Reality? Digital news project", in *Reuters Institute*. https://reutersinstitute.politics.ox.ac.uk/our-research/vr-news-new-reality

Wolfe, Tom (2012): *El nuevo periodismo*. Barcelona: Anagrama.