

IMMERSIVE JOURNALISTIC NARRATIVES (IJNS):

language characteristics and strategies for approaching the public



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ABSTRACT – The main language characteristics of immersive journalistic narratives (IJNs) are identified from an exploratory mapping, analyzing a corpus comprising ten IJNs (between 2015 and 2019) that use virtual reality and 360-degree videos. These IJNs were published on YouTube and the official channels of Brazilian information media outlets. This analysis helped us determine that these types of narratives do not focus on the reporter; they instead promote sensory and emotional bonds, thus giving the idea that emotion and empathy are considered to be newsworthiness criteria in contemporary journalistic practices.

Key words: Immersive journalistic narratives. Virtual reality. 360 degrees videos. Audience engagement strategies. Emotion and empathy.

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NARRATIVAS JORNALÍSTICAS IMERSIVAS (NJI): características de linguagem e estratégias de aproximação com o público

RESUMO – A partir de um mapeamento exploratório, são identificadas as principais características de linguagem das narrativas jornalísticas imersivas (NJI). A análise de um corpus formado pelas dez NJIs produzidas entre os anos de 2015 e 2019 que utilizam realidade virtual e vídeo 360 graus, com maior visualização na plataforma YouTube e publicadas em canais oficiais de veículos brasileiros de informação, permite verificarmos que tal formato torna opaca a mediação do repórter como intérprete da realidade social e confere crescente protagonismo aos usuários mediante a promoção de vínculos sensoriais e emocionais, sinalizando que a emoção e a empatia já são apropriadas como critérios de noticiabilidade nas práticas jornalísticas contemporâneas.

Palavras-chave: Narrativas jornalísticas imersivas. Realidade virtual. Vídeo 360 graus. Estratégias de engajamento do público. Emoção e empatia.

NARRACIONES PERIODÍSTICAS INMERSIVAS (NJI): características del lenguaje y estrategias de participación de la audiencia

RESUMEN – Las principales características del lenguaje de las narrativas periodísticas inmersivas (NJI) se identifican a partir de un mapeo exploratorio. El análisis de un corpus formado por diez NJIs producidos entre los años 2015 y 2019 que utilizan realidad virtual y video en 360 grados, con mayor visualización en la plataforma de YouTube y publicado en canales oficiales de los vehículos de información brasileños, nos permite comprobar que éste formato hace opaca la mediación del reportero como intérprete de la realidad social y otorga un protagonismo creciente a los usuarios a través de la promoción de vínculos sensoriales y emocionales, señalando que la emoción y la empatía son ya apropiadas como criterios de noticiabilidad en las prácticas periodísticas contemporáneas.

Palabras clave: Narrativas periodísticas inmersivas. Realidad virtual. Vídeo 360 grados. Estrategias de captación de la audiencia. Emoción y empatía.

1 Introduction

Journalism has fulfilled a social role that other legitimate institutions do not perform; it produces a discursive reconstruction of the world based on fidelity parameters between everyday occurrences and the news report (Franciscato, 2005). The commitment to the search for the truth and the construction of events based on the premises of objectivity and impartiality are values and conventions that made journalism a reliable and trustworthy medium to narrate the facts in the 20th century. It is rooted in reason and not emotion (Becker, 2022).

In the 21st century, the exploitation of emotions across social media by governments, groups, and private organizations with political and commercial interests, using automated systems (AI) and algorithms that increase the spread of false information, has harmed citizens and compromised democracy (Bakir & McStay, 2022). Journalism has sought to reaffirm itself as a reliable source of news for an audience saturated by an excess of information and affected by the spread of fake news in this current world of disinformation. The use of emotions in journalism research is still recognized simply as a way to attract attention and establish an emotional bond with the public. However, emotions, witness testimony, and the life experiences of citizens and journalists themselves are gaining more and more space in news reports, a phenomenon called “emotional turn” (Wahl-Jorgensen, 2020; Becker, 2022).

The advances and uses of digital technologies have also provided new narrative possibilities and different visualities in the current production cycle of online journalism (Pavlik, 2019; Canavilhas et al., 2019). The use of virtual reality (VR), augmented reality (AR), and 360-degree video technologies in journalistic narratives was coined immersive journalism by De la Peña et al. (2010). VR experiences require one to use special glasses and other gadgets in order to be immersed in the synthetic space (Domínguez-Martín, 2013) while AR experiences are virtual images that do not replace reality and do not require specific glasses to view them. A 360-degree video is a spherical video format that includes still, moving, and three-dimensional images. It allows viewers to look around and expand the visual environment, which gives them the illusion of actually being at the event (Rodrigues et al., 2022; Longhi & Lenzi, 2017).

The increasing use of VR, AR, and 360-degree technologies in journalistic content came about from the media’s interest in building journalistic narratives capable of enhancing realism and offering news reports with a greater degree of interactivity and immersion for the online public (Seijo et al., 2020). Interactivity, as Rost (2014) proposes, is a means of communication that provides users with the power to select content (selective interactivity) and expression (communicative interactivity). The level of immersion is what gives the observer the feeling of walking through a digital space while physically being in another environment, it is defined by the degree of the user’s involvement and participation in the virtually-represented

reality (Domínguez- Martín, 2013). Arlindo Machado and Janet Murray identify the subjects who interact with immersive experiments as agents and interactors as they are able to participate in the narrative as it unfolds (Machado, 2007; Murray, 2003; Becker, 2022). There are many terms one can use to describe the individual who interacts with these types of narratives, however, we chose to use the term user as it is commonly mentioned in studies on immersive journalism.

How immersive journalistic narratives (IJNs) report on world events also changes how a journalist works. Stories told in the first person are increasingly frequent and are used to attract users (Pavlik, 2019). The growing inclusion of ordinary citizens as witnesses and sources of information shows that a journalist's discourse now includes the public and thus lessens his or her authority as an interpreter and translator of events (Becker, 2022).

This paper¹ aims to shed light on the language characteristics of immersive journalistic narratives (IJNs) by observing the aesthetics employed, inferring whether and how they change the functions journalists perform, seeking to approach users, and investigating whether the use of immersion as a resource narrative provides a broader understanding of social reality and events portrayed in 360-degree videos. We focused our study on immersive narratives that use spherical video as this is the technology that news outlets use the most (Ambrosio & Fidalgo, 2019a) in these experiments. When viewed through special glasses and headphones, the 360-degree video offers viewers the ability to choose the direction and viewing angle of the images. This format differs from VR video which, in addition to these aforementioned features, also allows the user to select his or her own position in a scene, thus creating a greater degree of interactivity and immersion through the use of computer graphics. The spherical video also differs from AR video in that elements can be virtually inserted into images captured from the physical world, however, the observer does not have the ability to choose the direction and viewing angle of the images. The IJNs that use 360-degree videos do not provide the maximum degree of immersion because they are not interactive and the frames, sources, times, and locations of video capture are made by the journalistic organization. But the user has relative autonomy to edit an immersive report without the presence of the reporter when viewing these experiments.

Our hypothesis is that IJNs provide us with new ways of seeing, hearing, and feeling the experience, but they do not always enhance

journalism as a form of knowledge. Even though this relevant issue is tackled by research in different ways, the different perspectives indicate that news is a social representation and a construction of reality which is influenced by the verification of facts inscribed in the historical world. However, these arbitrary ways of creating reality in immersive journalistic narratives, especially through sensory experiences, do raise some concerns in journalism studies. The computation images produced by informatics language have no direct connection with empirical reality; they are based on mathematical models and not on physical data captured from the visible, simulate unreal worlds, and conceptual realism is constituted by visualization algorithms (Santaella & Nöth, 2008; Machado, 2011; Becker, 2022). IJNs do not use the traditional conventions of journalistic practices; they limit and obscure the reporter's role as an interpreter of social reality while overvaluing the role of users. We seek to identify how immersive technologies transform the ways of narrating events and to reflect on the exploration of emotion in IJNs. The exploratory research (Martino, 2018) conforms to the adopted methodology and is organized into five steps, described below. We shall then present a reflection on the term immersive journalism followed by a description of the methodology we chose for this investigation.

2 Unveiling immersive journalism

The news productions that use digital technologies for capturing and representing spherical images to provide user immersion explore empathy and the sense of presence. According to Murphy (2022), the concept of empathy is recognized as the possibility of experiencing the emotional state of the Other, but it does not contemplate the real apprehension of suffering, misfortune, and the severity of a situation portrayed or documented by the media. Heeter (1992) defines the sense of presence as the feeling of existing within, but separate from, a virtual world that also exists. We identified that the uses and appropriations of technologies for 360-degree video production, virtual reality (VR), and augmented reality (AR), taking into account their different degrees of immersion, correspond to the fourth phase of journalistic narratives in digital media, as per the systematization proposed by Longhi (2014). *The Displaced*, a New York Times video documentary using 360-degree

viewing² published in 2015, was the catalyst for a number of media organizations to use VR and AR in their journalistic narratives to give the feeling of immersion and presence to the user (Longhi & Lenzi, 2017).

A pioneer in immersive video technologies, journalist Nonny de la Peña argues that virtual reality systems are the best way to provide the public with first-person experiences in news stories and to create empathy. She coined the term ‘immersive journalism’ to describe the virtual news report that allows the information consumer to ‘enter’ the story, and includes the following three premises identified in VR, AR, or 360-degree videos: the illusion of reality, the user’s sense of being and acting in a remote environment, and the brain’s ability to believe in the sense of bodily presence (De la Peña et al., 2010). These premises can be traced back to Nonny de la Peña’s first experience with virtual reality and scenarios recreated in computer graphics, *Hunger in Los Angeles*³, presented in 2012.

Ambrosio and Fidalgo (2019a) refer to immersive journalism as ‘embodied’ journalism since it requires users to immerse themselves in another reality and makes them feel like they are part of it, reacting in a virtual environment just as they would in the physical world. Physical reactions to sounds and images can be observed, even with users who watch 360-degree videos (while using appropriate glasses and headphones). Researchers in immersive journalism agree that this form of building journalistic material produces a sense of presence by replacing the user’s real location with a different one, thus allowing the user to access the location of an event and directly witness the facts that occurred (Ambrosio & Fidalgo, 2019a; Aronson-Rath et al., 2015; De la Peña et al., 2010). To experience this, one needs to use VR headphones or Head Mounted Display (HMD) or a system such as CAVE (Cave Automatic Virtual Environment), which projects moving images and creates a three-dimensional environment (Cruz-Neira et al., 1992; Ambrosio & Fidalgo, 2019a, p. 22).

However, when analyzing Nonny de la Peña’s computer graphic video, *Project Syria*⁴, from the perspective of established standards of accuracy in journalism, Flatlandsmo and Gynnild (2020) state that computer-produced images are closer to virtual reality video games than to reports, emphasizing that the public needs to know how to identify whether what they are watching is actually journalistic content and also how to question whether the said experience is journalism. In fact, the reliability and

verification of facts based on images captured from the physical and visible world (that attest to the accuracy of events) are relevant criteria on which to build journalistic narratives that use digital technologies, both in journalism and in other fields of knowledge (Silva, 2017).

Technological advances incorporated into journalistic practices have had an impact on the production and consumption of news content and, according to Pavlik (2015), immersion and interactivity tools are becoming increasingly important strategies for user engagement. Pavlik identified a new form of journalism, one of an immersive and interactive nature, which he named experiential journalism (Pavlik, 2019). This form of journalism has a greater potential to generate empathy and allow users to experience a story from the source's point of view, to actively engage in the material, and to have a multisensory experience by being able to observe, listen and touch the visualized space. In these immersive experiences, the viewer can either select his or her own location in a scene, choose the direction and viewing angle of the images (VR), or just use the point of view (360-degree videos). As Longhi (2020) explains, viewing a 360-degree image dissolves the separation between the observing subject and the observed space. Longhi named complex narratives the experiments that De la Peña et al. (2010) make as immersive journalism, Pavlik recognizes them as experiential journalism, and Ambrosio and Fidalgo (2019a) identify them as embodied journalism. When examining how journalism with immersive technologies redefines the way news reports are produced and consumed, Ambrosio and Fidalgo (2019b) proposed a new classification of genres for IJNs, which we shall explain in the methodology section of this study. Doing this led us to the conclusion that the concept of immersive journalism is continuously being revised (De Bruin et al., 2020 as cited in Rodrigues et al., 2022). Nevertheless, we adopted the terminology proposed by Nonny de la Peña et al. (2010) as it falls in line with our hypothesis for this paper, suggesting that the strong invitation and synthetic insertion of the public in such experiments is unique to IJNs and thus differentiates them from other formats.

3 Methodology

The methodology used in this study is exploratory research. It consists of five distinct stages: 1. Composition of the research corpus using an exploratory mapping of immersive journalistic narratives (IJN) produced between 2015 and 2019 that use 360-degree video on YouTube and published on official channels of Brazilian news media outlets in the same period; 2. Verifying attributes of IJNs as proposed by researchers in immersive journalism, and adhering these properties to the materiality of the corpus of this work in order to identify the main language characteristics of these experiments; 3. Identifying the narrative elements of the IJNs by applying seven categories taken from studies by Ambrosio et al. (2019) and by Ambrosio and Fidalgo (2019a) to further develop this investigation; 4. Using the typology of journalistic genres proposed by the authors in the analysis of ten materialities to assess whether the IJNs are configured or not as a new journalistic genre; and 5. Organizing the results to assess whether immersive narratives further one's understanding of events by observing changes in journalists' modes of action and in the strategies used to engage users.

In the first stage, we carried out an exploratory mapping to collect and select immersive journalism that used 360-degree videos to investigate the main characteristics of IJNs. We then elaborated a corpus of ten journalistic narratives produced between 2015 and 2019, most of which were viewed on the YouTube platform. We started searching on the YouTube360⁵ channel and also mapped the official channels of news media outlets on the same platform, both foreign and Brazilian. Four types of videos were selected: those using 360-degree images viewed through special virtual reality glasses; those of a journalistic nature produced by media outlets; those created between 2015 and 2019; and those made available for viewing on YouTube. This period was delimited by bringing together the largest production of immersive journalistic narratives made by media outlets in Brazil and abroad and due to the significant decrease of experiments created with immersive technologies in subsequent years, as evidenced in the mapping carried out.

The decision to use YouTube is based on the large number of media organizations that have published 360-degree videos, as of 2015, on open platforms with viewing potential. The YouTube 360 channel, created in 2015 for 360-degree content, was selected

because it already had more than a thousand videos and 3.2 million subscribers at the time we were organizing this research data, in May 2021. The 31 playlists on this channel, called *Eyewitness Collection*, combine audiovisuals produced by 42 media companies from different countries, including 371 narratives of a journalistic nature. According to the four predefined criteria, for the first stage (exploratory mapping of official YouTube channels of media outlets) we verified the year the immersive journalistic narratives were produced and the 360-degree productions with the highest number of views from 2015 to 2019.

Due to a lack of 360-degree videos produced by Brazilian news outlets on the YouTube 360 channel, we expanded our search for the most viewed IJNs produced in Brazil during this period and, in the second stage of the exploratory mapping, observed the official YouTube channels for 12 of the main information outlets in the country: the three printed newspapers, the three highest circulating weekly magazines in the country, the three most accessed news portals, and the three open TV channels with the largest audience numbers in 2020. Our selection was based on data from the *Mídia Dados 2020*⁶ report on Brazilian media companies and their market shares. We looked at the channels for the Folha de S.Paulo, O Globo, and O Estado de S. Paulo newspapers, the Veja, IstoÉ, and Época weekly magazines, the UOL, G1, and R7 portals, and the news channels on TV Globo, Record, and SBT. What we discovered was that half of the 12 main Brazilian media outlets used 360-degree videos from 2015 to 2019. However, TV Globo and the G1 portal did not have any news channel on YouTube during our research period; they used their own environment for publishing journalistic content on video. It was only in 2019 that Grupo Globo created its Jornalismo TV Globo channel, and the G1 portal only created it in June 2021⁷.

We asked the Department of Journalism at TV Globo for information about its immersive journalistic narratives in the 360-degree videos produced between 2015 and 2019. The broadcaster listed 50 news reports produced with this technology during that period. Three of these 50 videos were produced for Jornal Nacional and the others for the Fantástico show. Due to a lack of official viewing metrics for criteria 4, we used criteria 2 (videos of a journalistic nature produced by news outlets) as a parameter for selecting the three videos from Jornal Nacional. This allowed us

to identify the IJNs produced in Brazil and abroad between 2015 and 2019 with the highest number of views, and to select the ten materialities that make up the corpus of this work⁸.

In the second phase of our methodology, we organized relevant contributions on immersive journalism by Domínguez-Martín (2013), Silva (2017), Pavlik (2018), and Longhi (2020). We listed six attributes of IJNs identified by these researchers and verified the adherence of these properties to the experiments that form the corpus of this investigation, indicating their main language characteristics. In order to further our investigation, we used the third stage to identify the narrative elements in the IJNs inspired by the studies by Ambrosio et al. (2019) and Ambrosio and Fidalgo (2019a).

In the fourth phase of our exploratory research, we applied the typology of journalistic genres proposed by the aforementioned Spanish authors in the analysis of the ten materialities collected using 360-degree video to determine whether or not IJNs constitute a new journalistic genre. The typology of immersive journalistic genres elaborated by Ambrosio and Fidalgo (2019b) was constructed from a sample of 2.178 journalistic experiments with 360-degree videos or virtual reality classified as testimonials; informative productions; informative-testimonials; descriptive; experiential and dramatized. In the fifth and final stage, we systematize the results to determine how digital technologies and aesthetics are used in immersive journalistic narratives (IJNs), to identify the language characteristics of IJNs and to understand if, and how, such experiments change journalistic work and the way that events are narrated, and whether they promote (or not) broader perceptions of social reality. Below are the main findings of each of the five stages of this exploratory research.

4 Main findings

The ten immersive narratives that make up the corpus of this study, selected from the exploratory mapping, are listed in Chart 1.

Chart 1

Immersive journalistic narratives with 360-degree video, most of which are viewed on YouTube and published on official channels of Brazilian news outlets (2015 to 2019)

	Video	Source	Running Time	Date	Number of views
2015	1. <i>The Displaced</i>	New York Times	11'08"	Nov 06, 2015	437,863
	2. <i>Desastre ambiental em Mariana: a tragédia em 360°</i>	TV Globo/Jornal Nacional	2'56", 3'12" and 3'05"	Dec 04, 2015	No accurate view count
2016	3. <i>The Fight for Fallujah</i>	New York Times	11'08"	Aug 19, 2016	5.75 million
	4. <i>Mergulho com Karina Oliani</i>	O Estado de S. Paulo	3'11"	Dec 06, 2016	130,483
2017	5. <i>House to House: The Battle for Mosul</i>	Associated Press	8'04"	Jun 28, 2017	476,922
	6. <i>Uma viagem no primeiro dirigível tripulado do Brasil</i>	Veja	3'26"	Oct 02, 2017	107,387
2018	7. <i>Inside Auschwitz</i>	WDR	9'36"	Jan 25, 2018	644,922
	8. <i>Veja como é o triplex que condenou Lula</i>	UOL	3'17"	Apr 03, 2018	327,183
2019	9. <i>Take a Virtual Reality Journey Into the Future of Spaceflight</i>	CNN	3'30"	July 18, 2019	219,144
	10. <i>Conheça em 360° a barragem da Vale que se rompeu em Brumadinho</i>	R7	3'32"	July 25, 2019	534

The six IJN attributes that we verified in the second stage of our methodology based on contributions from Domínguez-Martín (2013), Silva (2017), Pavlik (2018), and Longhi (2020) are: sense of presence, sensory experience, interactivity and user engagement, likelihood and setting, feeling of immersion, and first person perspective. We observed that not all the experiments in our study had these properties. Most

of the IJNs we analyzed provide first-person views, that is, they allow users to choose what they want to see (Dominguez-Martin, 2015). But few materialities offer the public a first-person perspective as described by Pavlik (2019), with users being involved in the narrative with a degree of interactivity that allows them to experience the story as protagonists or central characters.

Two of the three reports that offer a first-person view narrating armed conflicts in Iraq offer the public the same point of view as the reporter, including scenes of combat. These two stories are from the New York Times (NYT) and the Associated Press (AP). The first-person perspective and the real sound of shots being fired in the NYT report make users instinctively duck for cover, as if the shots could actually hit them. Some of these scenes include a tank moving through the ruins of Fallujah or the middle of the desert as Iraqi soldiers are surprised by gunfire from Islamic State militants (Figure 1).

Figure 1

Fight for Fallujah / NYT shows reaction to Islamic State attack



Source: YouTube screenshot⁹.

Most of the narratives we studied produce a sense of presence (Heeter, 1992) and the spherical format of the 360-degree video adds to this when using special glasses and headphones. The 360-degree cameras capture different angles of images and simulate real-world perceptions. The believable scenes and sounds allow the audience to experience everything from war zone combat to a scenic swim among shoals of fish in the state of Mato Grosso do Sul, or a

peaceful flight in the first manned aircraft manufactured in Brazil. A video produced by German public TV (WDR) in Auschwitz, Poland, uses a drone to show the insides of what was one of the largest concentration camps of the Nazi regime. Showing images and sounds of a deactivated gas chamber amplifies the sense of presence and tension of whoever watches the report (Figure 2).

Figure 2

Inside Auschwitz / WDR shows the inside of a gas chamber



Source: YouTube screenshot¹⁰.

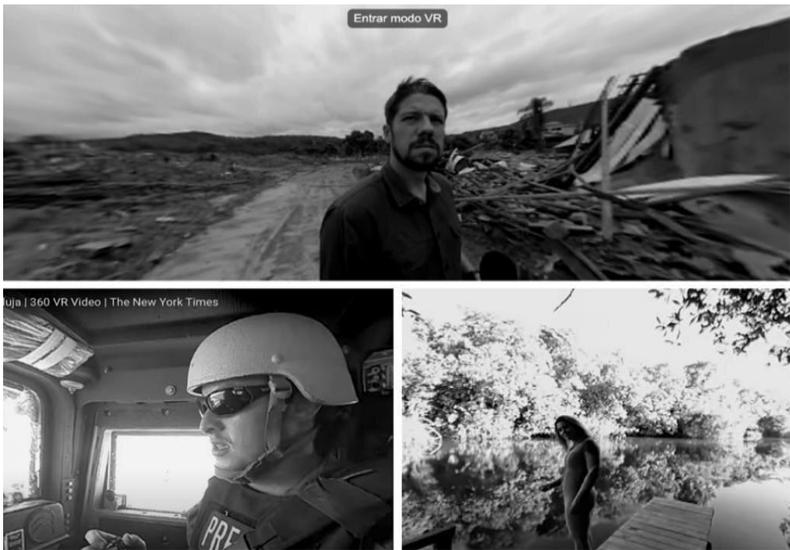
In the third stage of this study, we sought to identify the narrative elements in the IJNs by applying the seven categories proposed by the Spanish researchers: 1) Year of production; 2) Theme; 3) Length; 4) Presence of the journalist; 5) Presence of sources; 6) User perspective; and 7) Editing tools (Ambrosio et al., 2019; Ambrosio & Fidalgo, 2019a). We found a concentration of productions between 2016 and 2017, both in Brazil and abroad. However, updates to the 360-degree video playlists on the official YouTube channels of these media outlets either slowed down or stopped altogether in 2018, followed by very few immersive productions in 2019. We observed that 360-degree journalistic productions became even less frequent from 2020 onwards, due to the covid-19 pandemic. There are a variety of themes, even from a small sample of ten narratives. Foreign productions tend to focus on armed conflicts and their aftermath. Videos produced by Brazilian media outlets range from environmental disasters leading to deaths, such as those in Mariana

and Brumadinho (MG), to a virtual tour of the property that led to the conviction of then-former President Lula for corruption.

We discovered that national productions, on average, are about three minutes long, while most foreign productions range from eight to eleven minutes. We also found that only three of the ten narratives under study include journalists in 360-degree videos: two in JN, three in NYT, and four in OESP, as shown in Figure 3. The video produced by *Veja* magazine on board the first manned aircraft produced in Brazil does not clearly show whether the narrator who provides information about the aircraft and describes the sensations of the overflight is actually the reporter or someone else. We found that the other videos that built the user's presence in the portrayed scene did not include the journalist in the field.

Figure 3

Presence of journalists in IJNs (clockwise from top; JN, OESP, and NYT)



Source: YouTube screenshots¹¹ prepared by authors.

We found third-person videos with and without the presence of the reporter. When we looked at the videos shown from the user's point of view, we noticed that the possibility of first-person view did not necessarily exclude the presence of the

journalist either in the images or the narration. The narrative produced by AP offers the user several first-person perspective images in Mosul and does not show the on-scene reporter while he or she is conducting interviews or include any on-screen textual information. The sounds and speeches attached to the images come from the on-scene sources themselves and do not include any reporter narration. This is true whether the story is on the streets of a ruined city, aboard moving tanks, in the homes of local residents, or at combat sites. The New York Times immersive story in Fallujah, on the other hand, shows reporter Ben C. Solomon on the scene at several points during the article (lower left image, Figure 3). At other points during the report, the image shows what he sees and gives the public the feeling of being in the reporter's place while inside the Iraqi tank or at the firing line in the desert. Throughout the video, it is Solomon who narrates the story, interviews the people, and interacts with the soldiers.

In terms of sources in the videos, we noticed that most Brazilian 360-degree video productions did not have interviewees (top image of Figure 3, screenshot). The one exception is the immersive video on the R7 portal, in Brumadinho (MG), which has no reporter on the scene; instead, it shows the firefighters trying to rescue human bodies buried in a mudslide and they introduce the places and routines to the public (bottom image of Figure 4, screenshot). However, in foreign productions (even in videos produced in conflict zones), the victims are interviewed and use their own voices to detail the suffering they are experiencing. The narrative in the video from German broadcaster WDR alternates between testimonies from three Auschwitz survivors who speak directly into the camera. Figure 4 shows the WDR video with Auschwitz survivors and the presence of sources in the R7 portal video recorded in Brumadinho.

Figure 4*Presence of sources in IJNs (from top, WDR and R7)*

Source: YouTube screenshot¹² prepared by authors.

Editing tools can be identified in virtually all analyzed IJNs. Although the images in the videos are captured in 360 degrees, there are cuts, music, and text overlay added to them. Some narratives use drones to capture images, a tool that provides a 360-degree view of more open planes from above, as is the case with the Auschwitz video. After identifying the narrative elements of the IJNs, we entered the fourth stage of this exploratory research where we applied the typology of journalistic genres proposed by the aforementioned authors in order to analyze the ten samples collected using 360-degree video. In the sample analyzed by Ambrosio and Fidalgo (2019b), one-third of the videos are testimonials and the sources are present in more than half of the immersive experiments. Informative productions represent 19% of the surveyed sample. For the researchers, this means there is greater importance given to the source's testimony than to the journalist. Another piece of data that indicates the diminished role of the journalist in immersive narratives is the

number of productions classified as descriptive (Ambrosio & Fidalgo, 2019b), which accounted for almost 23% of the sample. Journalists and sources are absent from the scenes in these productions, and the observer is free to explore the surrounding images and interpret what he or she sees and hears in the 360-degree video without the presence of a reporter or sources. Based on these results, the authors state that “news pieces based on VR or 360-degree video constitute a new type of journalistic genre” (Ambrosio & Fidalgo, 2019b, p. 1.148). However, the results obtained from applying this typology of genres to the study of the ten immersive narratives that make up our corpus do not point to IJNs as a new journalistic genre.

We found that: 1) three of the ten narratives present a first-person perspective, providing the observer not only with a sense of presence but also with a first-person view and the freedom to choose the angle or frame they want to focus on; 2) nine of the ten experiments could be presented to the public in traditional formats, with videos of reporters interviewing and narrating the story, using images from the physical and visible world or with off-camera narration; 3) six of the ten narratives report on extreme situations and human suffering with a high amount of drama in 360-degree videos; and 4) the reporter is absent in four of these six narratives, and only one narrative does not record the presence of sources/victims on the scene.

We understand that the IJNs correspond to a new journalistic format and make for part of the informative genre, in light of the contributions of Fachine (2001) and Seixas (2009). The informative genre can adapt a report with immersive technology without necessarily changing, as evidenced in the observation of the three 360-degree videos recorded by reporter Phelipe Siani, in Bento Rodrigues (the district of Mariana, in the state of Minas Gerais, affected by the Vale mining company’s tailings dam disaster). The three videos provide an immersive view of the accident site without removing the reporter from the scene and also include the reporter’s descriptions and background information about what the site was like before it was buried under all the mud. These videos are what are called informative television reports, where the journalist narrates the facts and the public can visualize the scene in a 360-degree view, producing a sense of presence in the devastated homes and mud-covered streets. What’s more, IJNs do not present a recurring narrative structure in their form that can be recognized by both producers and consumers. The characteristic that is common to all immersive

narratives is technological support, identified by the symbol shown in the upper corner of the video, which identifies 360-degree images. However, as Flatlandsmo and Gynnild (2020) point out, this visual information is not enough to indicate to the user whether the video is journalistic content developed from this genre, with enunciative and behavioral regularities of the individuals involved widely recognized by the public.

5 Results

This analysis of 360-degree video productions allowed us to verify that the use of digital technologies and aesthetics employed in IJNs promote changes to the performance of both journalists and the public in the production and consumption of these experiments, according to the hypothesis of this study. We highlighted six main results and reflected on the following points: 1. We identified that IJNs are a new journalistic format and a part of the informative genre; 2. Such experiments do not do without the journalistic work in the investigation, in the context of the event, and in the reporting of information, but there is a removal of the reporter's presence and an appreciation of testimonies and sources; 3. The technological experience of immersion does not necessarily imply a broader understanding of social reality and events portrayed in immersive videos; 4. 360-degree video is used as a tool to attract user engagement; 5. The journalist is not the only professional responsible for immersive reporting and works in a team with other professionals to enhance the user's sensory involvement; and 6. The IJNs assign protagonism to the public and emphasize the exploration of empathy and emotion, which constitute potential news values in these experiments.

The IJNS do not do away with journalistic work; it is implicit in all the analyzed videos, including the CNN computer graphic report which narrates the time when mankind went to the moon and addresses the possibility that human beings could inhabit other planets. Likewise, the narrative for the immersive journey on the first manned aircraft in Brazil talks about the history of the aircrafts and their operation and explains what is being shown in the 360-degree video. Journalistic accuracy is also present in the

text information superimposed on images, as observed in the AP report in Mosul, which identifies neighborhoods controlled by the Islamic State during the advance of Iraqi troops and the importance of retaking the city. Another example is the UOL article about the triplex in Guarujá-SP that led to the conviction of the then-former President Lula, which included texts informing the location, value, and description of the property. The journalistic work provides contextualization and data that allow the public to attribute meaning to the images presented.

However, the functions of journalists who produce these kinds of experiments are being changed. Journalists do not narrate the events in most of the IJNs studied. The reporter is absent in 70% of the analyzed reports, that includes either the images or the narration, which diminishes their presence in field stories and does not value their professional activity. For this reason, taking into account the contribution that journalistic work makes to checking and contextualizing facts based on principles and practices, we believe that the technological experience of immersion does not necessarily imply a broader understanding of the social reality and events portrayed in immersive videos. In addition, journalists work as a team, with other professionals, to produce these narratives and constantly develop them using digital technologies and computer systems so as to enhance user involvement in the stories, reflecting the protagonism attributed to the public in these formats. The exception to this is the CNN video. The presence of the reporter could be questionable, since the video is created with computer graphics and imagines what the future of commercial space travel would be like. The other videos could be presented in traditional formats where the reporter interviews and narrates the story in front of the camera or with voice-over narration. As such, 360-degree video technology is used to promote public engagement and explore the sensory mobilization of users through the sense of presence and the first-person perspective. We found a significant amount of testimonies, interviews, and sources in journalistic narratives with spherical images, as these stories tend to be told from the point of view of the source/character. Examples of this are narratives from children displaced by war and the survivors of Auschwitz, or the firefighters in the disaster in Brumadinho. The 360-degree video technology and images captured from the physical world are used to record

the testimonies of those affected, who then become narrators of their own stories.

Immersive journalistic narratives create bonds with users through enunciative strategies that invite them to participate in stories and put themselves in the other's shoes, validating their experiences and exploring empathy and emotion. Six of the ten IJNs we analyzed address topics of war and environmental disasters and involve the public on an emotional level. The immersive narratives we studied from 2015 to 2019 invite the user to be the protagonist of the story, to walk in the place where the disaster occurred, reinforcing the argument that immersive journalism does not only seek to present the facts and arouse the public's interest, but also offers the opportunity to experience the facts through the production of empathy (De la Peña et al., 2010). The use of emotion and empathy in journalistic reports is not exclusive to immersive narratives; however, the technologies and aesthetics used in IJNs do enhance the emotional impact, thus giving more importance to the user's experience and their enjoyment of the narrative, while sensory mobilization makes them feel more engaged. In this way, emotion and empathy can be considered important newsworthiness aspects in immersive journalistic experiments.

6 Final considerations

Journalism has always sought to establish links with the public, and research conducted in the field shows that news should arouse interest and engage citizens, especially when reporting events involving injustice, loss of life, impact on a large number of people, or violent crimes. Events that provoke emotion or involve drama frequently appear in studies conducted on news values (Silva, 2014). Producing empathy as a journalistic news value, however, is relatively recent in research in Journalism. The search for objectivity and impartiality is important for good journalism, but it does not eliminate the need to connect with sources and characters to tell a story guided by the ethics of empathy, that is, the protection and respect for life, freedom, and happiness of people (Blank-Libra, 2017). Empathy, emotion, and valuing experience are relevant discursive strategies in IJNs (Hermida

2016; Beckett & Deuze, 2016; Pavlik, 2019). In 2010, in a seminal article on immersive journalism, De la Peña et al. (2010) proposed that this new modality would be able to emotionally involve the public in the reported events and produce empathy. However, as stated by Beckett and Deuze (2016, p. 2), “emotion is becoming a much more important dynamic in the way news is produced and consumed”. For Hermida (2016), social networks began to reverberate stories and act as a sounding board, boosting what the author calls emotional journalism.

These contributions are in line with the results achieved in this study. However, we suggest that further investigations should be conducted to provide more in-depth critical reflection on the use of emotion and empathy as aspects of newsworthiness. We believe it is important to listen to journalists who produce IJNs in order to get a better understanding of how the technologies and aesthetics these experiments use affect their productive routines and whether or not they value journalistic work. After all, the use of emotion, empathy, and technologies in immersive journalistic narratives does not compromise journalism; however, if they are used in certain ways they could affect the quality and social function of journalism, as what guarantees good journalism is the ethical verification of information and the reliability of reports in different media and languages.

NOTES

- 1 This work is the result of a master's dissertation approved in the Graduate Program in Communication and Culture at the Federal University of Rio de Janeiro in 2022.
- 2 Accessed on July 04, 2022, at www.nytimes.com/2015/11/08/magazine/the-displaced-introduction.html
- 3 Accessed on June 21, 2022, at www.immersivejournalism.com/hunger-in-los-angeles-machinima-video/
- 4 Accessed on March 21, 2021 at <https://emblematicgroup.com/experiences/project-syria>

- 5 Accessed on May 27, 2021, at www.youtube.com/360/playlists
- 6 Accessed on May 20, 2021, at https://midiadados.gm.org.br/edicoes_anteriores/midia-dados-2020.pdf
- 7 Accessed on June 25, 2021, at <https://imprensa.globo.com/programas/g1/textos/g1-estreia-canal-no-youtube-com-conteudo-original/>
- 8 Accessed on July 07, 2022, at <https://youtu.be/ecavbpCuvkl>; <http://especiais.g1.globo.com/jornal-nacional/2015/desastre-ambiental-em-mariana-mg/a-tragedia-em-360/>; https://youtu.be/_Ar0UkmlD6s; <https://youtu.be/A4iD97NFSGw>; <https://youtu.be/lnvkVW9xFfg>; <https://youtu.be/l6LGwCxYvYQ>; https://youtu.be/EOM_CxAKB_Y; <https://youtu.be/ysSzYVgdqrc>; https://youtu.be/lz8og_hcpzE; <https://youtu.be/POZ5e328FHE>
- 9 Accessed on Aug. 28, 2021, at https://youtu.be/_Ar0UkmlD6s.
- 10 Accessed on Aug. 28, 2021, at https://youtu.be/EOM_CxAKB_Y.
- 11 Accessed on July 07, 2022, at <https://bit.ly/3BeH1YC>; https://youtu.be/_Ar0UkmlD6s; <https://youtu.be/A4iD97NFSGw>.
- 12 Accessed on May 18, 2021, at https://youtu.be/lz8og_hcpzE; <https://youtu.be/POZ5e328FHE>.

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