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Blurring and redefining boundaries of journalism in the production and reception of interactive digital storytelling

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Abstract. Innovations in digital storytelling techniques have spurred on the development of new journalistic and audience practices. The production processes of interactive and immersive journalistic narratives are highly technological and require specialist knowledge of both journalism and design, and require producers to consider how audience engagement and user activity both fit into their story. The resulting narratives redefine the boundaries of what is considered a journalistic production, often requiring users to act within the story, thereby challenging the existing author-user relationship. In this chapter we discuss how the boundaries of journalism are redefined or blurred during both the production and reception processes of interactive, immersive journalism.

Keywords: digital storytelling; interactive narratives; immersive journalism; journalism

1 Introduction

Innovations in digital storytelling techniques have spurred on the development of new journalistic and audience practices. During the 30-year history of the World Wide Web, we have witnessed the birth of digital, multimedia and interactive forms of expression. Technological developments predating the definitive breakthrough of the Internet in the late nineties already allowed for developments in innovative digital storytelling that combine interactive and multimedia affordances. But particularly with the advent of Web 2.0, we witnessed convergence (Jenkins 2006), and a new step towards audience participation. Digital storytelling advances the user's ability to become an active user and to have an impact on the story (Miller 2014). The concept of interactive storytelling explicitly introduces the idea of control and intentional influence over the narrative or take on the role (Green and Jenkins 2014; Roth 2015; Van der Nat, Müller et

al. 2021). One step further and we arrive at immersive, extended or expanded narratives, where the story is transmitted through technologies that allow creators to design experiences in which we are transported to a place, making us feel at the center of the scene and protagonists; immersive journalism is the name given to practices of this type (De la Peña et al. 2010; Sirkkunen et al. 2020). The successive transformations in the ways in which stories are told – some with greater success and endurance over time than others – make us think about one of the blurred boundaries discussed in this book: genres and, by extension, forms of expression and the consequence for the production and reception process of these works of journalism.

With the evolution of the media, hybridization has also had an impact on the genres, styles and methods of journalism (Gutiérrez et al. 2018; Vázquez-Herrero and de Haan 2022). Traditional journalistic genres are being remediated and adapted to the characteristics of new media, as part of an evolving model (McNair 2009). Film genres are also being reformulated, such as the documentary, which is being transformed by the confluence with interactive medium, giving rise to multiple formats (Vázquez-Herrero and Gifreu-Castells 2019). There are even more novel/unique combinations, such as newsgaming (Bogost et al. 2012). These forms of expression and the range of labels used to refer to interactive journalistic formats (webdoc, i-doc, newsgame, VRgame, and interactive app, among others) indicate a high degree of experimentation. This lack of consolidation in forms and denominations invites us to think of broader and more inclusive concepts – such as interactive non-fiction (Choi 2009; Gifreu-Castells 2014; Vázquez-Herrero and López-García 2019), interactive digital narratives (Koenitz 2015; Roth and Koenitz 2016), or digital longform journalism (Dowling 2019; Dowling & Vogan 2015) – in order to encompass a diverse set of interrelated forms. Therefore, an analytical examination of this blurred border should not only assess each of the territories, but also observe the region with a wider perspective.

Interactive forms of journalism open up a number of debates and blur what used to be some very clear lines. Most notably, interactivity challenges us to reconsider the author-text-user relationship. Interactivity as a concept is based on two-way communication (Gershon 2016), inspired by face-to-face communication. In the context of journalism, different authors have referred to it as a unique feature of the digital medium and classified it into several levels (see Deuze 2003 and Rost 2006). We distinguish two meanings: interactivity with the journalistic text, through selecting and controlling information presented on the user's screen; and interactivity through the text, allowing for participation and collaboration. In narrative terms, the first meaning of interactivity results

in stories in which the user can choose their own path, make decisions or manage the order and pace of progress; on the other hand, participatory interactivity allows the user to submit content, to co-author and expand the story.

Both types of interactivity are associated with the experience of ‘agency’, a concept used to describe the extent to which users feel their choices and contributions to the story are meaningful as a result of the procedural and participatory properties of the system (Murray 1997). We would speak of a willingness to act, or action with significant consequences in the narrative. Consequently, this opening up of the process to the audience raises critical questions about the role of journalism and the journalist when the user can choose what they see, from what point of view, and can even collaborate in its creation. Thus, another blurred boundary is identified between who is the sender and who is the receiver, as well as around the authority of journalism.

The production processes of interactive and immersive journalistic narrative are highly technological and require specialized knowledge of both journalism and design; they also require producers to consider how audience engagement and user activity both fit into their story. We have already mentioned the significant shift in the role of the audience, which becomes necessarily active, and requires renewed approaches in terms of design and creation. The frontiers are blurred when we try to define the figure of the creator, be it a designer, an author or rather the architect who establishes the scenario and the rules, leaving the audience free. The rupture of unidirectionality has been recognized by various authors as the most notable consequence of the author-text-user relationship (Gifreu 2013; Jenkins 2004; Favero 2013). More specifically, it requires creators to think in terms of procedural narratives as interaction makes the narrative process between author, text and users explicit (Koenitz 2015; Van der Nat, Müller et al. 2021)

Finally, we come to the perspective of reception. Although research on new narratives in journalism has some relevance, less attention has been paid to reception. Several questions arise around it, but fundamentally it is about validating the use of interactive resources in the narrative. To this end, studies have presented methods and measurement systems (Szilas and Ilea 2014; Roth and Koenitz 2016) and analyzed specific aspects such as continuation desire as an indicator of engagement (Schoenau-Fog 2011) and user-centered design (Gantier and Labour 2017). Another group of researchers has tested the effects of interactive narratives on prosocial behavior (Steinemann et al. 2017) and their application in formats such as interactive documentary (Nash et al. 2014; Nash 2014; Vázquez-Herrero 2021) and immersive journalism (Shin and Biocca 2018; Kelling et al. 2019; Van Damme et al. 2019). However, this is only the beginning of a whole field of research to be developed in the coming years. Here the

blurred boundaries go beyond production and extend to the users, who through their experience will determine whether their role remains that of receiver/consumer or whether we can speak of a further actor in interactive narratives.

In this chapter we discuss how the boundaries of journalism are redefined or blurred during both the production and reception processes of interactive, immersive journalism. We will describe through multiple cases the blurred boundaries of interactive narratives applied to journalism from the perspective of design, production and audiences.

2 Creators and Design

Creating journalistic narratives for audience engagement and interactivity requires producers to reconsider their relationship with the audience. No longer is the audience a mass of passive receivers of information but rather a collection of active participants who are invited to construct meaning through interaction. The idea that audience members are in fact actively involved in the construction of meaning is far from new, even though it may be a fairly recent development in journalism. Since user testing and other forms of audience evaluation are rather rare in the production processes of interactive and immersive narrative, we wonder how the idea of ‘the active user’ relates to the interdisciplinary work associated with innovative digital journalism. Introducing new disciplines into a field inevitably challenges the boundaries of that field as new industry trade stories merge and collide with existing ones.

In this section, we focus on the creators of interactive and immersive non-fiction narratives. In the wake of *Snow Fall*, which was published by the *New York Times* in 2012, media companies around the world started to create their own interactive longform journalistic stories (Dowling 2019; Hiippala 2017; Jacobson et al. 2016). Later, when commercial VR-headsets such as the Oculus Rift became affordable for the general public, the focus shifted to immersive journalism spearheaded by the *Guardian* with VR-experiences like *6x9* (Sirkkunen et al. 2021). Although the focus shifted, the production context remained very similar and can be characterized as an off-center interdisciplinary production process that takes place in the borderlands of journalism and design. Moreover, the reason to produce these highly technological and expensive narratives is surprisingly similar across (Western) countries, namely audience engagement (Dowling 2019; Uricchio et al. 2016).

We discuss how the practices associated with interactive and immersive journalism redefine the relationship with news audiences, or indeed news users. We

position this shift firstly as part of a larger transition in journalism – this explains why both individual creators and media companies alike are interested in investing their resources in the production of digital longform journalism, with all its variations. Secondly, we consider how the day-to-day context of creating these narratives alongside new disciplines affects how producers talk about audiences and users, or how new industry trade stories collide and merge with existing ones (Caldwell 2008). At this level, the shift in the journalist-audience relationship is expressed by producers in a desire for a type of news user who is actively involved in the construction of meaning through interactivity and immersion – this idea is heavily influenced by trade stories from interaction and game design, as well as narrative and documentary journalism. Interestingly, despite journalism's overall goal to somehow contribute to informed and engaged citizens, audience engagement is almost exclusively considered a relationship with the journalistic story. In other words, the producers of interactive and immersive non-fictions are mainly concerned with how they wish their users to engage with their story – not with what their story does for the users.

Lewis and Westlund (2015) argue that journalism is currently undergoing a transition from a production-centered to an audience-centered profession. Both interactive and immersive journalism should be considered part of this transition: our data show that producers of interactive and immersive journalism are aiming to craft an experience that elicits a sense of engagement with their users. We see this focus on audience engagement reflected in both the commercial and editorial practices associated with interactive and immersive journalism.

'Audience engagement' as part of commercial strategies is often considered audience from a technological and behavioral perspective (Costera Meijer 2020; Nelson 2019; Steensen et al. 2020). This is a commercial and rational conceptualization of audience engagement and typically reduces engagement to what can be measured using audience metrics such as reach and retention, which are then translated to concepts such as revenue and customer conversion (Steensen et al. 2020). We see this reflected in the commercial and editorial strategies of news companies, and digital longform journalism fits into this perspective as follows. Famously, *Snow Fall* was proposed by the advertising department of the *New York Times* as a way to entice people to subscribe digitally to the 'Grey Lady' (Dowling 2019). In our own research we also found that most interactive and immersive journalistic productions are in fact available for free – hoping to form a lasting bond with audience members that will pay off in the long term.

However, to achieve this elusive commercial goal for this genre of journalism, producers take on a slightly different perspective of audience engagement and focus on the experiential aspects of the concept. While metrics play a vital role in the production of news, with journalists often being very familiar with the

online performance of their pieces, producers of interactive and immersive non-fiction are less concerned with the commercial aspects, and focus on crafting interactive and immersive experiences that users are willing to invest their time, attention and emotion in (Lehmann et al. 2012). The producers hope to entice users by immersing them in the narrative world, and by giving them agency in the construction of the story. This includes an experiential dimension to the concept of audience engagement – producers seem to desire a particular behavioral and emotional response to their narrative. In short, they desire an active and involved user.

This desire for active and involved users is an expression of the changing, shifting relationship between journalists and their audiences. Interestingly, so far it seems that the perspective of actual users remains unaddressed. In the remainder of this section we discuss this in more detail in terms of interdisciplinary work and how this slowly shifts industry trade stories – in this case the trade story of ‘the audience’. Caldwell (2008) introduces industry trade stories as an analytical concept to unravel professional belief systems. We use it in a similar manner in order to understand how this idea of the active user takes shape in the production practices of interactive and immersive nonfiction. These practices are very peculiar – at least for journalism. Typically, these stories are considered projects which are developed over a long period of time – months, sometime even years. Moreover, the project typically resides alongside producers’ regular work – making the production of interactive and immersive narratives something extraordinary that producers pursue because they are interested in it. Consequently, these genres of journalism hinge on the people who take up the day-to-day work, and attention will fade should they move on to other projects. In other words, these types of projects are not structurally part of newsrooms.

Because of the highly technological nature of these narratives, designers and programmers are needed to actually make them, and research has shown that this kind of interdisciplinary work poses challenges (Smit et al. 2014). Such designers and programmers bring with them their own trade stories about user interaction – this includes best practices and ideas about what is and is not considered ‘good design’ and ‘appropriate user interaction’. This can get very complicated when different experts in their field take part in a production process – resulting in competing trade stories from multiple professional fields. Overall, journalistic trade stories are shifting and merging with the new ones, together shaping the practices of interactive and immersive non-fiction.

3 Production

The affordances of digital media, and particularly the convergence of interactive and audiovisual affordances following Web 2.0, invite creators of interactive and immersive narratives to explore the boundaries of journalistic genres. As we have seen in the previous section, the highly technological nature of this type of journalism requires an interdisciplinary and project-based production process. Because the process often takes place in the periphery of news production, creators are able to experiment with novel storytelling formats and even develop their own as they explore the potential of interactive and immersive narratives. Consequently, in the past decades the boundary of what is and is not considered a journalistic media text has shifted, and continues to do so (Dowling 2020; Meier 2018). The resulting media texts range from bearing a close resemblance to familiar journalistic genres, such as feature journalism and documentaries, to new genres that are sometimes hard to recognize as journalism, such as VR or theater experiences and news games (Dowling 2019; Van der Nat et al. 2021; de Bruin et al. 2022).

The variety of formats that arose as interactive and immersive journalism gained traction in journalism practice poses challenges to the naming and classification of interactive and immersive journalism. Consequently, as we have experienced in our research, it is hard to collect these stories. Firstly, the wide variety in media modalities and combinations of those modalities makes it hard to define the genre. Secondly, interactives typically require an extensive investment of time (they are often in-depth journalistic productions). Thirdly, the story formats are not always recognized as journalism, do not stand out and are not native to social media timelines, therefore they remain invisible to audiences. The last two issues pose a serious challenge for news organizations and creators wanting to deepen audience engagement through these interactive forms. Ultimately it is hard to distribute these narratives because we have no shared language to communicate as researchers, creators and users.

To understand how boundaries surrounding journalistic genres are shifting for interactive and immersive journalism, and to suggest a shared language to talk about this genre, we propose two continuums. The first focuses on interactivity and classifies journalistic productions on a continuum of closed and open interactive architectures as proposed by Van der Nat, Müller and Bakker (2021). The second focuses on immersion and the level of technology needed, ranging from narrative journalism (where no technology is needed) to full VR experiences using headsets such as the Oculus Rift. Notably, both continuums feature not so much a change in the stories being told, but in the roles users can assume

in these stories. We briefly introduce each continuum and discuss some examples explaining the range below.

From Closed to Open Interactive Architectures

Obviously, having more interactive options expressed in open interactive architectures invites users to take on more active roles in the construction of their experience by actively choosing their own paths through the story space (Van der Nat et al. 2021). Conceptualizing interactive narratives through spatial metaphors allows us to grasp how users can express agency even if a narrative offers few interactive options. From the perspective of the user, the experience is linear because it occurs in real-time, but a spatial perspective allows for consideration of the scope of options users have when engaging with a journalistic narrative.

- **Linear narratives** present the story information in one structured experience, enriched by interactive elements. Journalist John Branch and designer Graham Roberts developed *Snow Fall, The Avalanche of Tunnel Creek* (*The New York Times* 2012) as a linear narrative that takes users through an avalanche. User storytelling techniques from narrative journalism in combination with first-person video footage shot with GoPros during the avalanche allowed Branch and his team to reconstruct the experience of being caught in an avalanche. The narrative is divided into chapters and the written text is enriched with videos and data visualizations.
- **Branching story.** *I am Mosul* is an interactive by Laurens Samsom and Frederick Mansell that uses a classic branching story structure as the basis of its approach. Each choice users make is a branch in the story and leads to new choices. In this way users take individual paths through the story space. Inspired by games, the creators wanted users to be able to experience their city being invaded by Islamic State. The interactive is designed to place users in the shoes of someone needing to react to the invasion: stay or flee? If you flee, what do you take with you? Do you survive the invasion?
- **Multi-linear storylines.** Interactivity is sometimes expressed as a choice between multiple linear narratives that exist alongside each other in the story space. This is the case of *Hollow*, an interactive documentary by Elaine McMillion Sheldon that portrays in several episodes the transition of McDowell County in West Virginia (United States) from industrial peak to depression, and its subsequent progressive recovery through the good work of the community. Each of its episodes, which can be accessed non-sequentially, presents a linear story, with several spaces where the user can expand

information through audiovisual and interactive content. This is all presented in a fluid way through the scroll, which animates the successive layers in one of the most outstanding examples of HTML5 and parallax in journalistic narratives.

- **Non-linear.** Narratives that are considered non-linear have no, or very limited, pre-structured pathways through the story space. Each user is therefore able to construct a unique path. As in different collaborative projects such as the crowdsourced documentary *18 Days in Egypt* or the database-driven narratives of Korsakow, we refer to more disruptive proposals in terms of structure. This is the case of *Quipu Project*, a transmedia documentary about forced sterilizations in Peru in the 1990s. The central piece is a webdoc that collects the testimonies of the victims recorded on a telephone, which can be navigated through an interface that represents a 'quipu' (an Inca instrument for storing information through knotted strings). There is no pre-established order in this navigation, which allows multiple jumps between testimonies, in addition to collecting responses from users who collectively contribute to this narrative.

From Textual to Technological Immersion

Immersive technologies literally (and narratively) change the users' perspective on the story space – so with text-based immersive techniques, such as narrative journalism, users are able to 'feel along' with the characters in the story, but technologies that fully engage visual and auditory senses, and close the user off from the rest of world, invite experiences from a first-person perspective (de Bruin et al. 2022).

- **Narrative journalism.** A means to achieve immersion without the need for advanced technological solutions. Using storytelling techniques from fiction, narrative journalism aims to transport the user into the narrative world. The written component of *Snow Fall* is a prime example of this, using perspective to allow readers to take on the role of a character in the text. Moreover, *Snow Fall* follows a classical narrative tension arch, resulting in a climax. Beside textual storytelling techniques, dynamic multimedia – notably, a technique called parallax scroll – is used to enhance the immersive quality of the narrative.
- **360° journalism.** Three-dimensional spaces, photography and 360-degree video are the protagonists of many immersive projects. During the wave of immersive journalism that began in 2015, the 360-degree video format was

especially popular due to the accessibility of media to capture devices and the adaptation of audiovisual platforms to reproduce this content. We refer to pieces where the user feels surrounded by a moving image scene and has the ability to choose their visual framing. Just as the narrative conventions of journalism move to this format, so do the blurred boundaries between genres – one of the key issues is the presence and mediating role played by the journalist. In 360° journalism, media initiatives such as the the *New York Times* Daily 360 or *Euronews*' coverage, among others, stand out.

- **Virtual reality.** We refer to a CGI-based (computer-generated imagery) creation, which beyond being a virtual scene with the user in the center, can allow six degrees of freedom by incorporating the user's three-axis displacement. This requires compatible devices, such as the Oculus Quest. Out of only three levels of freedom, we place most journalistic creations in virtual reality at a lower level. Examples include pieces by the *Guardian*, such as *6x9*, where the user is locked in an individual prison cell for 9 minutes to represent confinement and its consequences through the recreation of space and different effects. It is worth mentioning that *6x9* has real sound, being a fundamental dimension for the immersive experience.
- **Installation.** Due to the demanding requirements of needing a space specifically dedicated to the experience, there are few examples of this development. One of the most outstanding cases worldwide is the *Carne y Arena* experience, directed by Alejandro G. Iñárritu. Built from research and direct work with migrants from the southern border of the United States, it represents in a series of spaces the moment of the capture of a group of displaced people. The fact that it is a physical installation allows for immersive resources such as wind effects, an earthy soil on which to walk barefoot, ambient temperature control to generate cold spaces, and freedom of movement on a stage that can be accessed with a headset. The director's own definition of this work as 'semi-fictionalized ethnography' places this experience in a diffuse space between documentary and fiction.

4 Audience

The key motivation for news organizations to invest in interactive and immersive forms of journalism is the idea that these innovative story formats are beneficial for audience engagement. However, the consumption of these narratives typically requires a serious investment of time and emotion on the part of the

user. Moreover, especially for immersive forms, the consumption requires certain technologies. We also know very little about the basic assumption that the form itself increases audience engagement.

As researchers, we have approached three instances that could shed some light. As a main limitation, we must say that these are studies carried out with specific projects and, therefore, there are factors in the story itself that could interfere with the results. As well as the size of the sample, as it is difficult to achieve representativeness in these resource-consuming studies.

An experimental approach to interactive documentary reception (Vázquez-Herrero 2021), through non-linearity and multimedia-interactive attributes, has shown that these features facilitate positive effects on engagement and immersion. The model proposes a feedback relationship involving interactivity (product attribute), engagement (user experience attribute) and immersion (user experience result), such that interactivity facilitates engagement and engagement can lead to greater immersion, which in turn feeds back into interactivity. In the scales used to measure perception, there were numerous variables with superior results (with statistically significant differences) for the non-linear multimedia-interactive story. This means that aspects such as the perception of control over the story, novelty, desire to continue, empathy or enjoyment, among others, show results favored by the non-linear and multimedia-interactive format. In addition, a series of mediating variables were identified that reinforce the effects and function as predictors, making them key characteristics for the design of interactive experiences. The study demonstrates, within its limitations, that the use of interactive storytelling can be convenient and reinforce its meaning, from the audience's point of view. Contrasting these results in focus groups, the participants in the experiment considered that interactive narratives are convenient, especially for representing complex realities.

In the field of immersive journalism, we compared an online article and a 360° video through a narrative textual analysis and an experiment (Vázquez-Herrero and Sirkkunen 2022). This research started with a detailed study of the elements that build immersion in the text, and then showed users the product and assessed the effects of the immersive format compared to the online article. The results found that there was a significant effect by 360-degree video on interest and ability to influence opinion on topics closely related to the story. In addition, statistically significant differences were detected in the effects of presence, realism and involvement, especially in terms of sense of presence and empathy. However, both formats form a continuum in which information and emotion are complementary. The study shows that the immersive format can be a good way to deal with some topics, as it places the user at the center of the scene, breaking with the distance perceived in other media. During the post-

experiment reflection phase, participants highlighted the suitability of 360-degree video when the space is the protagonist and has a specific value (uniqueness), for stories with emotional impact or that seek to move the user, and when the visual nature and power of the images reinforce the meaning of the story.

One of the challenges for studying the reception of interactive non-fiction is that producers aim to provide users with ‘an experience’. In doing so, as discussed above, producers assume interactivity contributes to this experience and they view this as a form of audience engagement. Studying an ‘experience’ poses several methodological challenges, as discussed by Groot Kormelink (2020). The fleeting nature of feelings makes it hard for researchers to grasp and study them in detail. Van der Nat (2022) uses concurrent think aloud protocols to evaluate the user experience holistically. In this study, seventeen young adults were asked to verbalize their thoughts and feelings while going through an interactive narrative. Participants’ immediate emotional and active responses to the interactive and narrative cues presented on their screens were recorded, transcribed, and analyzed. The responses captured in the think-aloud sessions were supplemented by structured interviews immediately following the session to substantiate our interpretation of the user’s emotional response. This method proposes to capture the user experience holistically by analyzing: (1) verbalized thoughts and feelings, (2) corresponding body language and facial expressions, and (3) user activity and navigation. The findings indicate that interactivity has the potential to contribute to users’ sense of involvement, but when designed poorly can also lead to early drop-off. More importantly, the think-aloud sessions made clear that feeling involved with a journalistic story is not a constant feeling for users, rather engagement is fleeting and mostly dependent to the extent to which users are able to recognize themselves and their life in a story. This means that it does not matter how the interactivity is designed, or if a narrative is interactive at all. Far more important is how interactivity grants users access to narrative information they can somehow link to their own experiences of the world.

5 Conclusion

In this chapter we addressed the redefining or blurring boundaries of journalism from the perspective of creators, production and reception in interactive digital storytelling. It is an open and constantly evolving debate, subject to changes in journalism, technologies and the uses we make of both. With an increasingly

diverse, dislocated and platformized offer, challenges emerge and demand reflection. As Kathleen M. Ryan and David Staton (2022) say about interactive documentary, it "eludes concise definitions or boundaries".

Regarding genres and forms of expression, it is not only challenging to classify and name them, but also to understand their principles. Sometimes, the hybridization of formats can generate doubts in the contract with the audience; for example, affecting the perception of a story as objective and neutral, the effects of interaction on the user's point of view, and the entertainment character when certain strategies are used. New principles have also been introduced in journalism that challenge routines and conventions.

The redefinition of the sender-receiver relationship and the role of the user also affects the boundaries of journalism in interactive digital storytelling. The transfer of control from the creator to the user can generate spaces of participation where a superior framework must establish the discourse and keep the verification principle of journalism, without losing the authority of journalism. On the other hand, we benefit from the possibilities of interactive and immersive narratives for long-form, slow, contextual and investigative journalism. As a consequence, narrative becomes a process in which the story is reconstructed through interaction.

The experience, as a result of reception, challenges producers and researchers to capture and study a real experiential outcome. In interactive digital narratives, more traditional metrics are not enough, as the impact of both interaction and immersion requires more complex approaches than the quantitative indicators that apply to websites and social media platforms in general. Interdisciplinary production processes, which require experts from different fields, introduce new trade stories to journalism that merge and sometimes compete with the existing ones. How interactive and immersive journalistic narratives are meant to be consumed is a new way of consuming journalism, and we do not know with certainty how this fits with existing patterns of news use.

The analysis and discussion of the blurred boundaries of journalism in interactive digital storytelling opens up several debates and challenges:

- Is it acceptable for the user to access a place and sources without the mediation of a journalist guiding the story? Is it acceptable for journalists to present immersive nonfiction as an 'unmediated' view of the world?
- Is it permissible to place the user in a supposed scenario, as if there were no mediation, when in fact the design of the scenario has been determined by someone else?
- Is the user a mere spectator or do they assume a role? What are the consequences for the users' journalistic experience?

- What degree of engagement are users (and journalists) willing to undertake? Is the ultimate goal of this engagement commercial or social? What role do these in-depth journalistic narratives play in people's lives?
- How can innovative reporting formats that do not fit the social media mold be distributed? If users are unfamiliar with the format, for whom do creators design their stories?

We have sought to reflect in a non-systematized way on the blurred boundaries of journalism through the design, production and reception implications of interactive immersive journalism. This reflection lays the groundwork for future research that must address the questions raised in order to consolidate the burgeoning field of digital narratives.

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