

# Immersive media and social change: The ‘empathy machine’ is dead, long live ‘emotional geography’!

António Baía Reis

Universidad Carlos III de Madrid. Innovation on Digital Media research group

antonioastrobaiareis@gmail.com



Submission date: May 2022

Accepted date: May 2023

Published in: June 2023

**Recommended citation:** BAÍA REIS, A. (2023). “Immersive media and social change: The ‘empathy machine’ is dead, long live ‘emotional geography’!”. *Anàlisi: Quaderns de Comunicació i Cultura*, 68, 135-154. DOI: <<https://doi.org/10.5565/rev/analisi.3539>>

## Abstract

Since 2014, immersive media storytelling has gained significant attention, with technologies such as 360° video providing unique first-person experiences, leading to the emergence of immersive journalism and documentaries. Some view immersive media as an “empathy machine” for fostering social change by creating strong connections between the audience and the issues portrayed. This paper critically examines this claim through a practice-based research approach, exploring five socially-driven immersive media projects from 2018-2020 in various countries, and interviewing 21 experts, both scholars and practitioners. The insights derived from this research provide an innovative conceptual framework that encompasses socially-driven immersive media productions, moving from initial empathy towards a more comprehensive concept and phenomenon native to the medium, referred to as “emotional geography”. This framework aims to shed light on the affective dynamics of immersive media in relation to social change, and offers valuable insights for future research, productions and critical discussions on the growing, emotionally-charged digital media ecosystem driven by advancing technologies.

**Keywords:** immersive media; virtual reality; empathy; social change; emotion; 360-degree video

**Resum.** *Mitjans immersius i canvi social: la «màquina d’empatia» ha mort, llarga vida a la «geografia emocional»!*

Des de 2014, la narració d’històries a través de mitjans immersius ha guanyat una atenció significativa amb tecnologies com el vídeo 360°, que proporciona experiències úniques en primera persona, la qual cosa ha portat a l’aparició de periodisme i documentals immersius. Alguns veuen els mitjans immersius com una «màquina d’empatia» per fomentar el canvi social en crear fortes connexions entre l’audiència i les qüestions retratades. Aquest

article examina críticament aquesta afirmació a través d'un enfocament de recerca basat en la pràctica, explorant cinc projectes de mitjans immersius amb orientació social de 2018 a 2020 en diversos països, i entrevistant 21 experts, tant acadèmics com professionals. Els coneixements derivats d'aquesta recerca proporcionen un marc conceptual innovador que abasta produccions de mitjans immersius amb enfocament social i que passen de l'empatia inicial a un concepte i fenomen més complet del mitjà anomenat «geografia emocional». Aquest marc pretén fer llum sobre les dinàmiques afectives dels mitjans immersius en relació amb el canvi social i ofereix valuosos coneixements per a futures recerques, produccions i discussions crítiques sobre el creixent i emocionalment carregat ecosistema de mitjans digitals impulsat per tecnologies avançades.

**Paraules clau:** mitjans immersius; realitat virtual; empatia; canvi social; emoció; vídeo 360

**Resumen.** *Medios inmersivos y cambio social: la «máquina de empatía» ha muerto, ¡larga vida a la «geografía emocional»!*

Desde 2014, la narración de historias a través de medios inmersivos ha ganado una atención significativa, con tecnologías como el vídeo 360°, que proporciona experiencias únicas en primera persona, lo que ha llevado a la aparición de periodismo y documentales inmersivos. Algunos ven los medios inmersivos como una «máquina de empatía» para fomentar el cambio social al crear fuertes conexiones entre la audiencia y las cuestiones retratadas. Este artículo examina críticamente esta afirmación a través de un enfoque de investigación basado en la práctica, explorando cinco proyectos de medios inmersivos con orientación social de 2018 a 2020 en varios países, y entrevistando a 21 expertos, tanto académicos como profesionales. Los conocimientos derivados de esta investigación proporcionan un marco conceptual innovador que abarca producciones de medios inmersivos con enfoque social y que pasan de la empatía inicial a un concepto y fenómeno más completo del medio denominado «geografía emocional». Este marco pretende arrojar luz sobre las dinámicas afectivas de los medios inmersivos en relación con el cambio social y ofrece valiosos conocimientos para futuras investigaciones, producciones y discusiones críticas sobre el creciente y emocionalmente cargado ecosistema de medios digitales impulsado por tecnologías avanzadas.

**Palabras clave:** medios inmersivos; realidad virtual; empatía; cambio social; emoción; vídeo 360

## 1. Introduction

In today's digital era, everything is interactive, interconnected, participatory, more open, more global, multi-platform, multilinear, producing a constant stream of data, analysis and comment (Beckett, 2008, 2010). People's everyday lives are correspondingly lived *in* rather than *with* media (Beckett and Deuze, 2016). Thus, one might argue that today's challenge for the media industry is about becoming meaningful and insightful, and a trustworthy part of an emerging ecosystem powered by human emotion and profoundly influenced by technology. This means that people's lives are significantly determined by technology, but it also certainly implies that our perception of society, and the part that storytelling, for example, plays in it, is only possible through an understanding of the extreme mediatization of everyday life.

[It is undeniable that people have an] increasingly intimate relation with technology in general, and media in particular [...]. Several changes in media have contributed to people's increasingly personal and emotional engagement with the world around them. First of all, media are now predominantly mobile and profoundly personalized. Our devices are always with us. (Beckett and Deuze, 2016)

The way we experience content is physically different. Content is with us *anytime, anyplace, anywhere*. In terms of our relationship with the world, it all comes down to: “reading, watching, viewing, listening, checking, snacking, monitoring, scanning, searching, clicking, linking, sharing, liking, recommending, commenting and voting” (Costera Meijer and Groot Kormelink, 2015). As media becomes more personal and social, we become more attached to a kind of digital co-dependency.

Recent years have witnessed the advent of new storytelling styles and formats that integrate that very same substance. Within this context, and approximately since 2012, a new ecosystem of immersive media technologies and experiments have emerged, and with it the promise of an innovative way of experiencing stories, as well as the claim of virtual reality as the ultimate “empathy machine” (Milk, 2015). Thus, and considering the supposedly empathic nature of immersive media, how exactly can this emergent technology generate an innovative, affective storytelling approach? If immersive media encompass profoundly affective affordances, how can these help us tackle, for example, critical social and cultural issues in such a way as to trigger processes of social change?

The use of socially driven immersive media has been explored mostly in the field of journalism – or more specifically immersive journalism (de la Peña et al., 2010). Although the first experiments with immersive journalism were at the intersection of journalistic narrative and virtual scenarios using computer-generated imagery to depict such narratives (e.g., Nonny de la Peña's seminal 2012 *The Hunger is Los Angeles*), but also using augmented reality as a tool for audiences to connect with news stories in an unprecedented way (Tejedor-Calvo et al., 2020; Aitamura et al., 2022), the fact is that the overall body of work of immersive journalism mostly makes use of 360° video to “transport” people inside news stories, i.e. the so-called “as if you were there” experience, triggered by the holistic combination of the feelings of immersion and presence (Vaz and Tejedor, 2019; Pérez-Seijo, Gracia and Reis, 2022; Baía Reis, Kick and Oliveto, 2023). Most of these 360° news stories transport the audience to remote or inaccessible places and situations drenched with social significance. Moreover, documentary filmmakers have also been experimenting with immersive media and 360° video to allow the audience to connect with serious social and cultural issues.

Inspired by the idea of virtual reality as an “empathy machine” and the fact that 360° video cameras are becoming progressively cheaper and more user-friendly, we were motivated to “move the spotlight” from media profes-

sionals to disadvantaged communities. In other words, we wanted to try to understand the potential for engaging people in collaborative, creative 360° video productions driven by specific serious social issues to ultimately trigger social change. This motivation led us to conduct some preliminary work that eventually paved the way for outlining this research project.

The preliminary work involved two projects: the first was to outline, design and deliver a collaborative 360° video workshop entitled “Immersive Storytelling and Digital Citizenship.” This workshop was held as part of the event “Creative CoLab 2017” in Porto, Portugal. Taking part were digital journalist and immersive media expert Thomas Seymat (Euronews), a representative of the Portuguese young LGBT+ association *rede ex aequo*, and a diverse group of participants, mainly digital media students and academics from areas such as engineering or communication sciences. The group created a short 360° video entitled *Don't see the world in black and white*, with the primary goal of raising awareness about some of the social struggles faced by transgender people. The second project was the production of *Plax* (2017), a short 360° video documentary about the life and struggles of a young Cape Verdean musician living in Portugal. This latter work was focused on the importance of music in maintaining an emotional connection with the protagonist's homeland, Africa. Inspired by all of the above, we sought to outline a research project to explore the potential of immersive technologies – focusing on 360° video – for engaging with serious social issues, i.e., concerning social problems such as those relating to inequality, poverty, government accountability and transparency, among others. By critically exploring the idea of the “empathy machine” (Milk, 2015) through creative collaboration informed by key immersive media concepts and assumptions, we established a basis for identifying, by means of a practice-based research approach, the fundamental ideas within the interaction between the fields of immersive media and social change. This allowed us to outline an innovative framework on the affective and behavioural dynamics of immersive media in relation to social change in a processual way, from “empathy” as an initial trigger towards “emotional geography” as a complex concept and phenomenon native to the medium.

## 2. Immersive media and social change: From “mere” social awareness to human agency

“Our social life is characterised by norms that manifest as attitudinal and behavioural uniformities among people. With greater awareness about our social context, we can interact more efficiently.” (Rakotonirainy, Loke and Obst, 2009). In other words, social awareness is all about sensing what others are feeling, being able to take their perspective, and appreciating and interacting positively with diverse groups. Taking this idea into account, one could argue, for example, that immersive journalism may have tremendous potential for developing journalistic works that can have a broader and much

more robust impact on people, going beyond the mere act of reporting information. This brings us to another and related notion, cultural awareness, which can be defined as: “the foundation of communication and [which] involves the ability of standing back from ourselves and becoming aware of our cultural values, beliefs and perceptions.” (Cantatore and Quappe, 2005). In this sense, the concepts of social and cultural awareness might trigger questions such as why we behave in a certain way, how we see the world, and how we connect with others? Social and cultural awareness become crucial when we interact with people from other cultures, and even more when interacting with people from subcultures within major cultures, e.g. urban minorities, as people see, interpret and evaluate things in entirely different ways, even within their home environment.

Let us consider the case of journalism as an example to inform immersive media in general. How can we relate social and cultural awareness to journalism and, more particularly, to immersive journalism? We know that people who watch a documentary on TV or online on a particular social or cultural issue are going to experience, through that documentary, a certain degree of understanding of what is portrayed, and it will also have a certain degree of impact on them. It has been demonstrated that immersive journalism creates a broader sense of immersion and presence, which leads us to conclude that the degree of understanding and impact is consequently higher than that experienced in non-immersive media. This opens the possibility of using immersive media to create works focused on portraying social and cultural issues around topics such as race, colour, sexuality and gender, language, religion and the arts.

By experiencing the feeling of “being there”, people can be more aware of these issues, and virtual reality might truly act as an “empathy machine” (Milk, 2015). If Milk (2015) is right, immersive media may become tools for re-humanizing the media landscape by triggering and enhancing attitudes and behaviours such as cultural sensitivity and cultural knowledge. There are examples of earlier works that – following on from the journalism example – go beyond the simple act of reporting information by adopting a more active approach, conveying stories in ways that have a strong impact on audiences: “Journalists do not only hold the power to inform the public, but have the moral responsibility as duty bearers to educate and increase awareness of their rights, and monitor, investigate and report all human rights violations.” (Shaw, 2011). Thus Shaw illuminates how journalists can craft a more informed and empowered public sphere. Drawing on Kant’s cosmopolitan principle of global justice, Shaw puts forward the case for human rights journalism as a more proactive approach in prioritizing the deconstruction of indirect structural and cultural violence, and as the best way of preventing or minimizing direct political violence. This example demonstrates that journalism can go beyond its traditional frontiers.

Furthermore, and expanding from journalism to the wider field of communication, “we have experienced a resurgence in practices of communica-

tion for social change, a plethora of agency in which voice, citizenship and collective action have centre stage as core values, principles and practices” (Tuftte, 2013). With the advent of a new digital media setup, in which people increasingly demand more emotionally complex media experiences and where interactive storytelling is a cornerstone, understanding the role of immersive media in relation to emotion and pro-social attitude change can have a huge impact on reshaping the way media practitioners, stories and audiences relate to one another; and ultimately sheds light on an understanding of the potentialities of citizen-led immersive media towards social change.

Thus, and given that our research focused on 360° video storytelling, but also considering the supposedly empathic nature of immersive media, we questioned how exactly this emergent technology could generate an innovative, affective storytelling approach. If immersive media encompass profoundly affective affordances, how can these help us tackle, for instance, critical social and cultural issues in such a way as to trigger tangible processes of social change? How to move from “mere” social awareness to tangible human agency?

### 3. Aims and methodology

#### 3.1. *Research goals and questions*

The main scope of this study focuses on exploring the relationships between immersive media and social change in collaborative 360° video productions with distinct characteristics, particularly on the processes of transformation that occur across these spheres (immersive media to social change, social change to immersive media). Each sphere can be an input and/or an output of a collaborative 360° video production, and diverse configurations between the two can be explored, defining the outcomes, the type of interaction, and influencing the expressivity and impact of a collaborative 360° video production. As 360° video storytelling is part of the emergent and eminently multi-disciplinary field of immersive media, encompassing different backgrounds and perspectives (from film and visual arts, communication and media studies, and science and technology studies to engineering), it has led to the creation of works with diverse characteristics and with different approaches. Nevertheless, by finding commonalities through a critical, theoretical and empirical analysis, as well as by reflecting on the dynamic combination of the fields of immersive media and social change, we are able to establish an innovative framework to help design future collaborative 360° video productions for social change. Thus, this research is focused on two main questions and their specific objectives:

1. How can we define collaborative 360° video productions based on an analysis and critique of the relationships between specific fields of immersive media and social change?

- 1.1. What are the main attributes and processes of social change in collaborative 360° video productions?
- 1.2. How does immersive media theory inform collaborative 360° video productions in relation to social change?
2. How can we use the relationships between immersive media and social change manifested in collaborative 360° video productions with different characteristics to establish a common language and framework for future collaborative immersive media projects for social change?

### 3.2. Methodology

The methodological foundation for this study was the recognition of today's so-called “digital renaissance” (Vicente, 2018):

The multilayered nature and phenomena of digital media can only be properly addressed by a higher level of integration among fields and disciplines, working together to develop new theories, concepts, methods and applications around common problems. To this process towards transdisciplinarity we call a digital Renaissance. (Vicente, 2018)

It is within this “digital renaissance” that we might contextualize immersive media as an emerging multidisciplinary phenomenon. Moreover, our curiosity for “diving in”, as proposed by Haseman (“Researchers construct experiential starting points from which practice follows. They tend to ‘dive in’, to commence practising to see what emerges.” (2006)) motivated this research from its very beginning, leading us to adopt practice-based research as our core methodological approach:

Original investigation undertaken in order to gain new knowledge partly by means of practice and the outcomes of that practice [...]. A basic principle of practice-based research is that not only is practice embedded in the research process but research questions arise from the process of practice, the answers to which are directed toward enlightening and enhancing practice [...] in the creative arts, including new media arts, the emphasis is on creative process and the works that are generated: Here, the artifact plays a vital part in the new understandings about practice that arise. In this sense, practice and research together operate in such a way as to generate new knowledge that can be shared and scrutinized. (Candy and Edmonds, 2018)

Thus, making, reflecting and evaluating an artifact is essential for generating original research. In this sense, the works produced in this research must be experienced to obtain a comprehensive understanding of the overall importance and context of the research.<sup>1</sup> Nevertheless, it is equally important to recognize that practice-based research is research and not practice alone.

1. The five collaborative 360° videos produced within this research can be found at: <<https://www.antoniobaiareis.com/immersive-media>>.

This means that reporting the research requires a thorough description and critical analysis that demonstrates that the results are new, not just to the practitioner-researcher, but to the broader world (Candy and Edmonds, 2018). In other words, research allows us to document and examine practice to ultimately generate critical reflection.

This study had three interconnected and parallel paths, with practice giving inputs and shaping many aspects of the theoretical path, and vice-versa:

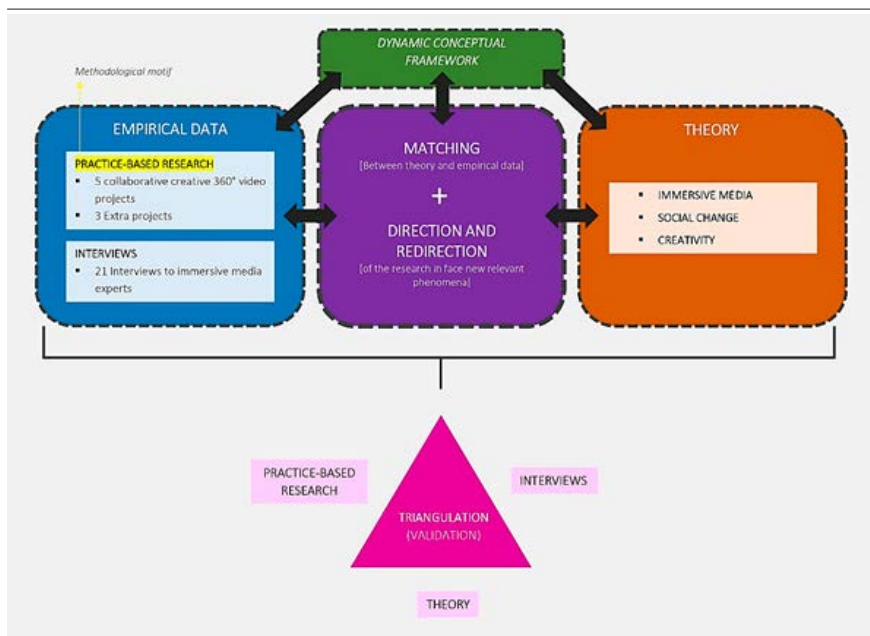
- A theoretical path in which key literature on immersive media and social change was analysed and combined, providing a language for relating, analysing and criticizing collaborative 360° video productions.
- A practice-based research path focused on producing 360° video productions exploring the relationships between immersive media and social change. Five projects with distinctive characteristics were produced from 2017 to 2020: *Bailinha – O Mestre Calafate* [Bailinha – The Master Boatbuilder], (Madeira, Portugal); *Rendimento Diário – Uma escultura deixada ao esquecimento* [Daily Income – A sculpture left to oblivion], (Madeira, Portugal); *Schnauzer die Bewegen* [Moving Moustaches], (Passau, Germany); and *Essência* [Essence] and *Badedammen* (Stavanger, Norway). For each project, we aimed to reflect on and answer the following questions: What was proposed, discussed, decided and carried through? What stumbling blocks arose, and how were they addressed? Were the ideas proposed workable, interesting, challenging? Did the group collaboration work well, and if not, why not? What were the reasons for success or otherwise? Did the solutions work well? If not, why not? What were the viewpoints between collaborators, and what did one learn from any differences? What did one learn from any mistakes or things that failed? (Candy, 2020). Thus, for each project we outlined a thorough description, objectives, techniques, processes, data collection, methodologies and critical analysis. Moreover, this research was profoundly motivated by “an enthusiasm of practice” (Haseman, 2006). This enthusiasm guided the various paths taken throughout the empirical work. Many of the projects were created and developed to address this enthusiasm for exploring new interactions and new relationships between fields within diverse contexts. Given that immersive media is an emergent practical and academic field, the urge to ‘dive in’ and commence practicing and see what emerges becomes even stronger. We see our practice-based projects as an opportunity to bring creative activity together with academic debate and intellectual rigour, offering new models of knowledge to academia, and enriching creative practices (Arnold, 2012).
- A critical inquiry path focused on conducting a series of 21 interviews with immersive media experts directly involved in our research areas, namely academics who research immersive media and related fields, and media practitioners with vast experience in immersive media pro-



ductions. Interviews were conducted from 15 May to 23 August 2020. An overview of the interviewees, including their professional roles and places of employment, can be found in Annex 1.

The distinct nature of these various research paths led to the need for outlining a methodological design involving not only the practice-based research approach noted above – which established the primary methodological motif for this research project – but also other approaches adopted for different needs, moments or aspects of the research process. Different modes of inquiry, data collection and other approaches were therefore applied according to our research needs. Thus, we adopted “systematic combining” (Dubois and Gadde, 2002) as our framing methodological approach, in which practice-based research and other distinct modes were ultimately incorporated. Figure 1 illustrates our methodological research design, providing a clear description of its main dimensions and dynamics.

**Figure 1.** Methodological design



Source: Adapted from Dubois and Gadde (2002) and Hayashi, Abib and Hoppen (2019).

The “systematic combining” design allowed us to conduct a dynamic process of the constant interrelationship between theory and empirical data:

Systematic combining is a process where theoretical framework and empirical fieldwork evolve simultaneously [...]. We discuss systematic combining in terms

of two processes: the first is matching theory and reality, while the second deals with direction and redirection [...]. These processes affect, and are affected, by four factors: what is going on in reality, available theories, the case that gradually evolves, and the analytical framework. (Dubois and Gadde, 2002)

Thus, matching, directing and redirecting occurred between three theoretical fields (immersive media, social change and creativity) and two empirical dimensions (five practice-based research projects and three extra projects). Ultimately, this approach allowed us to “go back and forth” when necessary, and with empirical observations inspiring changes of the view of theory and vice versa:

We have found that the researcher, by constantly going “back and forth” from one type of research activity to another and between empirical observations and theory, is able to expand his understanding of both theory and empirical phenomena. (Dubois and Gadde, 2002)

Using systematic combining as our background methodological strategy, we then adopted specific modes of inquiry, data collection and other approaches to fit specific research needs, such as rapid ethnography, in-depth and asynchronous interviews, group discussions and video diaries. Throughout this thesis, each of these approaches is explained in context, allowing for an objective understanding of its adequacy in relation to specific empirical work or other research dimensions.

Nonetheless, it should be noted that the entire research process was guided by certain ethical principles based on established ethical guidelines relating to qualitative research (Orb, Eisenhauer and Wynaden, 2001), ranging from the most fundamental ethical principles, such as compassion and minimizing the risk of eventual harm to participants, but also obtaining informed consent from research participants, protecting their anonymity and confidentiality, and giving participants the right to withdraw from the research at any time. In short, central to a consistent ethical approach is “whether the research participants’ subjective meanings, actions and social contexts, as understood by them, are illuminated.” (Fossey et al., 2002).

Finally, through triangulation (Hayashi, Abib and Hoppen, 2019) and the critical analysis of the main research areas – the theoretical framework, practice-based research projects, and interviews – we were able to achieve what is often called a dense description, a “holistic work” (Jick, 1979), or a convergent meaning (Bonoma, 1985), which ultimately enabled research validity:

Triangulation makes it possible to compare and to cross-check data, thus assessing the consistency of the information coming from different sources at different times [...]. Triangulation has been one of the most used methods to ensure validity in research [...]. The triangulation technique allows the researcher to explore several facets of the studied phenomenon. (Hayashi, Abib and Hoppen, 2019)

## 4. Results

In this study, we thoroughly analysed the potential of immersive media, focusing on 360° video, in the context of collaborative creative work for social change. We conclude that we have met our initial research expectations and goals by critically reflecting on the relationships between the fields of immersive media and social change to inform the production of an innovative framework on the affective and behavioural dynamics of immersive media in relation to social change, which ultimately becomes a relevant conceptual tool for designing future, socially driven, immersive media projects. In this sense, we were able to answer all our research questions. Below, we present the main findings and conclusions of this study, which correspond directly with our main lines of enquiry.

### *4.1. There is great potential for using immersive media as an innovative way to raise awareness about important issues in today's societies*

Nineteen out of the twenty-one experts we interviewed strongly advocated for immersive media as an innovative tool to raise awareness about serious social or cultural issues. Nonetheless, and through our analysis of the collaborative 360° video productions, we concluded that raising awareness does not automatically imply social change. In other words, any medium has the potential to raise awareness. In this sense, when raising awareness, one wants to trigger a meaningful emotional connection to a given issue which leads, for example, to attitude change and ultimately to actual social change, i.e. emotional *reaction* leading to tangible *action*. This leads us to “empathy”, and the widespread assumption that this is the fundamental affective/cognitive variable responsible for triggering awareness or change. We conclude that such an assumption is somewhat reductive. The following ideas not only confirm that reductive nature but also present the most significant dimensions that, if combined strategically, provide a more effective approach to using immersive media for social change.

### *4.2. Virtual reality as an “empathy machine”: Going beyond the hype*

By experiencing the feeling of “being there”, people can be more aware of the stories and issues depicted; thus, virtual reality can truly act as an “empathy machine” (Milk, 2015). Following Milk (2015), this idea has since become a cornerstone, and today, when talking about immersive media and social change, the idea of empathy is usually the first thing mentioned. Our research was no exception, and the idea of empathy was the most frequently mentioned element in relation to social change, as the central attribute to consider when creating immersive media for social change. The fact is that empathy within a cognitive/behavioural framework basically refers to the idea of understanding and sharing the feelings of another, or, as commonly stated

within the immersive media community, “putting oneself in someone else’s shoes”. In this sense, if one is “standing in someone else’s shoes”, then one might argue that one “has taken their shoes”. Ultimately, we arrived at the conclusion that if one only wants immersive stories to allow a given story to emotionally resonate with an audience, without any further intention to influence change or behaviour or pursue some form of human agency or social change agenda, then empathy might be effective in creating this profound connection with story and audience. On the flip side, if one wants to pursue something more than emotional resonance, compassion – or empathy leading to compassion – appears to be a better cognitive/behavioural paradigm for immersive media for social change, because compassion does not mean sharing the suffering of the other. Instead, it is characterized by feelings of warmth, concern and care for the other, as well as a strong motivation to improve the other’s wellbeing. Compassion goes further – it is all about *feeling for* and not just *feeling with* the other.

*4.3. When creating socially driven immersive media, think strategically about audience: It’s not about “Who sees it?”, but rather “Who needs to see it?”*

On the one hand, “Who sees it?” is related to the idea that by generating an empathic response in the audience, socially driven immersive stories respond to a more individualist need in the audience to be socially engaged with the world’s serious issues. In other words, immersive media work as a form of gratification to the emotional needs of the “global citizen”. Thus, it can be argued that immersive media do not promote actual social change, but rather a kind of global citizenship as an experience “in which empathic concern with a victimized Other becomes part of a lifestyle which does not challenge the political, historical and economic foundations of humanitarian crises.” (Gruenewald and Witteborn, 2020). Ultimately, they are a narrative “placebo” of sorts. The issue of “Who needs to see it?” is related to the question of thinking strategically about who ultimately needs to experience the stories. The content is as important as the container, i.e. importance should be given to how the content reaches the audiences, why they are invited, and what is the final call to action. This was crucial throughout all the collaborative 360° video productions developed during this research, i.e. instead of thinking about the audience as an undifferentiated mass of “global citizens”, the participants involved in our collaborative projects would be thinking about how to specifically reach certain political actors or those in a position to produce significant change in relation to the issues portrayed. Furthermore, in this research, storytellers and/or protagonists had a direct or indirect closeness/understanding of the issues portrayed, which also led to a profoundly lucid creative vision of what needed to be changed through the collaborative 360° video productions. Therefore, and following the previous analogy, it all comes down to a combination of “Who needs to see it?” and “Who needs to create it?”.

#### 4.4. From “reaching” to “reaching out”: Immersive media allow audiences to experience inaccessible places and situations in a unique way

Transporting people to inaccessible places and situations is one of the major affordances in collaborative immersive media for social change. Audiences can experience new locations and alternative lives, and can potentially develop a better understanding of social and cultural issues by “being there”. This became quite clear within this research by allowing, e.g., viewers to be in the garage space where the sculpture *Rendimento Diário*, an homage to the “kids of the cardboard boxes”, is being “held captive”; or to be inside Bailinha’s workshop and see him work on his boat models, quite a poignant prolepsis given that the workshop was later demolished.

#### 4.5. Immersive media as “emotional geography”: Cognitive/emotional embodiment is cornerstone in immersive media for social change

Immersive media are not about *watching*, they are about *witnessing*. Immersive media, and more specifically 360° videos, allow us to apply knowledge and cognitive paradigms through the representation of common spaces and scenarios. They naturally recreate a first-person, deep immersion, since they simulate the physical world that we are biologically prone to interact with and comprehend, and are therefore a profoundly embodied experience. In other words, if one is *in a “storyworld”*, one is *living it*, hence, “storyliving”. Virtual environments prompt us to recognize how body and emotions are fundamental for us to deal with the world; that is, how our body responds to and organizes an understanding of the world (Merleau-Ponty, 1945). The “body-organism is linked to the world through a network of primal significations, which arise from the perception of things.” (Merleau-Ponty, 1945). In this sense, the audience is transported to a given situation and asked to feel through a given story, thus shifting from a more primal, cognitive embodiment towards an emotional embodiment. Given our research results, we conclude that if we combine emotional embodiment with reasoning to think about the very same situation we find ourselves in, we will obtain a perspective of the story comparable to the one obtained in the real world, potentially leading to a wider understanding of the issues depicted in relation to one’s attitudes, dispositions to act and even “unconscious allegiances.” (Sánchez Laws, 2019). In short, immersive media are all about “emotional geography”, i.e. how a place can evoke emotions like love, hate, pleasure, pride, grief, rage, guilt or remorse, but also how we think, feel and navigate the world around us, which helps us understand the relationships between subjectivity, emotion and place (Wilson, 2019).

## 5. Conclusions

The initial trigger for this research project was deeply connected to the idea of debunking the assumption of immersive media storytelling as the ulti-

mate “empathy machine” (Milk, 2015). As we went from one project to another, and as we analysed the combined inputs of the experts interviewed, we realized that empathy was part of the project focus, but just the initial trigger for the entire process. We realized we cannot use terms such as empathy or social change without a critical approach to support them; and most importantly, the need to demystify the idea of empathy as the ultimate key to unlock social change is paramount. Moreover, we conclude that there is a hidden nature in most so-called socially driven immersive storytelling projects, which is related to the idea that by generating an empathic response in the audience, these films respond to a more individualistic need in the audience to be socially engaged with the world’s serious issues. We argue that most humanitarian immersive films, for example, work as a form of gratification to the emotional needs of the global citizen. Thus, they do not promote actual social change, but rather a kind of global citizenship as an experience “in which empathic concern with a victimized Other becomes part of a lifestyle which does not challenge the political, historical and economic foundations of social and cultural crises.” (Gruenewald and Witteborn, 2020). In other words, it is a perspective that could be compared, by analogy, to the pressure that nowadays big companies face to pursue a social agenda or to have a tangible approach and strategy concerning climate change. Except in this case, it reflects an individual need that results from a given macrosocial pressure.

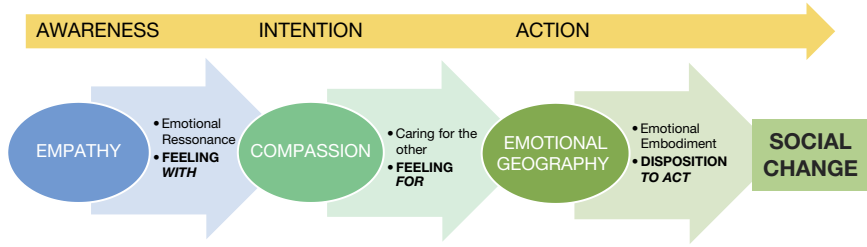
Ultimately, both the practice-based empirical data and the interviews with the experts revealed two key elements of interest that can be summed up in two questions: (1) How can socially driven immersive stories challenge the political, historical and economic foundations of serious social issues, and thus act as real drivers for social change instead of narrative “placebos” for the egocentric needs of today’s global citizen?; and (2) Is empathy the adequate mechanism/concept to be operationalized by immersive media? Here are possible ways to at least go beyond the idea of empathy and try to not trip over this idea of narrative placebos:

- *Collaborate with and, if possible, co-create.* A creative approach in which most of the people involved have a direct or indirect closeness to/understanding of the issues portrayed. In other words, the creative output becomes a tangible manifestation of the empowerment of the very same people who are directly or indirectly affected by the issues portrayed, rather than the result of the work of a filmmaker or storyteller who comes into contact with a given story and, through film, shows the audience an interpretation of that story.
- *Who needs to experience these socially driven immersive stories?* We have to think about who ultimately needs to experience these stories. This is crucial in defining a creative strategy. For example, instead of thinking about the audience as an undifferentiated mass of “global citizens”, storytellers should be thinking about how to specifically reach

certain political actors or those in power, in order to produce a significant change concerning the issues portrayed.

- *Stop using empathy as a “buzzword”*. The concept of empathy has been incorporated into immersive media and many other fields of digital media in relation to an understanding and meaning drawn directly from common sense. This shows that one should be careful when using and applying concepts without critically reflecting on their uses and challenges. Empathy makes it possible to identify with others’ positive and negative feelings alike – we can thus feel happy when we vicariously share the joy of others, and we can share the experience of suffering when we empathize with someone in pain. Importantly, in empathy one identifies with someone, but one does not confuse oneself with the other; that is, one still knows that the emotion one identifies with is the emotion of another (Singer and Klimecki, 2014). Thus, resonance is key here. Empathy is emotional resonance. Figure 2 illustrates the ideas discussed above, and presents a conceptual framework on the affective/behavioural dynamics of immersive media in relation to social change.

**Figure 2.** Affective processual dynamics of immersive media for social change



Source: Author's own.

Looking at Figure 2, one could argue that the affective dynamics of immersive media experiences for social change encompass a process that starts with: (1) the audience becoming aware of a given social issue by identifying emotionally with the story depicted in the immersive experience, thus establishing an empathic connection with it, and therefore the “feeling with”; then (2) the audience starts to develop an intention for action that goes beyond the empathic recognition of a given social issue depicted in the immersive experience, therefore establishing a compassionate connection for that social issue, “feeling for” it, thus, “caring for the other”; and finally, (3) the audience starts to develop “an emotional embodiment”, i.e. the dynamic combination of subjectivity, emotion and place in relation to the social issues depicted, thus fostering the previously triggered intention towards a “disposition to act”. Through the cumulative combination of the previous stages of “empathy” and “compassion” with “an emotional embodiment”, the audience ultimately develops a sense of “emotional geography”, i.e. a connection

with a “storyworld” through body, emotion and mind. The holistic cognitive and emotional nature that “emotional geography” entails will eventually impel people to some form of tangible action, leading to effective social change.

In short, immersive media seem to include and go beyond empathy as their sole mode of affect and, as with advances in the fields of documentary and films, the study of immersive media now requires a greater level of nuance in the articulation and understanding of their affects.

This highlights the importance of a critical and reflective approach to understanding the affective affordances and dynamics of immersive media storytelling, emphasizing the need to go beyond empathy and examine the potential for generating real social change. Clarifying concepts that are eminently interdisciplinary and placing them coherently within this emergent research field is at hand. Previous studies, for example on immersive journalism, address the terminological confusion surrounding immersive journalism, and the need to differentiate between interactive and immersive experiences (Vaz and Tejedor, 2019), which emphasizes the importance of a holistic understanding of immersive experiences and their potential for meaningful social impact, with the need to clearly outline and theoretically and empirically examine phenomena such as audience participation and the role of the user in immersive experiences.

In this sense, the core idea of this research project – engaging in creative, collaborative 360° video productions in which people and communities became content creators, inspired to reflect on serious social issues through the practical lens of immersive media technologies and narratives – established that very same critical and reflective nuance, which ultimately provided us with an understanding based on insights from these collaborations that go beyond enunciating the medium’s technicalities. In other words, the audience becomes content creator and primary source of advocacy for social and cultural issues of interest to them, which might entail an innovative vision and practical dimension concerning the use of immersive media for social change.

Good storytelling needs to be accurate, creative, credible and, most importantly, ethical. Immersive storytelling has an enormous potential to give voice to the voiceless, to comfort the afflicted, and to afflict the comfortable – or in other words, a good story should give people an insight, and should teach people something, even if those stories challenge our existing beliefs. The internet and all things digital brought a wave of disruptions that challenge every aspect of what we do; but with that wave of disruptions have come new opportunities and new story forms, including immersive storytelling. As we move towards the age of the so-called “metaverse” (Ning et al., 2021), in which real time social interactions will become the cornerstone of virtual reality worlds, looking back to lessons learned from 360° video productions might seem rather “archaic”, given that today, social virtual reality platforms, for example, are growing in number, and computer-generated worlds are increasingly more sophisticated. Nevertheless, we posit that at the base of meaningful experiences, whether spherical video or multisensory vol-



umetric virtual reality, content is king. Engaging people in processes of perspective-taking and emotional connection with a given social issue requires a meaningful use of emergent technologies, as long as these fit the story and effectively add something to the understanding of the issues depicted. From plain text, sound or 360° video all the way to titanic virtual reality platforms at the intersection of blockchain, cryptocurrencies, web 3.0 or real estate going digital, the main conclusions of our research – holistic understanding of the affective affordances and dynamics of immersive media storytelling – remain valid and can be applied to any immersive media endeavour seeking to generate processes of effective change.

The combination of a scientifically sustained approach and working with real people and real problems through collaborative creativity lead to what we believe to be the great outcome of this study, “the big picture”: namely that the strategic use of immersive media technology in collaborative creative storytelling approaches to social change leads to an innovative process of empowerment; a process that, by means of a shared creative motif and the affordances of new technologies, builds collective solidarity that leads to change – from power *within*, to power *with*, to power *to*.

### Bibliographical references

- AITAMURTO, T. et al. (2022). “Examining augmented reality in journalism: Presence, knowledge gain, and perceived visual authenticity”. *New Media and Society*, 24 (6). <<https://doi.org/10.1177/1461444820951925>>
- ARNOLD, J. (2012). “Practice Led Research: Creative Activity, Academic Debate, and Intellectual Rigour”. *Higher Education Studies*, 2 (2), 9-24. <<https://doi.org/10.5539/hes.v2n2p9>>
- BAÍA REIS, A. and COELHO, A. (2018). “Virtual Reality and Journalism: A gateway to conceptualizing immersive journalism”. *Digital Journalism*, 6 (8), 1090-1100. <<https://doi.org/10.1080/21670811.2018.1502046>>
- BAÍA REIS, A., KICK, L. and OLIVETO, M. (2023). “Main concepts in immersive journalism”. In: SÁNCHEZ LAWS, A.L. (Ed.). *Insights on Immersive Journalism*. London: Routledge. <<https://doi.org/10.4324/9781003217008-8>>
- BECKETT, C. (2008). *SuperMedia: Saving Journalism So It Can Save The World*. Malden: Wiley-Blackwell.
- (2010). “The value of networked journalism”. *Value of Networked Journalism conference* [Preprint]. <<http://eprints.lse.ac.uk/id/eprint/31050>>
- BECKETT, C. and DEUZE, M. (2016). “On the Role of Emotion in the Future of Journalism”. *Social Media and Society*, 2 (3). <<https://doi.org/10.1177/2056305116662395>>
- BONOMA, T. V. (1985). “Case Research in Marketing: Opportunities, Problems, and a Process”. *Journal of Marketing Research*, 22 (2). <<https://doi.org/10.2307/3151365>>
- CANDY, L. (2020). *The Creative Reflective Practitioner: Research Through Making and Practice*. London and New York: Routledge.

- CANDY, L. and EDMONDS, E. (2018). "Practice-based research in the creative arts: Foundations and futures from the front line". *Leonardo*, 51 (1), 63-69.  
<[https://doi.org/10.1162/LEON\\_a\\_01471](https://doi.org/10.1162/LEON_a_01471)>
- CANTATORE, G. and QUAPPE, S. (2005). *What is Cultural Awareness, anyway? How do I build it?* Culturoosity.com.
- COSTERA MEIJER, I. and GROOT KORMELINK, T. (2015). "Checking, Sharing, Clicking and Linking: Changing patterns of news use between 2004 and 2014". *Digital Journalism*, 3 (5).  
<<https://doi.org/10.1080/21670811.2014.937149>>
- DUBOIS, A. and GADDE, L.E. (2002). "Systematic combining: An abductive approach to case research". *Journal of Business Research*, 55 (7).  
<[https://doi.org/10.1016/S0148-2963\(00\)00195-8](https://doi.org/10.1016/S0148-2963(00)00195-8)>
- FOSSEY, E. et al. (2002). "Understanding and evaluating qualitative research". *Australian and New Zealand Journal of Psychiatry*, 36 (6), 717-732.  
<<https://doi.org/10.1046/j.1440-1614.2002.01100.x>>
- GRUENEWALD, T. and WITTEBORN, S. (2020). "Feeling good: humanitarian virtual reality film, emotional style and global citizenship". *Cultural Studies* [Preprint].  
<<https://doi.org/10.1080/09502386.2020.1761415>>
- HASEMAN, B. (2006). "A Manifesto for Performative Research". *Media International Australia incorporating Culture and Policy*, 118 (1), 98-106.  
<<https://doi.org/10.1177/1329878x0611800113>>
- HAYASHI, P., ABIB, G. and HOPPEN, N. (2019). "Validity in qualitative research: A processual approach". *Qualitative Report*, 24 (1).
- JICK, T.D. (1979). "Mixing Qualitative and Quantitative Methods: Triangulation in Action". *Administrative Science Quarterly*, 24 (4).  
<<https://doi.org/10.2307/2392366>>
- DE LA PEÑA, N. et al. (2010). "Immersive journalism: Immersive virtual reality for the first-person experience of news". *Presence: Teleoperators and Virtual Environments*, 19 (4), 291-301.  
<[https://doi.org/10.1162/PRES\\_a\\_00005](https://doi.org/10.1162/PRES_a_00005)>
- MERLEAU-PONTY, M. (1945). *Phenomenology of Perception*. London: Taylor & Francis.
- MILK, C. (2015). *How virtual reality can create the ultimate empathy machine*. TED.com.
- NING, H. et al. (2021). "A Survey on Metaverse: the State-of-the-art, Technologies, Applications, and Challenges". *arXiv preprint arXiv:2111.09673*. [Preprint].  
<<https://doi.org/10.48550/arXiv.2111.09673>>
- ORB, A., EISENHAEUER, L. and WYNADEN, D. (2001). "Ethics in qualitative research". *Journal of Nursing Scholarship*, 33 (1).  
<<https://doi.org/10.1111/j.1547-5069.2001.00093.x>>
- PÉREZ-SEIJO, S., GRACIA, M.J.B. de and REIS, A.B. (2022). "Immersed in the news. How VR and 360-degree video have triggered a shift in journalistic storytelling". In: GARCÍA-OROSA, B., PÉREZ-SEIJO, S. and VIZOSO, A. (Eds.). *Emerging Practices in the Age of Automated Digital Journalism*. London: Routledge.  
<<https://doi.org/10.4324/9781003260813-7>>
- RAKOTONIRAINY, A., LOKE, S.W. and OBST, P. (2009). "Social awareness concepts to support social computing". In: *Proceedings - 12th IEEE International Conference on Computational Science and Engineering, CSE 2009*.  
<<https://doi.org/10.1109/CSE.2009.314>>

- SÁNCHEZ LAWS, A.L. (2019). *Conceptualising immersive journalism, Conceptualising Immersive Journalism*. London: Routledge.  
<<https://doi.org/10.4324/9780429199394>>
- SHAW, I.S. (2011). *Human Rights Journalism: Advances in Reporting Distant Humanitarian Interventions*. London: Palgrave Mcmillan.  
<<https://doi.org/10.1057/9780230358874>>
- SINGER, T. and KLIMECKI, O.M. (2014). "Empathy and compassion". *Current Biology*, 24 (18), 875-878.  
<<https://doi.org/10.1016/j.cub.2014.06.054>>
- TEJEDOR-CALVO, S. et al. (2020). "Journalism that tells the future: Possibilities and journalistic scenarios for augmented reality". *Profesional de la Informacion*, 29 (6).  
<<https://doi.org/10.3145/epi.2020.nov.02>>
- TUFTE, T. (2013). "Towards a Renaissance in Communication for Social Change Redefining the Discipline and Practice in the Post 'Arab Spring' Era". In: TUFTE, T., WILDERMUTH, N., HANSEN-SKOVMOES, A.S. and MITULLAH, W. (Eds.). *Speaking up and talking back? Media, empowerment and civic engagement among East and Southern African youth*. Göteborg: Nordicom, 19-52.
- VAZ, M. and TEJEDOR, S. (2019). "Conceptual approach to immersive journalism: Reflections from the case study of six journalistic works". *RISTI - Revista Iberica de Sistemas e Tecnologias de Informacao*, E20, 100-112.
- VICENTE, P.N. (2018). "From narrative machines to practice-based research: Making the case for a digital Renaissance". *Estudos em Comunicaçao*, 2 (27), 67-78.  
<<https://doi.org/10.20287/ec.n27.v2.a05>>
- WILSON, S. (2019). "Sensory Worlds: Emotional Geography and Human-Centered Design in 360° VR Ethnographic Videos". In: MARIBE BRANCH, R., LEE, H. and TSENG, S.S. (Eds.). *Educational Media and Technology Yearbook*. Cham: Springer, 81-86.

## Annexes

### Annex 1. INTERVIEWEES

Name and job title	Organization	Interview date
Ana Sanchez Laws <i>Associate Professor</i>	Volda University College	4 June 2020
Beck Stewart <i>Media Educator &amp; Immersive Filmmaker</i>	Coventry University	19 May 2020
Ben Kreimer <i>Emerging Media Technologist</i>	Independent	28 May 2020
Clàudia Prat <i>Senior Producer at The ISS Experience</i>	TIME	16 June 2020
Daniel Rojas Roa <i>XR Producer</i>	3GO VIDEO	17 June 2020
Dooley Murphy <i>PhD Researcher/Fellow</i>	University of Copenhagen	18 May 2020
Galit Ariel <i>TechnoFuturist, Author, Creative</i>	Future Memory Inc.; Wondarlands; RSA	23 June 2020
James Taylor <i>Technical Demonstrator</i>	Cardiff University	26 May 2020
Karin Wahl-Jorgensen <i>Professor</i>	Cardiff University	8 June 2020
Laura Hertzfeld <i>Director, XR Partner Program</i>	RYOT/Verizon Media Group	14 June 2020
Mark Deuze <i>Professor of Media Studies</i>	University of Amsterdam	20 May 2020
Marta Ordeig <i>Founder</i>	Garage Stories	8 June 2020
Mary Matheson <i>VR Director/Creator &amp; Course Director of the MA in Immersive Storytelling at Royal Holloway, University of London</i>	Royal Holloway, University of London	13 June 2020
Mel Slater <i>Researcher</i>	University of Barcelona	17 May 2020
Miguel Santesmases <i>Film Director, VR curator and creator, and Film Studies Professor</i>	Agency_VR; Universidad Camilo José Cela; UC3M	24 June 2020
Nili Steinfeld <i>Head, Digital Media Track, School of Communications</i>	Ariel University	31 May 2020
Nonny de la Peña <i>Founder/CEO</i>	Emblematic Group	23 August 2020
Peter Woodbridge <i>Director of X-Lab</i>	Liverpool John Moores University	15 May 2020
Radwa Madbrook <i>Journalism Lecturer</i>	Cairo University	20 May 2020
Rafael Pavon <i>VR Creator and Producer</i>	Independent (AtlasV, Future Lighthouse, Jaunt)	19 July 2020
Thomas Seymat <i>Digital Journalist</i>	Euronews France	23 June 2020