Audience agency in immersive journalism:

Seeing immersive journalism as an actor-network.

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Abstract

This master thesis focus on the field of immersive journalism. Nonny de la Peña (2010) who coined the term defines this as "the production of news in a form in which people can gain first-person experiences of the events or situation described in news stories" (de la Peña et al., 2010). The idea behind immersive journalism is to allow its audience to enter a virtually recreated scenario representing the news story by the use of immersive technologies such as virtual reality systems. Through qualitative methods, research interviews and participant observation, this research project seeks to approach this relatively new research field in a sociotechnical manner, examining the user experience of immersive journalism. As a theoretical backdrop for gathering and analysing the data collected, Actor-Network Theory has been utilised, initially drawn from the field of social science. The thesis answer the research question of whether different levels of immersion in immersive journalism tend to make an audience more like active participants in the story creation, rather than passive recipients. Though the study does not manage to establish a clear link in terms of the levels of immersion and the two audience conceptions, results do indicate agency afforded to the audience. It reveals nuances in the relationships among social actors such as journalists, human audiences and the nonhuman actants mediating their interplay, immersive technologies. The researcher further argues that the Actor-Network Theory may serve a viable framework for further research on the field. The thesis concludes that more research is needed to answer some of the central points raised by in the study.

Preface

Working with this master thesis has been a challenging, yet educational and exciting experience. This includes both the practical and the theoretical knowledge gained while exploring a relatively new form of storytelling in news production, immersive journalism. As a working journalist, and as a student, it has been inspiring to see how new emerging technologies are challenging my field of work, at the same time as giving us the potential to make even more compelling and exciting content for our audiences.

This thesis would never have been possible to write without the help of people graciously spending time in helping me along the way. I will, therefore, like to thank all of them for the vital part they have played.

First and foremost, I want to extend a special thanks to my two advisors during the work of this thesis, professor Oscar Westlund and associate professor Ana Luisa Sánchez Laws. Your extensive knowledge and counselling have been invaluable for the research.

This research project would not have been possible without respondents subjecting themselves for experiment and interview. I am very thankful to all of the eight respondents who agreed to participate, giving vital information and data for the analysis. Thanks also to students at Volda University College for taking part in the pilot study for this project.

Thank you to all my fellow students for insightful conversations, to teachers from Volda University College for answering study related topics and to family and friends for giving me the time and space to writing this thesis.

This research has not received any funding and is paid for by me alone. I am therefore thankful to Volda University College for letting me borrow equipment and space, essential to conducting the research.

Last but not least, I would like to thank my colleagues and my boss for making it easier to combine a fulltime job with my master study. Time has been my most lacking resource, and I owe you my gratitude for letting me take days off and for colleagues taking extra shifts for me during the last month of writing.

You are all wonderful.

Happy reading!

Sævik, 2019.
Bjørnar Torvholm Sævik

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1: Introduction

"What if I could present you a story that you would remember with your entire body, and not just with your mind?" (de la Peña, 2015).

Through her words and innovative storytelling, researcher and journalist Nonny de la Peña has propelled a whole new field of journalism-related research. The field of journalism is always being challenged by the emergence of new technology, whereas virtual reality technologies (VR) and the use of immersive storytelling, is one of them. The realistic and captivating nature of a 360-degree story, where the consumer practically attends and gets a first-person view of news events, arguably challenges the role and responsibilities of both the journalist and the viewer. With the influence this new medium promises, an examination is needed for its impact on how journalists capture, the way subjects are portrayed in, and consumers learn about news. Immersive journalism brings a set of new challenges to the table, arguably the likes of which we wave not seen before. This relatively new form of storytelling has the potential to reaffirm traditional journalistic principles, but, as warned by researchers, it can also deviate them.

This thesis will focus on the field of immersive journalism. De la Peña (2010) who coined the term defines this as "*the production of news in a form in which people can gain first-person experiences of the events or situation described in news stories*" (de la Peña et al., 2010). The idea behind immersive journalism is to allow its audience to enter a virtually recreated scenario representing the news story. This immersion can be achieved by the use of virtual reality technology such as head-tracked head-mounted displays (HMD), or other immersive technologies (de la Peña et al., 2010). Research on the field so far has come a long way in defining what immersion is and what creates it. It has presented technology that is making this type of storytelling viable. Scholars have identified current narrative forms and produced a framework for journalists. They have also discussed some ethical issues regarding the field. At last, scholars are debating on whether or not this new form of storytelling can enhance empathy. All this, by the use of a variety of different methods with the majority being theoretical and qualitative.

But, the research on the field has been limited. At this point in time, although virtual reality technology is already being used to deliver news stories, it is not yet obvious how people experience this type of immersive journalism stories, and what factors affect people's perception of this type of storytelling in conventional news reporting. Not knowing how users perceive content such as this, can in a worst case scenario be damaging to the field of whom one actually is trying to develop further. Therefore, research on this field needs to look closer into how audiences both use and perceive such immersive content. This thesis seeks to be a minor, yet meaningful contribution in this manner, offering both useful results promoting a theoretical framework in which researchers may further investigate this new and emerging field.

1.1: Aim and research question

Immersive content may be organised into multiple categories, one of them by the levels of immersion it induces to the user, as argued by Mazuryk and Gervautz (1996).[1] The overall aim for this master thesis is to explore how an audience experiences such levels of immersion in immersive journalism. This in itself, is quite a broad goal, which a thesis of this magnitude will not be able to answer fully. Therefore a more specific research question has been devised in order to contribute in this manner. I will be looking at whether or not different levels of immersion may afford users agency and thereby making them feel as though they themselves are taking part in the story creation in an immersive journalism experience. I ask:

- **Does different levels of immersion in immersive journalism tend to make an audience more like active participants in the story creation, rather than passive recipients?**

Actor-Network Theory (ANT) has been used as a theoretical backdrop for gathering and analysing the data collected through what is a qualitative research study. I believe that this theory, drawn initially from the field of social science, offers a valuable way to explore changes to journalistic authority, focusing on the shifting power balance among networked

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[1] This is a way of categorising that will be explained further on in the theory chapter of this text. See chapter 3.

actors. I furthermore argue that seeing immersive journalism as an actor-network might serve as a relevant starting point for researchers wanting to adapt to a more holistic approach on this particular field. As deemed advantageous by scholars such as Lewis and Westlund (2014), this study has taken a sociotechnical focus to the field of immersive journalism, bringing forth technology as a key aspect of study, hoping to reveal nuances in the relationships among social actors such as journalists, human audiences and the nonhuman actants mediating their interplay.

1.2: Disposition

This thesis has nine different chapters, which are all divided into subchapters. In the first chapter, a short introduction and a presentation of the research question and aim has been given. For the following section, chapter two, I will present research that has been done on the field so far, giving you a grasp of concepts that will be useful later on in the analysis. This also serves as a way of further establishing the purpose and timeliness of the project. Chapter three presents theoretical concepts that have served as the main backdrop for the gathering of data and the discussion part of the thesis. In chapter four, I present the method used in the research, and also describe how data was collected and analysed. In chapter five, I consider some ethical challenges related to the research. In the sixth and seventh chapter, I present the results from the data collected from my research experiment and interviews. In the last two chapters, eight and nine, I discuss the results and give a conclusion to the research question stated above and to the research project as a whole.

2: Literature review - What we know so far

Before we start our quest in determining a conclusion to the research question for this thesis, a thorough examination is needed, determining how far research on the field of immersive journalism has come. This helps when defining the purpose and timeliness of the research. At the same time, concepts and theory from research done so far are used as part of the discussions. It defines some central concepts that the research field is focusing on, and thereby also useful definitions for this thesis.

2.1: Limitations of the literature review

Immersive journalism also referred to as VR-journalism, as already stated, does not have a lot of research material specific to the field. Following I will present much of the key research that has already been done on the field. The material is limited to research that has been peer-reviewed only. The articles that are chosen for the review all talk about both virtual reality and journalism in correlation with each other.

The databases used for finding material includes journals from SAGE journals, Taylor and Francis, MIT press, Frontiers in Digital Humanities, and Springer. For practical reasons, this research review has been limited to research published in English only. The search led to 13 research articles from the following journals: New media & society, Frontiers in ICT, Frontiers in digital humanities', Frontiers in Robotics And AI, Intersect: The Stanford Journal of Science, Technology, and Society, International Journal of Communication, Studies in Documentary Film, Digital Journalism, Journal of Media Practice, Media and Metamedia Management, Advances in Intelligent Systems and Computing, Presence: Teleoperators and Virtual Environments, Virtual, Augmented and Mixed Reality: 8th International Conference, and Recent Advances in Information Systems and Technologies.

In search of all the articles, the following keywords where used: Immersive journalism, VR journalism, virtual reality journalism, virtual reality, journalism, VR, augmented reality, AR, ethics, empathy, embodiment and non-fiction VR. Regarding the limitations of the material surrounding this review, I acknowledge that there likely exists more research on the subject in other forms or languages that are not included in this text. This is an emerging field and over the last year, we have seen an increase in the amount of research relating to the field of immersive journalism. New research on the field has actually emerged during the writing of this very thesis.

2.3: Disposition of the review

Following, I will present research on the field by dividing I into eight categories that I have identified in research done so far. First, a definition of immersive journalism is given. I have

included this as a category of its own since every researcher defines the field, and some of the research has focused on just discussing what immersive journalism is. I have also categorized immersion as an own theme since there has been extensive research discussing immersion. Following categories will then discuss topics surrounding technology, narrative forms, if emotions can be induced, ethics, framework and lastly research methods used in the field.

2.4: Defining immersive journalism

Immersive journalism, both as a concept and a field of research, was first introduced by Nonny de la Peña et al. (2010). She has defined it as *"the production of news in a form in which people can gain first-person experiences of the events or situation described in news stories."* (Pena et al. 2010). Most researchers on the subject matter also use her definition as a point of reference, further developing the field. De la Peña, and researchers such as Domínguez (2017) Hardee & McMahan (2017) Jones (2017) and others, describe how this experience can be achieved through the use of virtual reality technology, such as head-worn VR devices to allow people to enter virtual worlds and scenarios representing actual news stories. However, as early as in the 1990s, Biocca and Levy discussed the possibilities of employing VR technology for journalistic purposes, according to Hardee & McMahan (2017). They believed this technology would further help reach the journalists oldest dream to conquer time and space by constructing a presence for the audience at distant, newsworthy locations and events. From all the research done, the following definition can be proposed: Immersive journalism makes its audience feel like they are present at the location where something newsworthy is happening. This can be done by using virtual reality technologies.

2.5: Discussions on immersion

In journalism, immersion has been based on a premise of a reporter spending a long time learning about a subject before narrating it Dominguez (2017). Immersion has always been a journalistic ideal. The more immersion one achieves in an editorial product, the more proximity the audience get to the story, which then again evoke interest in the story. In most cases, immersion or presence is crucial for the reliability of journalism. Being a first-hand witness to a newsworthy situation arguably results in more honest storytelling than not being there.

Shin & Biocca (2017) have researched how people perceive VR experiences within the field of journalism. Their research indicates that the meaning of immersion depends strongly on the traits and contexts of the user. They argue that whether somebody gets immersed or not is determined by the users´ cognition and intentions. In other words, VR stories are viewed and accepted based on the manner that the users imagine and intend to experience them. The researchers also suggest two aspects of immersion and presence. The first is the technical properties, and the second being how users feel about and interpret the properties. The way the technological properties, discussed in the following category, is used for eliciting empathy and embodiment is primarily determined by the users' preferences and cognition. How an audience experience being present in a experience is all dependent upon "*intrinsic cognitive motivations to engage in and empathize with meaningful cognitive activities.*" (Shin and Biocca, 2017). Immersion is therefore not an external factor being given to users, and immersion is a fluid state that is processed and determined by users, they argue. Like Domínguez (2017) also points out in her research, immersion depends on the imagination of both the author and the reader. Without the cooperation of the reader, achieving immersion is substantially more difficult. Again, a similar interpretation of immersion is presented by McRoberts (2017), who argues that the key to defining VR is not technological hardware but in the human experience, with the presence at its core.

While discussing immersion, it also viable to point out that research by de la Peña et al. (2010) and Domínguez (2017) have distinguished between two types of immersion in immersive journalism. First, we have what they define as low-level immersive journalism. This gives information in novel forms such as in computer games but does not use virtual reality headsets. Secondly, we have deep immersive journalism. This transforms people's notion of the place to a location where a credible action is happening. Where what they see is perceived as really happening, and most importantly, where their body is involved in this action. Users are in a way invited to participate in a computer-generated recreation of a news story based on factual material, sometimes using an avatar, meaning a virtual body (van der Haak, Parks, & Castells, 2012). As we shall see later on in the thesis as well, I argue that there is a middle category where most of the immersive journalism finds itself today, by the use of 360 videos. A type of storytelling which do not give a full embodied experience, where

movement mostly is restricted to 360-degree head movement. What Domínguez (2017) regards as Cinematic VR experiences.

2.6: The tools for immersion

The technology behind VR is not new. It has been experimented on since the 90s, but it was only in 2015 we saw VR technology developing in a way which has made it accessible to communities beyond the gaming industry. This is manifested through investments by both Google in VR technology and Facebook chief executive Mark Zuckerberg in the leading VR-company Oculus Rift. Cheaper head-mounted displays (HMDs), commonly referred to as VR goggles and glasses, and VR technology for the mobile device have furthered popularized VR and facilitated its development. It has made the technology visible in the mainstream, while the high-end devices are still costly. They have provided more access for the creative industries where we might expect to see it develop further through use and experimentation (Jones, 2017). One specific scenario which many researchers describe as a milestone for this new field of storytelling was from 2015 when The New York Times added a platform to their news production. They launched an app that offered news stories told through 360- degree filming and distributed more than one million VR headsets of cardboard to their subscribers (Jones, 2017). This marked the start for the widespread experimentation with immersive journalism that we have seen from media companies in the last years. (Vázquez-Herrero & López-García, 2017) have further shown that 2016 was the year when immersive journalism caught on throughout the media world. This again, because of the advancement in mobile technology, and the emergence of affordable VR devices or headsets. Researchers have, as seen above, shown the importance of the new technology and how it has paved the way for emerging content. More importantly, though, technologies used in research such as in the experiments of de la Peña et al. (2010) have demonstrated to elicit responses, such as presence, engagement, body ownership, emotion, and cyber-sickness. These responses to the technology are viewed by Hardee & McMahan (2017) as fundamental hallmarks for VR-technologies ability to create immersion. Following is a list that showcases each of the responses that VR technologies have shown to elicit, according to research on immersive journalism.

- **Presence:** A Psychological and phenomenological sense of experiencing a virtual environment first person in a computer-generated world or simulation (McRoberts, 2017).

- **Place illusion (PI)**. A strong sensation of being in a space being depicted by virtual reality technologies. The illusion of being in the virtually rendered space even though you know that you are not there. (de la Peña et al., 2010)

- **Engagement:** In the same way as presence, engagement is a state of consciousness, but one in which the user's attention is attracted to, involved with, and occupied by a user interface or piece of multimedia (Hardee & McMahan, 2017).

- **Body ownership**: When referring to body ownership, experiments show the technology's ability to make people feel that somebody else's body, such as a 3D avatar or the cameraman, is their own (de la Peña et al., 2010).

- **Psi**. A virtual reality system can recreate the dynamics of events and the situation portrayed. It can make a credible account of situations in relation to what would happen in reality. (de la Peña et al., 2010)

- **Emotion**: In their research, Hardee & McMahan (2017) note several cases where immersive technologies influence the emotional state.

- **Cyber-sickness**: VR-experiences and immersive technologies have shown to cause physical discomfort to users, not unlike motion sickness (Hardee & McMahan, 2017).

2.7: Narrative styles

When it comes to the narrative form of immersive journalism, content studies by Jones (2017) has presented us with the narrative styles that have been used in immersive journalism. Her content study first found information regarding the duration of immersive journalism content. While the average length of conventional news journalism is around 1:30–2 minutes, immersive journalism experiences appears to be significantly longer, between 5 and 10 minutes. The average duration is 6 minutes, 39 seconds. With the costs and time it takes to produce these films; longer reportages are made so that they are more cost-effective. Jones also points to studies done on comfort when using a VR headset, and that they also have found the duration to be around the 10-minute mark. We can with regards

to this say that immersive journalism has a narrative form with a longer duration than conventional news reports in mediums such as television. In Jones's content study from 2015, she categorized all the VR content into three narrative forms. These are social 360, reporter-led narratives and character-led narratives (Jones, 2017). The category of social 360 represents the vast amount of 360 content submitted to social media and platforms such as Facebook and YouTube. Inform, they are simple 360-degree views of the action of a story. These stories do not necessarily have the quality of deep immersive storytelling within HMDs, but makes for a great introduction to the technology to a broader audience (Jones, 2017). An interesting remark is that Shin and Biocca (2017) sees that the rise of smart technologies has changed the users' role from being a passive consumer to media provided immersion, to an active creator of immersion that creates and modifies such immersion depending on their day-to-day activities and contexts. This, as such, also describes the social 360 narrative forms. One may even say, that this bears a resemblance to the cinematic VR described by Domínguez (2017). It helps to add to the immediacy of the news value, and produce more immediate 360-content on stories happening on the day, but less as immersive journalism. One could argue that this narrative form will further fuel the emerging citizen journalism as described by researcher such as van der Haak et al. (2012). With the reporter-led narratives, the reporter is seen more like a guide who shows you the story and directs you where to look. In Jones's study, she shows there are fewer scenes in this narrative form and where the reporter is not present, there is a voice-over (Jones, 2017). The forms utilize text on the screen to give the story context, although, not unique to immersive stories since it is a common practice in most of the news production. In the third narrative form, character-led narrative, one or more characters acts as the narrator in the story. Preferably there should not be more than three characters telling the story since this could lead to complications. The strength of these stories often lies in the direct story of one person (Jones, 2017).

2.8: Ethics of immersive journalism

The creation method behind VR-experiences can be seen as a contrast to how journalistic products or documentaries appear to the audience. We are used to content creators that actively choose the angle and frame for us. Within Virtual Reality and 360 degrees content, this process of choices is seemingly more invisible and can be left more in the hands of the

users of the content, rather than the producer. Consumers choose the angle of where to look, how to interact or what to see or not. However, one thing is important to remember; while making immersive journalism content, journalists do consider placement and movement of the camera, sound, framing, music, narrators, text, transitions, and more (Kool, 2016). In his research, Kool (2016) argues that if a journalist becomes invisible in VR, it will be a dangerous illusion when viewers relate to, analyze, and act according to the immersive journalism experience. Hardee (2016) also points out that a purifying process like editing away objects that obstructs the view of the user, such as a tripod or a camera, eliminates awareness of the mediation on both sides of the lens. Subjects within a VR story, in theory, become normalized in the presence of a camera. This helps viewers feel more integrated into the world being portrayed. However, this integration is ethically precarious because behind each piece of immersive journalism we find an orchestrating journalist. One remark, which has been pointed out by both de la Peña et al. (2010), Hardee (2016) and Kool (2016) VR experiences and technology can quickly become a tool for making propaganda. If the orchestrating journalist isn't present in this compelling content, it can be dangerous. All the research reviewed indicates the importance of having a clear communication of who the communicator is in the process. The journalist must not end up like an invisible force orchestrating the experience, but instead be a "visible" storyteller, research seems to show. It would be unethical to erase the mark of the orchestrating journalists who still have a lot to say in both the communication and construction of the narrative.

Some steps have been taken by researchers Sánchez Laws and Utne (2019) as it comes to discussing elements of ethics guidelines that may address ethical challenges brought on by immersive journalism. They argue that the audience dimension could be better considered in guidelines on the field, proposing that there is a need to: (1) Establish methods to early assess how technologies change ethical practice. (2) Make journalists, as well as press ethics bodies increasingly aware of the audience dimension, which includes considering principles of doing no harm to audiences, meaning both physical and psychological. (3) Involving the audiences as contributors to ethics guidelines relating to immersive journalism (Sánchez Laws & Utne, 2019).

2.9: An emotion machine?

It is in the ethical aspect of the research where the goal for immersive journalism becomes somewhat clear: to make the audience feel empathy towards the portrayed subject. "*The VR aspires to come into the land of feelings. It has the intention to outsmart the human mind tricking it into believing that what he is seeing is real, and he can interact the scenario*" (Pérez Seijo, 2017). Almost all researchers on immersive journalism have discussed whether VR is to be seen as a brilliant tool for getting an emotional response from the audience. Famous artist and VR-documentarist Milk (2015) has referred to VR as the ultimate Empathy machine. To some extent, this is backed up by research done by Sánchez Laws (2017) who suggest some immersive journalism experiences are starting to meet the requirements necessary to make us witness other people's emotions and thereby feel empathy for them. She has defined empathy as: "*the mechanism through which we gather information to cooperate with others"* (Sánchez Laws, 2017). By theoretical analysis, she describes how immersive journalism experiences, especially the ones who strive for deeper immersion, tend to evoke emotional response towards subjects in the story. However, Sánchez Laws (2017) does also question if journalist and content producers should subject audiences to abuse in an immersive experience, just because this would result in them showing more empathy towards the subject matter. This takes us right back to some essential questions. Is this type of deep immersive presence is necessary to create empathy at all? If so, the next question goes straight back to the previous category of ethics, should we? These are the things that Sánchez Laws (2017), discusses in the conclusion of her research, and proposes that these ethical questions need answering.

2.10: A framework for immersive journalism

In the absence of clear guidelines for how journalists should use the immersive technologies, Hardee & McMahan (2017) have made a framework which shows which immersive tools fit what types of journalistic stories. According to them*, "guidelines are needed to help bridge a disconnect between the requirements of journalism and the capabilities of emerging technologies."* In their Framework for the Immersion Journalism Intersection (FIJI) they consider immersive journalism as the intersection of the fundamentals of immersion, current

immersive technologies, the fundamentals of journalism, and the various types of journalistic stories.
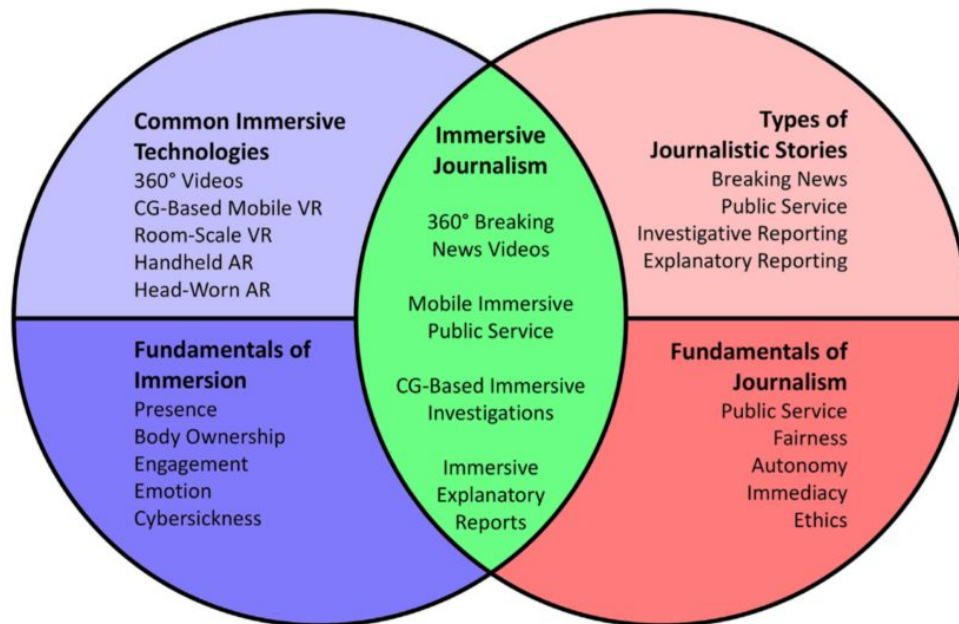
Figure 1: This is the Framework for the Immersion Journalism Intersection (FIJI). The figure is made by (Hardee & McMahan, 2017).

It highlights four appropriate types of immersive journalism, including 360° breaking news videos, mobile immersive public service, CG-based immersive investigations, and immersive explanatory reports (Hardee & McMahan, 2017). In short, they present four types of journalistic narratives and suggest which immersive storytelling method to use for telling the story. The figure above from their research highlights what immersive storytelling methods they found to fit the four types of stories that define journalism —breaking news, public service, investigative reporting, and explanatory reporting. As well as the key fundamentals of both immersion and journalism.

360 breaking news videos is simple 360-degree videos, cinematic VR or social 360 content as Domínguez (2017) and Jones (2017) would put it. Suited for breaking news because it is easy and fast to produce, though not the most immersive option. Mobile immersive public service pieces, use affordable mobile technologies to distribute public service news stories widely. A viable and good way of reaching a broad audience though, the immersion is limited to swiping on a screen or head movement in a less pricey HMD. CG-based immersive

investigation and immersive explanatory reports. Can be seen as more immersive. These stories are more within the category of deep immersion, described and tested by de la Peña et al. (2010). These are more immersive in nature and even brings the possibilities of interactivity and movement within the virtual space.

2.11: Types of studies, and methods used

When looking at the research material for this thesis, it is possible to say that qualitative studies seem to dominate the research field, at this point. In the following table, the research has been organized according to their research methods.

Methods	Quantitative studies	Qualitative studies	Mixed studies
Number of articles	1	9	3

Additional remarks are needed to elaborate on the table. Starting with the single quantitative study, this is the study done on the development of a news app for virtual reality in 2016. The study by Vázquez-Herrero & López-García (2017) uses quantitative counting to prove that VR appeared in the media with certain significance in 2016. They also concluded that "development of specific mobile apps implies a wager for new narratives thought for mobile devices" (Vázquez-Herrero & López-García, 2017). When researching immersive journalism so far there seems to be a majority of studies done utilizing qualitative research. Without any exceptions, all the eight research articles listed under this category also use theoretical analysis as their way of study. A lot of these studies tries to find theories which can apply to the field and even develop frameworks for journalists working in the field, like Hardee & McMahan (2017). Regarding the last category on the table, mixed studies, it regards studies both implying quantitative and qualitative studies. This includes the studies by de la Peña et al. (2010), Jones (2017) Shin & Biocca (2017). De la Peña and her colleagues have used experiments, interviews, and theory for their paper. It is worthy to note that these experiments have been small-scale experiments involving more experimental technologies, a contrast to the more affordable and viable options we have seen the last years. The methodology which

Shin and Biocca employed in their study combines an experiment using a survey method called a multi-stage survey, implying that data were collected through experimental and survey methods (Shin & Biocca, 2017). Jones has used a content analysis of immersive journalistic stories from 2015 and a focus group to discuss the audience's understanding of the narrative form.

2.12: Brief discussion

As we can see, research so far has gone a long way in defining and debating what immersion is in journalism, and how to create it. It has presented the technology and the types of narrative and storytelling methods available, and also discussed the ethical issues this kind of tools raises. However, one could argue that the ethical questions surrounding the use of immersive technology are the ones in most need of more research. Ethics is, as many of the researchers point out, one of the, if not the most, critical pillar of fact-based journalism. It is what separates journalism from everything else, and gives credibility to this type of storytelling. I would propose that scholars and researchers should strive towards creating an ethical framework that takes into account all the possibilities and challenges immersive technologies, such as VR and 360 videos, brings to the table. As already pointed out by Kool (2016), immersive journalism arguably changes both the journalist and the viewer responsibilities towards the news story. To create such an ethical framework however, more research on the user experience and what affects it is needed.

Immersive technologies also bear with it the possibility to be used for purposes other than journalism, such as propaganda. Therefore, one needs to make people aware of this. Sánchez Laws (2017) argues that challenges that the field faces are not so different from the ones that previous technologies have presented. It is not unusual to either make choices, manipulate or frame media content. This is true, yet, one should take into account the stronger involvement of the whole body of the user in a VR experience and how the increasing emotional response could affect our decision making. We see from the research that, the technology can have a physical effect on one's body, such as cyber-sickness (Hardee & McMahan, 2017). For the sake of argument, this can probably be said by multiple mediums, but yet not as present as in VR. This again emphasizes the case of making journalist more aware of how the current technology will affect users, and what not to do.   Since a lot of research in the field revolves

around a lot of theoretical analysis and small experimental studies, further research should be done on how people perceive Immersive Journalism. Given, as proven in research, the quite subjective nature of immersion and presence one should strive towards more research on the immersive capabilities of VR storytelling. Further exploring levels of immersion. Although it has been proven and argued by many researchers that it can enhance empathy, given the lack of research on the field one may argue that more research is needed before concluding on the manner. Notably, one should ask the question on whether or not it is alright to make these empathy-rich stories, and in that case, where should we set the limit? Is it ok to teleport users to a refugee camp in Syria for then to be immersed in all their misery? For anybody doing this, a thorough examination of the potential that immersive journalism has to change emotional and rational engagement should be done. Finally, it is worth to note that research on the field is still difficult. To do considerable studies on the field, especially when it comes to immersive journalism using higher levels of deep immersion, one would need specialized equipment, some of which can be very expensive. However, as the field progresses in social media, this platform will make it easier to collect good quantitative data for more prominent. Immersive journalism is still a relatively new field of study, and further research is important.

2.13: Conclusion of the research review

To conclude, the first question that could be raised to the overall research field is whether or not the field has been properly defined. The answer to that is, yes. They have also come a long way in addressing the question of what it is that creates immersion and what part technology plays in shaping it. When it comes to whether this is merely a tool of entertainment, research has proven this to be much more than that. On the contrary, it has shown that immersive journalism can be a significant new way of conveying information. Whether this will strengthen or weaken journalism in society, these questions remain unanswered. There just is not enough research to conclude in this manner. What can be said is that this relatively new form of storytelling has the potential to reaffirm traditional journalistic principles, but can also deviate them. At the time of writing this, there is not so much research on the field of immersive journalism. Although there has been a lot of theoretical analysis clarifying essential terminologies and how immersive journalism has been so far, I would argue that the future discussion and research should not revolve around what immersive journalism can be, but rather what it should be. More research is needed to

answer the question surrounding the ethical lines of immersive journalism, to ensure that journalistic ideals can further help develop this exciting new technology, although I acknowledge the important contribution that has been made in terms of this from both Sánchez Laws and Utne (2019) and Kool (2016). As Sánchez Laws (2017) has pointed out the project off immersive journalism needs to be "*adopting a more forceful role in shaping the future of virtual reality*" Sánchez Laws (2017). Further studies on the field should aim to include bigger amounts of data. In this review, we have seen that theoretical analysis has been dominated the field and that there may be lacking more prominent quantitative studies, tough there are still technological challenges, and the fact that this is not yet confirmed by the average media user, that does not make this very viable and feasible quite yet. If a theoretical approach is to be taken though, research from both the gaming industry, the health, and phycology field could shed light on similar challenges, also faced by the field of immersive journalism. Still, there is also room for more qualitative exploratory studies as well, focusing even more on the user experience, collecting data making it easier to in the long term determine some guidelines that content creators of immersive journalism can use to ensure a practice that does not deviate important, normative journalistic principles. This is where this thesis seeks to do its contribution to the field. As shown the need for looking a the user experience is important. I also not the arguments made by Shin and Biocca (2017), arguing the rise of smart technologies has changed the users' role from being a passive consumer to an active creator of immersion that creates and modifies such immersion depending on their day-to-day activities and contexts. I believe this to be a viable next step in exploring the field. Is it really so that users are becoming more active participants in the storytelling?

3: Theoretical framework

Now that the purpose of the research is defined and research on the field has been presented we need a theoretical framework that may help us answer the research question in light of the results, as well as key concepts for the discussion.

3.1: Levels of immersion in VR-systems

As one of the central pillars to this whole research project, we find theoretical concepts first introduced by Tomasz Mazuryk and Michael Gervautz in their paper "Virtual Reality:

History, Applications, Technology and Future" published back in 1996. Here they argue that it is possible to differentiate virtual reality content according to levels of immersion in virtual reality systems. In their words:

"In a virtual environment system, a computer generates sensory impressions that are delivered to the human senses. The type and the quality of these impressions determine the level of immersion and the feeling of presence in VR." (Mazuryk & Gervautz, 1996)

They further go on describing three such levels, being "Desktop VR, "Fish Tank VR and" "Immersive systems". In terms of current research, this is quite interesting. Both de la Peña et al. (2010) and Domínguez (2017) have distinguished between different levels of immersion in immersive journalism. They considered being just two levels, low and deep immersion, but Domínguez also acknowledges sort of a middle level regarded as Cinematic VR experiences. I argue for such an approach since research have shown that a great deal of immersive journalism project finds itself on such a middle level. I, therefore, propose utilising the level terminology as presented by Mazuryk & Gervautz.

They call the first and most basic level of immersion "Desktop VR". Sometimes this level is also referred to as Window on World (WoW) systems. Such systems involve a somewhat conventional monitor providing a generally monoscopic image of the world, where no other sensory output is supported (Mazuryk & Gervautz, 1996). This is similar to the low-level immersion Nonny de la Peña describes, content giving information in novel forms such as in computer games while not making use of virtual reality headsets (de la Peña et al., 2010).

The next level of immersion that the present is called "Fish Tank VR". This is considered as an improved version of the first level, with the difference being that this experience supports the use of head tracking through technology such as an HMD. This is supposed to give a greater impression of "being there" thanks to the motion parallax effect (Mazuryk & Gervautz, 1996). A conventional monitor is still used, but with glasses giving the user a stereoscopic view. Another word for this could be as Domínguez (2017) said it, Cinematic VR where movement mostly is restricted to 360-degree head movement.

The last level of immersion, a level which still is not the most commercially viable experience, is what is considered to be "Immersive systems". This is by Mazuryk and Gervautze considered being the "ultimate form of VR systems". The immersive systems let the user be totally immersed in a computer-generated world, also supported by an HMD, but this time taking both the users position and orientation into account. These systems, indifference from the other levels, support enhancements such as audio, haptic and sensory interfaces (Mazuryk & Gervautz, 1996). Again, this would be what in more recent research is considered to be deep, immersive content (de la Peña et al., 2010).

Even though these categories were theorised more the twenty years ago, it is my understanding and opinion that the levels proposed by Mazuryk and Gervautz still are viable categories to this date, at least if one accounts for one major flaw in their conceptualisation, stemming from the time of when this piece of research was done. Audio as a sensory input was by them reserved for the most immersive VR systems. This is something that is not the case in terms of how we see this today. The sound should be a sensory output associated with all levels. One could, for the sake of argument, say that audio may be more immersive as the level increases in terms of the technology being used, but the sound is a sensory output I would consider for all the levels. Other than that they work as a means for categorising different VR-experiences.

One can, of course, argue that this is a theory based solely on the technical aspects of a virtual reality system. Following that, this can be somewhat problematic in light of recent research on the field. As pointed out, Shin & Biocca (2017) argues that the meaning of immersion depends strongly on the traits and contexts of the user. They argue that whether somebody gets immersed or not is determined by the users´ cognition and intentions. This, in turn, means that the different levels as presented by Mazuryk and Gervautz may be perceived differently from user to user, possibly making it difficult to distinguish between the levels. Therefore maybe the levels of immersion could be arranged as a scale rather than strict categories. However, I argue that the technological differences between the systems are sufficient enough to differentiate content into these categories. Especially since these levels are clearly defined in terms of what possibilities the technology affords and whatnot, such as whether or not it supports head tracking or more extensive body tracking.

3.2: Actor-network theory - Affording agency to the user

In addition to the levels of immersion, one of the central pillars of this project, that I have used as a framework for both the research question and the data collection. I have opted for applying concepts derived from "Actor-Network Theory" to the research field of immersive journalism. Radwa Mabrook and Jane B. Singer have highlighted this as one of several conceptual approaches that may be useful for journalism studies about emerging and new technologies in the field of news production. In their view, this is a theory that *"offers the flexibility to devote attention to every actor involved in the generation of VR journalism"* (Mabrook & Singer, 2019). Furthermore, scholars such as Oscar Westlund and Seth C. Lewis has advocated a turn toward more of a socio-technical emphasis in the study of news production (Lewis & Westlund, 2014). In other words, as I understand it, there is a greater need for examining the intersection and the relationship between technology and humans, and by humans, I am not only talking about the journalists. This also encompasses programmers, developers, designers, not to mention the users of media them self. The actor-network theory may be useful in this term. Often referred to as ANT, this is a theory developed through the works of multiple scientists, such as Bruno Latour, Michel Callon and John Law. The theory seeks to explain social order, how actors, whether human or non-human, behave and affect each other, not through an *"essentialist notion of "the social" but through the networks of connections among human agents, technologies, and objects"* (Couldry, 2008). In other words, the theory explores a phenomenon by tracing its components and uncovering their interrelations (Latour 2005). Weiss And Domingo 2010 explains that in light of this theory, social groups are studied as actor-networks, a web of relationships in which each entity has a contingent position to change depending on what others do (Weiss and Domingo 2010). Theorists using ANT often see culture as a constructed product, in a performative way (Mabrook & Singer, 2019).

This theory has been highlighted as a way of including the role of the technology when it comes to culture change in the newsroom and media practice, meaning that it emphasises relationships instead of giving primacy to either people or their tools, not falling into the trap of technological determinism. In other words, all relevant components are viewed as actors, who each exercise a level of agency. All actors, whether human or non-human, have the

ability to permit, promote or restrict outcomes (Sayes 2014). This is why this theory lends itself as a useful tool to develop the research question of this thesis. It, in many ways, says that technology, and the use of it, will have an effect on other 'actors' in the same network, such as the audience using it. This affordance of agency to the user is likely one of the most distinct features highlighted when talking about immersive journalism. By agency I refer to a capacity of actors to act in a given environment or situation. In terms of studies done on journalism, they often foreground journalists' agency. When we talk about VR, for instance, it instead foregrounds the actions taken by users. Similar to the worlds of gaming (Mabrook & Singer, 2019). The nature of these immersive journalism narrative forms, therefore, could be said to represent a kind of shift of the control over journalistic narratives, affording more control to others outside the traditional newsroom. This has also been argued by (Masaccio, 2017), and is again similar to what Kool (2016) argues, rendering journalist more invisible in VR. VR and immersive 360° content do not only grant users the power to respond to editorial content. It gives them a tool to actively shape the story, there their own experience of it.

So, in short terms. The reason for using Actor-Network Theory is that it offers a way to explore how journalistic authority may change based on the shifting power balance among networked actors. One of the key concepts of the theory for this thesis is, first and foremost, the user agency and how this may be affected by other actors in the network. Trough this thesis, I want to explore whether or not such user agency becomes prominent as the level of immersion is increased.

3.3: Conceptions of the audience

While I am using Actor-Network Theory as an overall framework for the data collection and later on the discussion, there are traits of the theory that in my views comes short to being a sufficient analytical tool for this research project in particular. Though I will argue that all networked actors could be treated as equal entities while studying a phenomenon, I do not think that defining all the entities as 'actors', sufficiently accounts for the diversity that this term actually represents. Here I believe that Seth C. Lewis and Oscar Westlund defines it better in their matrix for cross-media news work, and their descriptions of "The four A's". Rather than defining all entities within a network as 'actors' they differentiate between four categories identifiable in cross-media news work. The term cross-media refers to "*the*

integration of multiple media platforms" (Lewis & Westlund, 2014). In their paper, the two scholars state that in Cross Media News Work we find (1) social *actors*, (2) technological *actants*, (3) work-practice *activities* and (4) different kinds of *audiences*. These four categories of entities, the four A's, make it easier to pinpoint precisely what networked entities I am focusing on.

As has already been manifested through the research question itself, it is the different kinds of audiences and their interaction with a technological actant (VR-technology) that this thesis aims to examine closer. It is, therefore, relevant to explore how Westlund and Lewis (2014) explain how there are different conceptions of the audience. They present three perspectives on the audience.

First, it is possible to see an audience as relatively passive recipients in the traditional mass media sense, a notion which is recognised within multiple traditional models of mass media communication (Lewis & Westlund, 2014). This also echoes Shin and Biocca (2017) description of passive consumers. This notion of the audience is still present even though we are getting more and more aware of the audience's extensive capabilities as new technologies emerge. Anderson (2013) explains that journalists still find professional purpose in imagining the audience as recipients, as it fits into the normative function of the journalist as a watchdog and public monitor (Anderson, 2013). In other words, an audience is a passive receiver of information that is created and controlled by the journalist or a storyteller.

Another way of seeing the audience is in the form of which media advertisers sees them, as statistically aggregated commodities. An argument that has gained traction again in the twenty-first century is the notion of audiences being packaged as products which are sold to advertisers, thanks to a more sophisticated method of gathering data and information about the audience. At the same time *"the business model behind many legacy news media relies on the commodification of audiences, and in the instance of newspapers, has also involved charging for content from these audiences"* (Lewis & Westlund, 2014). News media organisation actors have started to utilise technological actants enabling measurement, analysis, and commercialisation of audiences.

The third way of perceiving an audience is as active participants in cultural production. One scholar that advocate for such a view of the audience is Axel Bruns. He reflects on how audiences in the age of user-directed, interactive and social media play dual roles as both "producers" and users of media (Bruns, 2012). However, most researchers exploring the relationship between journalism and active audiences has argued that traditional media outlets resist rather than embrace such participation (Lewis & Westlund, 2014). Again, as pointed out by Anderson (2012), journalist rather perceives their users as active recipients. They are encouraged to react to content, but not actively contribute to the specific process of creating it. That being said, some media outlets that have been attempting to involve their audience in activities of journalism (Lewis & Westlund, 2014).

So to summarise, according to Westlund and Lewis (2014) audiences may be treated as recipients, commodities, and active participants by news media, serving normative, commercial, and cultural functions alike. There are mainly two of these perceptions I would like to pay close attention to for this research project. Not surprisingly perhaps, it is the two conceptions directly addressed in the research question, the audience as "*active participants*" or "*passive recipients*". I am looking at the role of a technological actant, VR-system and its levels of immersion, at the intersection between actors and audiences. In terms of the actor-network theory I am looking closer on what user agency is afforded to the audience, and how this may affect the way both scholars and practitioners alike should further examine and experiment with the field of immersive journalism.

4: Research methodology

Starting off the chapter about the research methodology for this thesis, I find it is reasonable to consider the philosophical standpoint of the researcher. I would describe myself as a pragmatist, meaning I chose my methods according to the questions being raised, not in preference to a positivist or constructionist approach (Denscombe, p.128, 2010). I think both quantitative and qualitative methods could be applied to answer the research question stated in this thesis, and to the field in general as well. I believe that one should yield multiple research methods whenever possible, recognizing that no single approach can be considered perfect.

4.1: Qualitative approach

This thesis has made use of a qualitative research approach, utilizing non-numerical data. First and foremost this choice lends itself to the nature of the research, having the purpose of being more of an exploratory and theory building study, aimed at investigating and exploring a relatively new field of research and investigating way in which researcher may tackle the field of immersive journalism, utilizing a more holistic approach (Denscombe, p.10, 2010). Using such a qualitative approach gives me some flexibility, allowing the research to be responsive to emerging circumstances.

A reason for not utilizing a quantitative approach is purely based on the feasibility of the research project, regarding both cost and time. This has a direct link to the technology being used in the field off immersive journalism. As already argued while looking on existing research, it would be extremely costly and time demanding to do large scale studies gathering quantitative data from a larger sample, making the project less feasible. HMD-displays is not technology belonging to everyday citizens. This especially applies when we consider the most immersive systems required for deep immersion, which are utilizing more extensive body tracking, such as the HTC Vive system or an Oculus Rift. Relating to this is also a needed amount of computing power with a sufficient graphics card and hardware. The cost for such technology is coming down, but at this point in time, and for such a study, you need to give people access to the technology and do things in a more controlled environment (Neiger, 2016). In other words, the research project is using technology that is likely to become more commonly available in a couple of years.

There is also one more argument for wanting to do this in more of a controlled environment, and that is to avoid technological problems that would affect the user experience. Many of the VR devices are not something you can just plug into a power outlet and then start. The more immersive systems, such as the HTC Vive, can take a whole room with sensors stationed around you (Yan & Stuart, 2018). In turn, you preferably also would need some knowledge of how to the technology works in case of a system failure, which I experienced and had to troubleshoot at least four times during my set up of the experiment, and once while one of my test subjects were using the HTC Vive in the research project. Luckily this failure came

where there were only four seconds left of the initial testing part of the experiment, but it just goes to show why one probably would want to do all of this in a controlled environment, and not with a lot of people at ones.

As another example, one could mention mobile based, head-mounted VR displays such as the Samsung Gear VR. Here a regular Samsung smartphone is placed in a pair of plastic goggles, using it as a display, simply put. With the technological processing power needed to stream and show VR content, a lot of strain is put on the mobile phone. If the technology is used for an extended amount of time, as one would do in a more quantitative data gathering process where you would maybe have multiple test subjects and respondents at the same time, there is a very real possibility that the equipment would overheat, resulting in a more "buggy" and "laggy" experience. This, in turn, arguably would affect the users' experience of the immersive journalism content. This would again affect the data being collected. While assisting associate professor Ana Luisa Sánchez Laws and assistant professor Tormod Utne doing a study on the same field in 2018, we experienced this problem first hand. The study I am referring to is titled "Ethics Guidelines for Immersive Journalism" published in 2019 in Frontiers in Robotics and AI volume six (Sánchez Laws & Utne, 2019). Equipment overheated resulting in that we had to take brakes in viewing different content. Whether it had and profound effect on the data gathered is not quite clear, but if such problems could be avoided by doing testing in a more controlled environment, one should try to do so.

These evaluations combined made opt for a qualitative approach.

4.3: Sampling the population

The population for this research can simply be stated as people interested in VR and journalistic stories told in new ways. This in itself, is quite a large population, even though the availability of technology is limiting it. Therefore a sample was selected, again having to do with the feasibility of the project. For this research project, convenience sampling mixed with voluntary response sampling was used, which is considered to be the most common type of non-probability sampling (Foster, Diamond and Jefferies, p. 127, 2012). This way of sampling was chosen first and foremost because of the limitations of available resources, and the accessibility of cases. All the needed equipment for testing was stationed at Volda

University College, which meant that I had to bring people to the school in order for them to participate in the project. Therefore subjects in the local area were the most straightforward, time efficient and cost effective sampling solution. This sampling technique is also useful, considering the qualitative nature of the research, where the goal is to document the quality of the viewer experience, which occurs within the given sample.

4.3.1: Self-selection using Facebook

For my sample selection, an event was posted on Facebook, where the project was presented in a concise and understandable manner, asking for voluntary participants to contact me by either phone, mail or through Messenger. With such a self-selection process, where the participants have a choice whether or not to participate, there are obvious benefits as it reduces the time necessary to search for appropriate units. These units are also likely to be committed to taking part in the study, which can help improving attendance. Hopefully, this also gives greater willingness to provide more insight towards the studied phenomenon (Sharma, p.752, 2017).

The event was shared on Facebook by friends, family and also by employees at Volda University College. After approximately two weeks, 14 people reported their interest in the event, where eight of them contacted me, willing to participate. The eight people were then asked to participate, to which they all agreed to after being adequately informed both verbally and through a privacy policy declaration document which all of them signed off on. This is something I will discuss further in the chapter about research ethics.

Among the eight people who volunteered to participate, six of the where men and two of them were women. The age of the participants ranged from 17 years old to 42 years old. The ages of the participants where as follows: 17, 23, 24, 25, 32, 36, 36 and 42. The mean of the age was 28,5.

During the data collection, the participant was asked to give some information about their current occupation. Her it became clear that a majority, five of the participants, were working or studying to work in some media-related practice. Three of the participants were students, two of them journalism students and one studying public relation and strategic

communication. The two other participants, somehow connected to a media-related occupation, were working as teachers, one of them as a media developer and one of them as a media teacher with a journalistic background. The remaining three participants had no occupations related to the media industry. One where a special education environmental therapist, also working as a nature guide during the spare time. One was working full time as a nature guide. The last one was a high school student, aspiring to accomplish general study qualification. All of the participants, except for one, had some higher education from or is at least pursuing it at a university or college.

The participants were asked whether or not they had any experience with VR. Two of the participant reported that they had never tried using HDM before. However they both had seen 360 photos or/and video before on a desktop or mobile screen, what (Mazuryk and Gervautze, 1996) would consider as "Desktop VR" or "Window on World (WoW) systems". Four of the participants had tested VR-goggles similar to the Samsung Gear VR before, meaning technology giving a higher level of immersion, once again defined as "Fish Tank VR" by Mazuryk and Gervautze. The two remaining participants answered that they had tried "the ultimate form of VR systems" (Mazuryk and Gervautze, 1996), such as the Oculus Rift, Oculus go or the HTC Vive.

Continuing down the parts of some necessary information about the sample, they were asked about their media habits before being interviewed about the research topic. I challenged them to say approximately how much time they read, watch or listen to news reporting and journalism during a day. Six of the participants gave me the answers in hours and minutes. Arranged from shortest to longest they were as follows: ten to forty-five minutes, thirty minutes on average, ninety minutes, one and a half hour, two hours and the last one using five to six hours a day. Two of the participants could not give a number, but they both estimated that they on average used several hours a day.

An important thing to note before we move on is that none of the cases received any form of compensation or reward for participating in the research. Everybody was there because of their interest to attend, not because of getting something material or something of worth in

return, even though some of the participants valued the testing of VR-equipment. As one of the cases put it "*I am here because I wanted to try VR-equipment for free*" individual 8.

4.3.2: Problems of convenience sampling

Using convenience sampling, as done in this study, can be problematic. One obvious criticism about it is sampling bias and that the sample is not representative of the entire population. I will acknowledge that a larger, random sample would be prefered, using a probability sample method such as a simple random sample. This would give a better basis for generalizing, saying something about the population as a whole (Denscombe, p.182, 2010). Limitations in resources and time made me have to base my sample one people living in close proximity, maximum one hour drive from Volda University College where I conducted my experiment.

However, this being exploratory research, I believe there is still a need for more theory building, qualitative research. In turn, this may lay the foundation for more extensive quantitative studies as such methods will become more feasible as time goes by. Needless to say, criticism of generalisability does not necessarily reduce the qualitative researches worth.

4.3.3: Voluntary participation, and its cons.

While on the track of possible criticism arising from the sampling method, it is necessary also to point out some potential cons of using self-selection and voluntary participation in the sampling process. Since the research subjects volunteer to take part in the study, there is likely to be self-selection bias to some sort of degree, meaning that the decision to participate in the project may reflect some inherent bias in the traits of the participants. This may then lead to either the sample not being representative of the population being studied, or it could exaggerate some particular findings from the study (Sharma, p.752, 2017). One example of such self-bias which has already become apparent through the sampling process was that a majority of the participant, in some way or the other, had some connection to the media industry, either as a journalist, developer or through public relation affairs. Again, this is problematic in terms of the generalizability of the data, which, in turn, may affect the external validity. But yet, it is hopefully established that this being exploratory and qualitative research does not necessarily try to generalize the findings towards the whole population. It is

rather laying the foundation of which to further build upon for further research, that then, in turn, may lead to enough insight and knowledge, making it viable to generalize.

Either way, to somehow counter, or at least enlighten such cons in my semple, every participant were asked one identical question before being interviewed; "*Why did you choose to participate in this study*?".

As I summarise their answers, we may start by pointing out one particular trait that all the eight participants showed, and that is that they all expressed some interest in the technology, whether they had or never tried it before. Some of their comments sounded: "*It, first of all, seemed interesting*" individual 5[2], "*I had never tried VR before, and wanted to try something new.*" individual 4[3], "*I wanted to try something new, so why not VR-goggles*" individual 6[4], "*Because new technology excites me[5]*" individual 3. One of them also showed a particular interest in technology, working with programming himself. "*I am interested in programming and there is a great potential in VR, AR and XR*" individual 2[6].

It is also possible to differentiate two other traits that some of the subjects gave as a reason to participate. Two of the subjects particularly mentioned their desire to explore the VR capabilities in a journalistic way. " *I participate because it has to do with journalism, and maybe I can learn from it myself (...)*"[7] individual 1 and "*New ways to tell stories are exciting, and it is very interesting to see how journalism may use this too*l" individual 3[8]. The last reason for participation that three of the cases mentioned was their desire to help me as a researcher and the research field in general. "I know it is difficult to find volunteers to master projects and therefore I wanted to help" individual 6 and "I will happily contribute to science" individual 5.

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[2] "Fyrst av alt verka det interessant." Original language.
[3] "Eg hadde aldri prøvd VR før, og eg ville prøve noko nytt." Original language.
[4] "Eg ville prøve noko nytt, so då tenkte eg kvifor ikkje VR-briller." Original language.
[5] "(...) fordi ny teknologi engasjerar meg." Original language.
[6] "Eg er interessert i programmering, og der er eit stort potensial i VR, AR og XR." Original language
[7] "Eg deltek fordi det har med journalistikk å gjere, kanskje kan eg lære noko av det sjølv (...)" Original language.
[8] "Nye måtar å fortelje historier på er spennande, og det er veldig interessant å sjå korleis journalistikken kan nytte seg av slike verktøy." Original language.

4.4: A shared experience - testing three immersive journalism experiences

The basis of the research is to say something about the user experience of, and audience agency in immersive journalism. For the project, this obviously meant that the cases, in one way or another, had to try out journalism content that can be classified as immersive journalism. Therefore as part of the data collection process, all the eight participants of the research were shown three stories/experiences which fall under Nonny de la Penas definition *"news in a form in which people can gain first-person experiences of the events or situation described in news stories."* (de la Peña et al. 2010). As has already been established, the levels of immersion in VR systems, originally presented by Tomaz Mazuryk and Michel Gervautz, were used for categorizing the three different journalistic pieces (Mazuryk & Gervautz, 1996).

The first one, and the experience I used as an example for the lowest level of immersion, Desktop VR, is the sizable Norwegian news organization Verdens Gang (VG)'s immersive journalism project Mystery at the Oslo Plaza ("Mysteriet på Plaza"). Here VG presents an unsolved, mysterious death on Oslo Plaza hotel that happened in 1997, and invites the audience to explore crucial questions about the mystery through immersive journalism (Wegner, 2017). This is done by digitally recreating the hotel room where a lady was discovered dead, recreating a somewhat accurate representation to the experience the police would have faced when they first came to the possible crime scene. In the main feature, this complicated case is presented almost entirely with virtual reality, video and popup-boxes. A digital long-read is available for those who want the complete story. In this research project, however, only the virtual reality part was tested, in other words, the recreated, possible crime scene where the spectator may look around and interact with hotspots to get information by text and audio. There are almost no long text bodies in the piece. It is possible for users to utilize HDM in this piece. However, only the desktop VR experience was used in the research, so that it would accurately represent the first level of immersion, desktop VR.

The next story can be considered to have a higher level of immersion, the Fishtank-VR level. Here an HMD-display is used, specifically the Samsung Gear-VR. The story is called 6x9 and is the British newspaper The Guardian's first virtual reality experience. This immersive experience places the viewer inside a digitally recreated US solitary confinement prison cell. Here they are told story of the psychological damage that can ensue from isolation. It is based upon interviews from seven former inmates who shared their stories with the newspaper. The user is given a possibility to listen to their recollections of the maddening days, weeks, months and even years with only their own thoughts for company (The Guardian, 2016). The ambience audio in the experience is real audio from an actual prison.

For the last and the most immersive experience, the cases experienced "Hunger in LA", an immersive journalism project by none other than Nonny de la Peña herself. The project is a recreation of a real-life event, based on real audio and an environment modelled on real locations. The user is presented with a scene at a Los Angeles food bank. The user witness delays in the distribution of food, which in turn resulted in a series of unfortunate events, the major one being a man falling into a diabetic coma for not getting his food in time. The project utilizes head-mounted display technology which also supports the free movement of the user, making it possible to move around in the virtually recreated scene. This is made possible by external sensors placed around the room.

4.5: Interview design

The primary data for this research project was collected through the means of research interviews. The reason for this has to do with the research question. I am exploring and want to figure out whether or not people tend to feel more like active participants rather than passive recipients as the level of immersion increases in immersive journalism. The phenomenon that I am investigating is, in other words, personal experiences, where the aim is to understand how things work more in-depth. For this, the research interview is considered to be a suitable method for data collection (Denscombe, p.202, 2017). One distinct advantage to such a data collection method worthy of noting is that the participants in an interview give their consent to participate in the research. From the researcher's point of view, this is also important as it relates to the research ethics discussed further on in another chapter.

One-to-one interviews were chosen, rather than group interviews or a focus group. They are more easy to arrange, and the opinions and views expressed during the course of the interview stem from one source: the interviewee. This made a considerable advantage afterwards when transcribing the interview tapes as well. (Denscombe, p.204, 2017).

Neither an unstructured nor tightly structured interview design was utilised for the interview. I rather opted for more of what Martyn Denscombe defines as a "semi-structured interview" (Denscombe, p.204, 2017). This implies that I did have a clear list of issues and questions to be addressed during the research interview in the form of an interview guide, one that is provided in the attachments to this thesis. However, I were prepared and was flexible in terms of the order in which the topics were addressed. I made room for the interviewees to speak widely on the issue if they so desired and did not stop them in their answering, even if they went away from the topic. Emphasis was put on the interviewees elaborating points of interests. These points of interest were defined in the interview guide.

The first theme or category of questions in this guide where defined as "general questions". These were designed for the intent of producing some useful data about the sample, such as their occupations, interest in the project and all of the other data provided in the sampling chapter of this thesis. One of the main reasons for starting the interview with these questions was mainly to make the cases comfortable to speak with me. It is good practice "*to kick off with an easy question*", as Denscombe puts it (Denscombe, p.213, 2017). I also made sure not to ask intimidating questions early on. Questions about their age as an example were left for the end of the interview.

Furthermore, in the interview guide, the questions were loosely categorized under six key concepts. The first category focused on the "engagement" and the first impressions of each of the immersive journalism experiences. The next concepts revolved around "the role of the audience", closely related to three of the other key concepts "interaction", "active participation" and "observant". The last concept focused on questions surrounding the "storyteller". All of these concepts and the questions related to the theoretical concepts were devised by using the ideas presented in the theoretical chapter, referring to the actor-network theory and the audience conceptions as described by Lewis and Westlund (2014). I wanted to

uncover what agency was afforded to the audience and furthermore see if this agency had an effect on how the audience would react to the content. These concepts in the interview guide were not presented to the cases. This was done so that I would minimize my impact on their reflections and answers. I did not use the concepts unless they themselves used them.[9]

The interviews were all conducted in Norwegian. This was done out of convenience since it is the mother language for all of the participants in the study and myself. They were also transcribed in Norwegian.

4.6: Participation as an observer

As already established, the interviews are the main and primary source of data for this research. However, some additional data were collected through observation. While the cases were testing out the different immersive journalism experiences, I carefully made some field notes on how each one of them behaved during the different sessions. The primary reason for this was because of the interview afterwards, where I made some questions about their behaviour, asking why they responded the way they did. A secondary reason for collecting this data is that it serves as additional data material to complement the primary data for the analysis. Some observations were made that arguably can be said to bear significance as it relates to the research question of the thesis.

The notes that were made is still within the realm the qualitative data, as participant observation was the method as opposed to systematic observation. The type of participation being used was one where my identity as a researcher was openly recognised, participation as an observer, thus having the advantage of gaining informed consent, thereby avoiding ethical issues of that sort (Dencombe. p.235, 2017).

The data collected by participant observation were limited, again since this was not considered to be the primary data source. For the first low immersion desktop VR experience, "Mystery at plaza", two things were noted down. First, since this had no intended timeframe,

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[9] The full interview guide used by me during the interviews is provided as an attachment to the thesis. Here you may see many of the questions that was asked the cases. However, do note that the interviews were semi structured. Therefore unplanned questions did arise during the interview situation. These are not included in this guide.

with the possibility for exploring as long as you would like to, the time spent by each of the cases 'exploring' the virtual environment was noted. Second, the order of which they chose to explore the different interactive hotspots in the scene were also recorded. For the second immersive journalism experience, "6x9", only one thing was recorded, how they used their body to explore the virtual space. As an example, notes were made about how much they moved and if there were any significant reactions to the content or not. This was also the way observational data were collected for the last experience "Hunger in LA".

As with all other methods of data collection, there is always some disadvantages and weakness that needs to be noted. To collect data as a participant observer and to use field notes as data leads to a lack of verifiable data. Participant observation relies crucially on the researcher as an instrument of research. This does little to encourage those who would like to apply the conventional criteria for reliability to this method (Dencombe. p.235, 2017). Another distinct disadvantage with participant observation by any means is the "Hawthorne Effect". This "effect" concerns research participation, how a consequent awareness of being studied may have a possible impact on behaviour (McCambridge, Witton, Elbourne, p.227, 2014). Would the cases act in another way if I were not in the room observing them? That is a question that I cannot give a sufficient answer to since such test was not conducted. Either way, it is useful to point out, as it serves as a factor relating to the reliability of this data material. However, I will argue that such data can be useful in the way I have used it since the data can be cross-examined with the interview data, where the cases were asked questions specifically relating to the field notes.

4.7: A controlled environment

The data collection process of the research project, content testing and interviewing, were conducted at a controlled environment at Volda University College. I was fortunate enough that the staff gave me permission to use a classroom for two days straight. The classroom was organised and set up in such a way that I would have sufficient space for the room scale VR-equipment and the sensors belonging to, the HTC Vive.

The first reason for using space on Volda University College has hopefully already been established, as the project acquired resources and equipment available there. There is

furthermore another important reason for why I chose to conduct the experiment in a controlled environment, and that is in term of the reliability of the data. To the best of my ability, I wanted to avoid participant error or bias related to the way the research was conducted (Denscombe, p.144, 2010). A noisy environment could, for instance, have made an impact on the experiences of the participants, leading to participant error. On the other hand, if there where other people in the room, the cases may have responded differently, maybe giving a false response to the questions being asked. Hopefully, this was avoided by conducting the study in a controlled, silent environment where only the researcher and the case was present.

4.8: Equipment used

The equipment used in the research project may be divided into four categories, the first being the basic interview setting. This accounts for all the tools used for storing and collecting the data. The interview with the cases was recorded on two separate sound recording devices, one being a mobile phone, the Samsung Galaxy S7, and the other an iPod touch. I used two separate recording devices just for the purpose of having a backup if one of them were to fail. The sound files were afterwards backed up on a solid state hard drive and in a cloud-based service, Microsoft Onedrive. At the same time as recording, a notebook was used were handwritten notes were made during the interview. This was done in order to keep track of possible talking points to follow up on. The book was also the place I wrote down all the observations and field notes during the testing.

The second category is the equipment that was used for the first immersive journalism experience, "Mystery at Oslo plaza". Here the cases used a Lenovo ThinkPad T470s Signature Edition with an Intel Core i5-7300U CPU @ 2.60GHz and 16 gigabytes of RAM, not far from a 'typical' computer you would find in everyday homes. This first experience is not very demanding on the hardware. The most important thing about this equipment was that it would function as the everyday item it is supposed to be. For sound, a couple of iPhone earpods were used. The computer was placed on a desk where and cases sat on a regular office chair.

Picture 1: *This was the set up of the first immersive experience "mystery at Plaza". The participants sat by a regular office desk using this computer and earpods. Photo: © Bjørnar T. Sævik, 2019.*

For the "6X9" story from The Guardian, I utilised a Samsung Gear VR as the HMD. This headset does afford the user to look around in any direction in a virtual space, and it supports head tracking. However, this headset does not support full body tracking, but this is not necessary for a fish tank VR experience. Another relevant function to this VR headset is its possibility to adjust the focus distance of the lenses so that it can be tailored to suit the vision of the user. I assembled a Samsung Galaxy S7 smartphone to the Gear VR and used their own Oculus platform to launch the experience that was downloaded through The Guardians own webpage. The only problem this setup has is that it does not let me as a researcher see what the participants see. Another issue is the problem of overheating, but this did not happen while conducting the research. That is because I made sure to make the equipment cool down between each session.

For the sound, I opted for a better headset than in the first experience, in order to match the level of immersion. Here the Beats Solo3 Wireless headphones were chosen, mainly out of convenience because I own it myself. One thing that was important to ensure using these

headphones was that the right channel matched with the right ear and vice versa. In this way, it yielded a proper 360-degree soundscape. As well as in the first experience, an office chair was used for the cases to sit on. It made it possible for the participants to turn around 360 degrees, free to look in any direction they desired during the experience.

Picture 2: Here, we see the gear used for the 6x9-experience. While wearing the equipment, the cases were asked to sit in an office chair with the ability to move around. Photo: © Bjørnar T. Sævik, 2019.

The last and most immersive experience, "Hunger in LA", was also the most resource demanding part in terms of the equipment that was used. I have already mentioned it a few times, but just to be clear, the HTC Vive was the virtual reality system of choice. This VR-system, powered by SteamVR, is developed by HTC and Valve and is a complete system that lets the user experience 360-degree video feedback, surround audio, not to mention it's most important feature for this research, precise motion tracking. The headset allows for a 110° field of view and 32 sensors for precise tracking. The screen display has a resolution of 2160 x 1200 pixels, with a 90 Hz refresh rate (Vive, 2019).

One of the primary reasons for opting with this solution is because it is designed for a room-scale virtual reality experience. Room-scale motion tracking was made possible by putting up base stations in the classroom used for the project. A couple of camera tripods was used to position the HTC Vive bases stations at the right height and angle. Other than this, the headset also provided me with the possibility to monitor what the participants saw.

Another factor to the system is its two controllers, each with HD haptic feedback, making it possible better track a person's body movement. This is one of the factors that are crucial for getting towards the higher level of immersion, the "immersive systems" that Mazury & Gervatz (1996) visioned. Each of these controllers features 24 sensors for 360° one-to-one tracking that mirrors hand movements.

Picture 3: *Here, we see a fellow student[10] test out the HTC Vive. This was the equipment used for the Hunger in LA-experience. In the background, you may see the tracking sensors and the computer rig that was used for running the system. Photo: © Bjørnar T. Sævik, 2019.*

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[10] The student in the picture is there for an illustrative purpose. Hi did give his consent of being photographed and agreeing to let me use the picture in the thesis.

One of the last useful functions that made me opt for this tool is the systems built-in convenience and safety features. The headset has a guidance system which alerts the user if they approach the boundaries of the sensor area, avoiding a scenario where the cases would crash into objects or the walls.

To power this system, a computer with sufficient processing power and a VR-ready graphics card was needed. The GT73VR Titan SLI computer with a Geforce GTX 1070 SLI graphics card and an Intel Core i7-6820HK was used. This computer did manage the Hunger in LA experience that was downloaded and launched through the Steam VR platform.

For the sound, a pair of Sony MDR Studio Sound Monitor Headphones were used, mostly because these were the ones attached to the set up already. However, they did provide an immersive sound experience and were tested on me before use, as was all the equipment to ensure there was nothing wrong with either the equipment or the experiences.

4.9: Pilot study

Before I even started collecting the data, I wanted to test whether or not the method I had devised could be used for the intended purpose or if it needed tweaking. Therefore I arranged a small, and a bit informal pilot study. As Denscombe puts it, "*No matter how much time and effort a researcher puts into devising a good data collection tool, there is no real substitute for trying it out 'in the field' with real participants*" (Denscombe, p.181, 2017). I wanted to test two things in particular. First, I wanted to try out my interview guide, to see whether or not the questions would yield data relevant to my research question and the aim of the study. The other reason for doing such a 'test' is because I wanted to become more able to predict and troubleshoot any technical challenges that may have risen from the equipment.

This pilot study was arranged one month ahead of the real and final data gathering. This way, I would have sufficient time if something would need to be accounted for. For the units of the pilot study, I had the help of students at Volda University College, taking the course "Web Documentary". The staff in charge of the course was gracious enough to let me use two hours during one of their sessions, where students were asked if they would like to help to answer questions and to test the immersive journalism experiences. They were also given the option

not to participate and told that it would not have any consequence whatsoever if they chose not to. Despite this, all the students in the class wanted to lend a hand in the name of research. So that it would not take to long, I had people try multiple experiences at the same time, so that nobody would get bored. Three of the students took their time to answer my questions after testing the experiences.

When it comes to the first point of this test, seeing if the interview guide would serve its purpose, I quickly came to the conclusion that I would need to have a lot more questions. It also became clear that some of the questions were maybe to narrow, not giving enough room and space for reflection from the side of the interviewee. Nonetheless, the data that was produced in many ways usable in terms of the aim and research question.

In terms of the other goal of the pilot study, testing the technology, I also learned a couple of things. First of all, it became a bit chaotic, having multiple people testing immersive journalism at the same time across different platforms. So that was the first lesson. One should do the testing one at a time to ensure no interference. In other words, this led me to choose one on one interview as opposed to a focus group, for instance. Another lesson I learnt from this pilot session was that for the most immersive setup, using the HTC Vive, a lot more space would be needed than were available at the current place of the computer and the headset, meaning that the whole setup would need to be moved to another location. While on the topic of the HTC Vive, I also learned that a first time user probably would need some basic guidance on how to safely use VR. For instance, there is an attached cable that connects to the HTC-Vive, one that may be easy to stumble in I not paying attention to it. Other than this, the technology worked fine during the testing.

One last thing that I learnt from the pilot study was that I would need to plan for some extra time between each interview session, resetting the equipment for the next test. This included charging batteries for the mobile phone used in the Samsung Gear VR for the "Fishtank VR" experience "6X9" story. This was to ensure that I would have no failure due to battery drainage during the testing.

4.10: Doing the research

The data collection process was conducted over two days, not counting the day that was used to prepare the room and equipment needed for the data collection. During the first day, five of the cases tested the immersive journalism experiences and were interviewed. On day two, the remaining three cases participated in the study.

On the first day, the interviews were conducted at the following times of the day: 10:00-, 12:00-, 14:00-, 16:00- and 17:30 o'clock. On day two, they were conducted at 10:00-. 12:00 and 16:00 o'clock. The participants got to choose what time of the day that suited their schedule the best, luckily for logistics of the project everyone had different preferences regarding the time of participation, making it easier to plan. Each session lasted differently, as some interviews were longer than others. From the shortest to the longest, this is how long the interviews lasted measured in minutes and seconds: 22:03, 23:58, 24:59, 26:39, 32:56, 34:11, 39:30 and 42:31. After the interview, I also made time for a debriefing, talking about the research question that was not revealed to them before finishing the interview. This 'debrief' also lasted differently from case to case. What was similar was how long it took for the content testing, since two of the experiences had a specific duration. Each session lasted for approximately 1 hour and 30 minutes on average. I did not record the total time for each session, the overall duration is purely an estimate made by me.

The session started with a formal greeting before the cases were invited to sit down by a table. Here they were presented with a two-page long privacy policy declaration document containing all necessary information about the project, its aims, methods of data collection and their rights in accordance with GDPR regulations. This document was also sent to them by mail or text message a week in advance, and all of them could report that they had been reading through the document. They were asked if whether or not there was anything unclear about their own participation, with there were none whatsoever. Everybody then signed off to the privacy policy declaration, thereby giving informed consent to participate in the study as outlined in that particular document.

The first point of order was for the participant to test the three immersive journalism experiences. This was all done in the same order for all three test subjects. In retrospect, I will say that I regret not varying the order of the experiences because what experience was shown first may have affected how they saw the other. Nevertheless, I do not see this as too problematic either, after all, my intention was always for them to compare the experiences to each other.

The low immersion level desktop VR-story "mystery at plaza" was shown first. The cases were asked to sit by a desk and explore the experience for as long as they desired until they themselves felt they were done. They were given earpods in order for them to listen to the audio if they desired. During their testing, notes were taken by me relating to their choices and exploration of the piece.

When they felt finished with the first story, the participants were asked to sit in an office chair in the middle of the floor with functional space around them. I then presented them with the Samsung Gear VR-headset, giving them a brief rundown of how the system worked, as they had to navigate the menu, launching the experience using the touchpad on the side of the headset. Before putting on the headset, the participants were reminded about the possibility of cyber-sickness. As already shown in the literature review, VR-experiences and immersive technologies have shown to cause physical discomfort to users, not unlike motion sickness (Hardee & McMahan, 2017). The users were told that if they were to feel uncomfortable or sick during the experience that they should abort the experience, and that they could abort the participation at any time if they so desired. Luckily, no one of the cases chose to abort, and nobody reported any significant discomfort resulting from the experience. Some of the subjects reported a slight dizziness, but nothing too severe. One of the participants also felt that some eye strain as the person could not use her/his glasses during the experience, stressing the eyes slightly. As for the headphones, they were adjusted so the volume did not go over the recommended safe limit of 85 dB. The participants were also asked not to adjust the volume over this limit for their own well being. When everything was set the light in the room was turned off in order to prevent light leaks disturbing the field of view of the goggles. The subjects were free to rotate and look in whatever direction they desired, not receiving any

instructions on my behalf. As with the first experience, I took notes of how the cases behaved while being in the experience.

After they were done with the second experience, they were offered a glass of water and given time to rest before testing the last immersive journalism experience, "Hunger in LA". When the cases felt ready, they were asked to stand in the middle of the room. I then assisted them in putting on the HTC Vive headset and the earphones. They were then given the two hand controllers. Before launching the experience, the cases were prompted to try to walk around in a virtual, neutral space to get a feel of the technology and getting used to the cable on their back. When they felt comfortable with the headset, the final experience was launched. Once again, they explored the experience as desired, and I took notes, observing their behaviour.

When all the testing was done, we sat down and conducted the interview. As I did after the second experiment, the participants were offered water.

The reason for having the subjects test all the experience before being interviewed was done in order to not give away any of the interview questions before they were done. I feared that doing so would affect other experiences. In knowing the questions, the cases might, for instance, have started looking for answers and thinking about how to respond while experiencing the stories. This could maybe have disrupted the natural way in how they would perceive the content. That was a chance I was not willing to take.

4.10.1: Some minor technical problems

It is nice to report that there were only some minor technical difficulties during the sessions. I experienced a systems failure on the HTC Vive two times during the actual testing with the cases this was, though, not during any of the immersive journalism experience. Once the computer crashed just before launching the experience, and a reset was necessary. The other time it happened was three seconds before the end of the experience, so hopefully, this had no effect on the overall user experience.

As there were no significant problems during the sessions with the cases, this can, however, not be said about the time before and in between the testing. Both mornings before starting the sessions, I experience multiple system failures and some difficulties syncing up the base stations. Luckily everything worked when it was supposed to.

4.11: Data - coding and analysing

After finishing all the research sessions and interviews, the primary raw data I was left with, were audio recordings and field notes. The first point of order was the timely task to transcribe these interviews, making the audio into text so that it would be possible to code and analyse. A regular computer and the primary audio recording device was used for this process. The data was transcribed in Nynorsk (New Norwegian), but in the results, part of the thesis citations have been translated into English. You may verify my translations by looking in the footnotes were the original stations transcribed in Norwegian are provided.

To the best of my abilities, the interviews were transcribed exactly how the interviewees said it, not leaving any words out. But as said by Denscombe (2017) "*People do not always speak in nice fine sentences*". In multiple cases, the transcribed answers lacked proper structure. People did not always finish their sentences, and so on. Therefore, some normalisation of the transcribed data was needed. By this I mean reconstructing the transcribed text to a minor degree, so that it would make sense in a written form, making it a bit more intelligible. An example of this process included putting in punctuation where needed and leaving out unnecessary vowels made as people were thinking in between answering. Other than that, I would like to ensure the reader of this thesis that the citations are accurate.

The end result of this process resulted in a 42-page document, where all the different transcripts were indexed and organised for easy access for the next process, the coding.

4.11.1: A grounded theory approach

One of the approaches primarily associated with the analysis of interview transcripts is the grounded theory approach. In short terms, this way of analysing text using a constant comparative method, involving a gradual coding and categorising of the data (Denscombe, p.314, 2017).

The first step in this process involved carefully exploring the data, reading through the transcript in order to refresh my memory of all that was said during the interviews. When I felt I had a sufficient overview, I began the process of coding the text. For unitising the data, I went for sentences and paragraphs as my coding units. I coded larger paragraphs only where multiple sentences in a sequence addressed a similar issue, implied meaning or sentiment. All the codes derived from meanings, sentiment and issues pointed out by the cases during the interviews. All the interviews were coded separately at this stage.

Furthermore, each interview was coded into three sections. The first codes involved the low immersion experience "Mystery at Plaza". The second chunk of codes revolved around the second experience "6X9" and the last section was naturally based on the interviewee's thoughts about the last immersive journalism experience, "Hunger in LA". Each specific code was given its own colour. This colour was then used to 'tag' sentences and paragraphs in a copy of the transcribed document, which was done in order to easier navigate the data afterwards. This was necessary since the initial coding process revealed 299 codes, all interviews combined.

When all the interviews were coded, I moved on to the third stage, categorising the codes. All the data from each of the interviews were brought together, still separated according to which of the experiences they belonged to. The 299 codes were divided into multiple categories, classifying various components for the data under key headings. This resulted in a total number of 32 categories in total, pieced together by eight categories related to the "Mystery at Plaza", 12 from "6x9" and 12 derived from "Hunger in LA". At this point in time, the number and codes and categorise were considered by me too many to be useful for a meaningful analysis. Therefore I made an effort in trying to reduce the number of categories by merging the ones which could be considered to have sufficient congruence between each other. In the end, this was not enough either, so then it was up to me to decide which part of the data was more important. This was done first and foremost by looking on how the data categories related them self to the research question or to the theories from which the research question has been based upon. The literature review was also important in this endeavour since some of the data collected traced back to theories and empirical evidence presented by

other scholars. Although it would serve as useful data for validating their findings, it is not as important in terms of the research question for this thesis. As an example, one of the categories related to the 6x9-experience that was left out was a category about "embodiment". First, only one of the cases brought this up. This is also a concept already known in immersive journalism research as body ownership (de la Peña et al., 2010).

After making my final decision, I ended up with a total of 21 categories in total. For the "Mystery at Plaza" they were as follows: (1) engagement and emotions, (2) gamification, (3) control and interaction, (4) dramaturgy, (5) audience role and (6) the storyteller.

For "6x9" the categories are (1) presence, (2) dramaturgy, (3) role of the audience, (4) emotions, (5) control and interaction, (6) urge to interact and (7) the storyteller.

For the last experience "Hunger in LA" they are (1) presence, (2) dramaturgy, (3) role of the audience, (4) emotions and engagement, (5) control and interaction, (6) urge to interact, (7) storyteller and (8) gamification.

These categories are presented in three sections in the result chapter of the thesis and serve as a basis for the final discussion, along with the theories presented in the theory chapter.

4.11.2: The data from the participant observation

As mentioned earlier on, some data was gathered as a participant observer while the cases tested the different immersive experiences. This data is by me considered to be secondary data meant to complement the main data derived from the interviews. This implies that the amount of data gathered from this method did not yield quantities as extensive as the actual semi-structured interviews. This data consisted solely on field notes. Since not having quite the large amount of data I have chosen to present the findings from this method as raw data directly derived from the field notes. They have been given their own chapter in the result section of the thesis.

4.12: Credibility and dependability

On should always consider the research project's validity and reliability, but since this is qualitative research we are dealing with, the criteria surrounding the two concepts conventionally used for quantitative research are not as applicable. Therefor Denscombe (2017) argues that it is much more feasible to instead talk about credibility and dependability when it comes to projects utilising non-numerical data (Denscombe, p. 326, 2017).

The way I have tried to ensure the credibility of this project revolves around two things. First of all, the conclusions and results presented in this thesis are grounded in extensive data conducted from interviews and participants observation. I have also included chunks of raw data in the result section, such as by situations, providing a solid foundation for the conclusions I make, where readers are also free to examine key data themselves. Trough the quite extensive literature review I have also tried to achieve some triangulation, using other researchers data so show that my findings are on the right lines in terms of what is already known.

How I have tried to show dependability in this project, is through demonstrating how my research reflects procedures and decisions I have made. To the best of my ability, I have made an effort in providing detailed descriptions of all the choices that have been made during my work, including explicit accounts of the methods, data collection process and analysis. My process is open for audit.

5: Ethics and objectivity

Before presenting you with the findings of the study, it is only fair that we first go over some of the ethical questions that this research project needs to answer.

5.1: Researcher integrity

Most codes of ethics require the researcher to act professionally in the peruse of answers. There are especially put a lot of emphasis on the researcher to be independent (Denscombe, p.62, 2010). As it relates to this study, one key aspect to mention is that I have not gotten any

funding for the research. The costs associated with the project has been covered by my own money/salary and time. I believe that this, to a large degree, ensures the project's independence. It at least does not raise major suspicion about whether or not the results are biased towards any third part in a favourable way. One hope that this goes without saying, but the methods used in this research are not designed to produce a misleading result. It is wholly based on the research question and how to execute the study in a feasible way. Furthermore, I do want to assure the readers of complete honesty in documenting my work, methods and findings.

5.2: Some secrecy surrounding the research question

From the get-go of the research project, I as a researcher have been honest and open towards possible participants and the cases them self. Through the whole process, it has been a goal for me to be as open about my intentions of the research as possible. However, there is one part of the study that required a small level of deception through secrecy on my behalf. Although the overall aim of the study was disclosed to the participating cases, I did not disclose the research question in itself to them before or during the content testing and the interview. The logic, here, is that if I told participants exactly what I was looking for, their response might have been altered from normal.

One could reflect on this problem by stating that most codes of ethics do offer some form of 'get out' clause relating to this manner, allowing some form of minor deception on occasions. This, however, warrants an explicit justification. I will justify not revealing the research question since this could alter my data. The cases would perhaps have answered differently, maybe even in a way they thought would be preferable to me as a researcher. Data accuracy is a crucial step, and one should make an effort getting rid of factors that would introduce any bias in the data collection process (Denscombe, p.63, 2010).

Another way in which I believe my minor deception is justified is that after the research interview and the cases involvement was over I set of time for a debriefing in which I explained the real research question of the study to the participants. I thus left them fully informed about every aspect of the research project upon leaving the classroom. Contact details for myself were also provided to the should they have any questions afterwards.

Of course, this does not override the general premise that one should not engage in deception and was therefore used with ultimate care, and I believe that it is justified in this thesis.

5.3: Protecting the interests of the participants - cyber sickness a possible dilemma

One should always be sensitive to the likely impact a research project may have on its participants. Codes of ethics proclaim that it is a researchers duty to minimise the prospects of research having an adverse influence on people being involved. Martyn Denscombe says it well in his book "Ground rules for social research": "*Participants should not be adversely affected as a consequence of engaging in the research*" (Denscombe, p.63, 2010).

As it relates to this research project, I believe there to be multiple talking points when it comes to this. The first of them is that I did subject people to virtual reality experiences. As a researcher, one should not cause pain, harm or distress to its participants, and there is a duty to try to foresee any aspects of involvement that may cause physical or mental stress (Denscombe, p.64, 2010). When it comes to virtual reality, this becomes an interesting issue as shown in the research on the field of immersive journalism and in the literature review of the thesis, researcher such as Hardee & McMahan (2017) note several cases where immersive technologies influence the emotional state of its users. They also report of VR-experiences and immersive technologies, causing physical discomfort to users, not unlike motion sickness (Hardee & McMahan, 2017). In other words, virtual reality systems have the ability to cause some stress, both physically and mentally. Then the question becomes: How may I then subject people to experiences that may have such an effect. Is it ethical to do this at all? For me, the answer became yes, but to ensure that I would not cause harm to my volunteers in any way some precautions were taken.

The first of the steps taken to prevent any ethical issues relating to this was through giving adequate information. When the cases first made contact, they were all provided with information about the possible effects of using virtual reality. This was also something all the participants signed off on before testing the different VR-systems. Another crucial step was

to afford the cases the possibility to withdraw from the experience at any time if they felt uncomfortable. I made sure to inform them of this possibility multiple times while testing. All this being said, this is technology created for the consumer market, and it is not considered dangerous to use, especially if you take necessary precautions, such as not using it over an extended amount of time and to take regular breaks.

One more decision that was made in order not to cause any discomfort or harm to the subjects was through preparing the headphones and sound setting for the experiences. Based on a report conducted by the Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR) the European Union has suggested a sound protection limit of 85 decibels (dB) to prevent damage to ears (SCENIHR, 2018). For safety reasons, I choose to follow these regulations. The cases were also asked not to turn up the volume unless they wanted to do it at their own risk.

To sum up, the ethical questions related to the use of VR-reality systems and audio listening devices, I believe that the methods used are in line with what could be considered a good ethical practice.

5.4: Anonymity and confidentiality of data

It is both usual and considered a good practice to avoid publishing reports of research that identifies individuals by name or role (Denscombe, p.65, 2010). I have chosen to anonymise the individuals to a certain degree. I do not use the names for any of the cases and has opted for pseudonyms such as individual 1, individual 2 an so on. This is considered to be one of the most standard ways of anonymising data. I do not believe that the full identity of the cases is necessary for the validity of data in this particular project, however, I do disclose some details found to be important in terms of saying something about the sample. One example is that I have reported how many males and how many females participated. I do identify the different ages of all the cases, and I also say something about their occupation. None of these details is however connected to the any of the pseudonyms. The reason to include details is because of external validity. I still want the readers and other researchers to be able to see traits off the people represented in the sample, making it easier to conduct similar research if one wants to build further upon what has been conducted in this thesis.

Since the data collection process, the data such as the audio recordings have only been accessible by me. This is because I gave the subjects insurances that the data would be accessible exclusively for myself and supervisors of the thesis. Therefore storing the data securely has been an important priority. The data has been stored on solid state disk drives as backup and has been worked on in cloud services such as Microsoft OneDrive and Google docs, whereas all of these locations are password protected. Google Docs, is the place where I have kept and worked on the content, including the transcribed and coded documents. This has provided with two-step verification protection, making it very difficult to access by any other than me. The data has not and will not be used for any other means than for this research project.

5.5: Informed consent

One can not talk about ethics without mentioning one of the core principles of ethics in research, informed consent. As mentioned earlier in the chapter, every one of the cases for this research project was given a document of which they were asked to read and sign. They also were given information from me verbally upon arriving for the testing and interviewing. The document of which I am talking about is a two page document were the following points were included, as suggested by (Denscombe, p. 69, 2010): (1) The purpose of the study, (2) the identity of the researcher, (3) the basis on why the participants were selected, (4) what participation entailed, (5) approximately how much time it would require from the participants, (6) the purpose of which the data would be used, (7) the means for ensuring the security of data storage, (7) the extent of anonymity and confidentiality of the data, (8) the voluntary nature of participation with a right to withdraw at any time, (9) a section informing the participants to their rights according to The General Data Protection Regulation.[11] As mentioned earlier, I also included a section about the possibility of cyber sickness as a result of using virtual reality systems. At the bottom of the last page, a blank line was left for the participants to sign their name and the date. Here there was also a box they needed to check to declare their consent to taking part in the research.

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[11] A copy of the consent document is provided as an attachment to the theis. You may here examine the same information given two the participants. As well this also does include their rights according to the General Data Protection Regulation.

The reason for getting informed consent is because it is one of the most fundamental rights to any participant in research. It is crucial that all pertinent aspects of what is to occur, not to mention what might occur, are disclosed to people taking part in the research. It is also imperative that the subjects are able to comprehend the information given, and ensuring that they are competent to make a rational and mature judgement. Lastly, it shall be completely voluntary and free from coercion and undue influence (Denscombe, p.67, 2010).

6: Results from the research interviews

In this following chapter, I will be presenting the results that revealed themselves while coding and analysing the data collected during the research sessions. First, I will start by presenting the results derived from the research interviews. Then in the next chapter, I will move on looking at the participant observations made. For the first part, the interviews, I will present them in three data groups. I will give you the concepts and data gathered from the "Mystery at Plaza" immersive project first, followed in order by "6x9" and then "Hunger in LA". In chapter 8, the discussion, I will look at the results and discuss them in light of the research question and the theoretical framework.

6.1: Mystery at Plaza

While analysing the data gathered focusing on the immersive journalism experience "Mystery at Plaza" it revealed six different concepts relevant to the research question;(1) engagement and emotions, (2) gamification, (3) control and interaction, (4) dramaturgy, (5) audience role and (6) the storyteller. We shall look at them individually.

6.1.1: Engagement and emotions

"Mystery at Plaza engaged med mostly because of my curiosity surrounding the information. I was curious about the hidden information." Individual 7 [12]

One of the first things evident in the interview data was the cases talking about their engagement and emotions connected to the experience. Seven of them in one way or another

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[12] "Mysteriet på Plaza engasjerte meg mest ut ifrå eit informasjonsnysgjerrigheit-standpunkt, eg var nysgjerrig på kva informasjon som skjulte seg." Original citation in Norwegian.

had something to say in terms of this. Four of the individuals expressed a notion of how the story sparked their curiosity, similar to that of individual 7. One also pointed out that this was an *"exciting way of storytelling"*. That being said, three of the individuals found them self on quite a different scale, expressing that it was "*relatively boring to watch*" as pointed out by individual 8, or as individual 6 put it:

"It could have been exciting, but it was not. I am one of those who need information quickly. I explored the room by the clickable bubbles and was finished reading them before the storyteller's voice was halfway. I really just lost the interest" Individual 6 [13]

While explaining what made the story boring individual 8 pointed to how the experience was "*just not very immersive*". Interestingly enough, reinforcing that the intended level of immersion actually was perceived by at least one of the cases.

6.1.2: Gamification

"It is kinda weird that this actually is about a real person, and that they have made a game out of it." Individual 1. [14]

While talking about the experience, four of the interview subjects made an interesting comparison to computer games. Someone of them, like individual 1, actually called the experience just that, "*a game*". Others were not quite as direct.

"It is like you're in a game, a 'point and click' game. You are placed in the story and asked to click on things." Individual 3[15]

Individual 2 gave us a point of reference as well as to what type of games she/he would compare this particular experience too.

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[13] *"Dette kunne vore litt spanande, men so var det ikkje det. Eg er ein av dei som treng informasjon fort, så eg kika meg litt rundt i rommet og klikka på dei ulike boblene, so var eg ferdig å lese dei før forteljarstemma var halvvegs i å lese det. Eg mista rett og slett interessa"* Original language
[14] *"Det er no litt rart at dette faktisk handlar om ein ekte person, også gjer ein det om til eit spel"* Original language.
[15] "Det er som om du er i eit spel, eit klikk og peik-spel. Ein blir plassert i historia og beden om å klikke på noko". Original language.

"I am a big fan of the MYST-universe, which is a 'point and click' game about challenges in the puzzle world. (...) As you saw, I clicked on everything, because this is something I am used to in MYST." Individual 2. [16]

The last individual comparing this to a game, individual 8, also raised the point again about the immersion of the piece.

"It is less immersive than a regular computer game, even though you have the ability to look around. In a shooter game, for instance, you kinda block out everything else, and you see only the screen". Individual 8. [17]

6.1.3: Control and interactions - Like a museum

One of the concepts/categories that yielded extensive results in its amount of codes connected to it was the one I have chosen to label "control and interactions". All the cases had something to say about what control was afforded to them and how the story was interactive.

"It is almost like a museum, where I am looking around and finding information about things". Individual 3. [18]

There seemed to be a somewhat great consensus among the participants of the study that "Mystery at Plaza" was an experience that afforded them self-selection of some sort when it came to the information presented to them.

"In the first experience there was little information handed to me, I had to find it myself. (...) I am the one controlling what I want to see, and what I do not want to see".[19] Individual 4.

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[16] "Eg er stor tilhengar av MYST-universet som er eit sånt peik og klikk spel, som handlar om utfordringar i puzzel-verda (...) Som du såg, eg klikka på alt, fordi eg er vand med det i MYST." Original language.

[17] "Det er mindre immersive enn eit normalt dataspel, sjølv om ein kan sjå seg rundt. Når ein spelar skytespel derimot blir det ofte slik at ein sperra ut alt anna, og ein ser nesten berre skjermen." Original language.

[18] "Det er nesten som eit museum, der ein kikar seg rundt og finn informasjon om ting." Original language

[19] "I den fyrste var der lite informasjon som vart gitt til meg. Eg måtte finne den på eiga hand. (...) Eg kontrollerar sjølv kva eg skal sjå og kva eg ikkje vil sjå." Original language.

"There is a lot of information in this one, so to be able to go in for yourself, explore on your own and make up your mind has potential." Individual 2[20]

While it becomes clear that the cases in this particular setting felt some control of exactly what they saw, individual 7 also pointed out that he/herself had the *"freedom and time to explore, and piece together the pieces at my own tempo"* thereby controlling the flow of information as well as the selection. Another way in which this was evident is how individual 6 pointed out that she/he stopped the experience before having explored all the elements in the story.

"I lost my interest in the story, so I stopped exploring. I could have sought more information if I desired to, but I did not."[21] Individual 6.

When asked the question about what it was that gave them the 'control' the there also there seemed to be a general agreement amongst the participants. Cases such as individual 1 pointed out that it was "*the urge to solve the crime riddle*" that made him/her explore the environment and the interactive bubbles. Individual 5 and others also pointed to the interactive elements in the scene. *"All the points I could click on sparked my curiosity"*. Individual 5.[22] Individual 8 pointed out that it was the "cursor" that afforded him/her some control over what he/she saw. *"It was like a very fancy Wikipedia."*[23] individual 8 said.

This individual also pointed out that though there is a high degree of control in this experience, there are still *"objects that are not interactive"* in the scene.

6.1.4: Dramaturgy - you choose

Continuing down a similar path, we find the next concept reflected upon by all except one of the cases, and that is dramaturgy. Six of the cases, in one way or another, seemed to agree

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[20] "Her er veldig mykje informasjon i denne. Så det å kunne gå inn litt sjølv, forske på eiga hand og gjere seg opp meiningar på den måten, har potensial." Original language.
[21] "Eg mista interessa i historia så eg stoppa med utforskinga. Eg kunne ha søkte etter meir informasjon om eg ønskja det, men det gjorde eg ikkje." Original language.
[22] "Det pirra jo litt nysgjerrigheita med alle dei forskjellige punkta ein kan trykke på". Original language.
[23] "Det var som ein veldig fancy Wikipedia" Original language.

that there was a lack of any clear build up and pay off in the story. As individual 1 put it *"the story never moves on"*. If present, the dramaturgy rather seems like something that the user choose them self.

"I feel that the start, main part, and the end is entirely dependent on how I myself choose to look at it" Individual 4.[24]

"There was no dramaturgy, but there was no need for it either in my opinion".[25] Individual 7.

Similar views were also expressed by individual 2, 5 and 6. Individual 3 roses questions and wondered whether or not he/she explored the content in an intended manner.

"I asked myself, in what order should I click on this? That is a difficult thing to know. Is it intended for me to look at one thing before the other?" Individual 3.[26]

6.1.5: The role of the audience - Being a detective

"I kinda became a detective in "Mystery at Plaza" or maybe an investigative journalist".[27] Individual 2.

Along with individual 2, four of the other cases could report that they took on a role of some sort of 'investigator' or an "*observer of a crime scene*" as individual 4 put it. In other words, five of the cases felt they took on a role other than themselves while experiencing this particular project. One, individual 6, was a bit vaguer in her/his statement, claiming to have *"a role where I may choose and explore"*. The last individual who had something to say in this matter was individual 8. This person meant that his/her role was being a *"computer user looking and interacting with the elements on the screen"*.

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[24] "Eg føler starten, hovuddelen og slutten avhenger heilt av kva ein vel å sjå på sjølv". Original language.

[25] "Der var ikkje noko dramaturgi, men det var eigentleg ingen behov for det, etter mi meining". Original language.

[26] "Eg spurte meg sjølv, kva rekkjefølgje bør eg klikke på dette? Det er litt vanskeleg vite. Er det meininga at eg skal sjå denne før den?" Original language.

[27] "I "Mysteriet på Plaza" vart eg på ein måte ein etterforskar, eller kanskje ein gravejournalist." Original language.

6.1.6: What drove the story and who told it

The last of the six concepts of relevance talked about in the interviews was the driving factor in the story, and whether or not there was a clear presence of a storyteller. Here I believe that individual 6 may serve us with a representative quote in terms of the driving factor since every single one of them pointed to *"curiosity"* as a vital element.

"I was interested in finding clues in order to try to solve the mystery. I asked myself, are here any clues or hidden details?"[28] Individual 6.

In terms of there being a clear storyteller in the story, only three of the cases pointed towards there being such, one of them being individual 7.

"In this story, it is a journalist who has set up a map of knowledge for me to explore."[29] Individual 7.

6.2: Results related to the 6x9-experience

Now that we know the results from the first immersive experience, it is time for us to move on with the next level of immersion and take on the interviewees experience with The Guardian's "6x9" project. The coding and analysis of the answers related to this experience resulted in seven categories/concepts (1) presence, (2) dramaturgy, (3) role of the audience, (4) emotions, (5) control and interaction, (6) urge to interact and (7) the storyteller. These categories are in many ways similar to the concepts addressed in the previous experience as well. Once again, these will be presented one by one.

6.2.1: Presence

"I felt like I was sitting in the cell, looking around at the walls."[30] Individual 6.

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[28] "Eg var interessert i å finne ledetrådar for å løyse mysteriet. Eg lurte på om her kunne vere nokre spor eller skjulte detaljar" Original language.
[29] "I denne historia er her ein journalist som har sett opp eit kart av kunnskap som eg kan utforske". Original language.
[30] "Eg følte at eg sat i cella, og kikka rundt på veggane som var der." Original language.

Judging from the literature review and theories presented by both McRoberts (2017) and de la Peña (2010), it should come as no surprise that a sense of presence and place illusion would be evident as the level of immersion was increased. And so it did. One trait to the "6x9" experience that all eight cases pointed out early on in the interview process was the sense of being in the cell projected by the HMD.

"One strange thing about the one in solitary confinement was that I felt that I could smell the nasty toilet standing in the room. It is probably just a fragment of my imagination, but it felt like I was smelling that nasty toilet smell." Individual 1.[31]

" I think this is the only way one can give people who never been in solitary confinement a small glimpse of how it is actually like, much more than you can by using text and other media. But of course, this is just nine minutes. They can be there for years." Individual 1. [32]

" It kinda felt real and that I was locked in the room." Individual 8.[33]

All cases had answers resembling the two just given. Individual 3 also explained a bit further what this "*sense of being there*" did for the story.

"It feels like I am a part of the story because you are placed there like a character. Also, when I look one way things are happening. When I look in a direction, I hear sounds coming from there. It feels more like I am taking part in the storytelling." Individual 3. [34]

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[31] "Ein ting som var litt rart med den på isolatet var at eg følte at kjende lukta av doen som stod der og var så ekkel. Det er sikkert berre noko eg innbiller meg, men eg følte at eg lukta den der ekle dolukta." Original language.

[32] "Eg trur dette er den einaste måten ein kan få folk som aldri har sete på isolat til å kjenne litt på korleis det er, mykje meir enn kva ein kan gjere med tekst eller noko anna medium. Men sjølvsagt, dette er berre ni minutt og dei er der kanskje fleire år." Original language.

[33] "Det kjennast liksom ut som at det var realistisk og at eg var innestengt (...)" Original language.

[34] "Det er som om ein er med i handlinga fordi ein blir plassert inn der som ein slags karakter, og også fordi eg ser ein veg så skjer det noko. Nå eg ser ei retning høyrer eg lyden derifrå. Det kjennast mykje meir som eg er med i historieforteljinga." Original language.

As with the first experience, one aspect that was put a lot of emphasis on by the case was how the story was presented to them. In comparison to "Mystery at Plaza" however, a clear dramaturgy becomes much more prominent in "6x9".

"The story in the Samsung Gear VR is more like journalism, where you sit still, and the impressions come to you without yourself needing to engage or participate so much." Individual 5. [35]

A couple of the participants, individual 1 and 6, actually used the same term in describing the story, presenting it as something being "*served*" to them, having a clear beginning and end. Others like individual 3,4 and 7 compared it to watching a movie or a documentary.

"Number two feels like very structured storytelling, almost like a movie in 3D." Individual 7. [36]

" It is like a documentary in a way. It is built up like a story that goes from A to B, not entirely, but yeah. (...) I think the experience is much more conspicuous in that it is telling a story." Individual 3. [37]

Individual 8 pointed out that for her/him that, compared to the other stories, this was much more distinct in it terms of its runtime. He/she pointed to the fact that the time was running out and that the whole experience felt like it was "*on a clock*", evident already at the start were text told the person how long he/she would be 'in the cell' (nine minutes).

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[35] "Historia i Samsung Gear VR-en er meir som journalistikk der du sit stille og inntrykka kjem til deg utan at ein sjølv skal drive å engasjere eller delta so mykje." Original language.
[36] "Nummer to fungerar som ein veldig strukturert historieforteljing. Nærast som ein film i 3D." Original language.
[37] "Den er litt dokumentarfilm-aktig. Der er det meir lagt opp ei historie som går frå A til Å, ikkje heilt slik, men ja.(...) Eg tenker den er mykje meir tydeleg på å fortelle ei historie." Original language.

6.2.3: Role of the audience- Being a prisoner

"The first thing that happened was that I started to think, what would I have done if I was here. First I looked at the paper and taught, maybe I could have made an animation movie. If the paper was alright, maybe I also could have used the toilet roll, but that should probably be used for something else. (...) I was a prisoner." Individual 2. [38]

Similar to that of individual 2, participants felt like they took on the role of being an actual inmate in the cell. Six of the interviewees reported this in one way or another. The remaining two described that they felt like observers invited into the cell, where they were told a story.

"In number two, I was an outside observer, detached from the world." Individual 7. [39]

6.2.4: Emotions

Same as with presence, emotional responses as suggested by Hardee & McMahan (2017) was to be expected as the level of immersion was increased.

"6x9 had an effect. One actually feel a little bit claustrophobic and some discomfort sitting there." Individual 2.[40]

The word claustrophobic was not a word used by only individual 2. I note several other mentionings of the words in the interviews relating to the "6x9" experience. Several of the cases called the experience "*emotionally intense*" as well as "*exiting*". One of them, individual 5, also went as long as to suggest that it was the emotions that drove the story forward.

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[38] "Eg byrja med ein gong å lure på kva eg ville ha funne på. Fyrst såg eg papir og tenkte, ja, eg kan jo lage ein liten animasjon då kanskje. Om der er ok papir, kanskje eg kan bruke dorullen også, men igjen, kanskje den må brukast til noko anna.(...) Eg var ein fange." Original language.

[39] "I nummer to var eg ein utanforståande observatør, adskilt frå verda." Original language.

[40] "6x9 var effektfull. Ein følar faktisk litt på klaustrofobien og ubehaget av å sitte der." Original language.

"I had some capabilities. When I turned around, they talked about different things. In other words, I did have some choices, but at the same time, there still is the director or producer who has already made those choices for us." Individual 3.[41]

Reflecting around the affordance of control in the experience, there seemed to be a general agreement among the cases that the second experience did not offer as much control or interaction.

"Experience number two was the one where I had the least amount of control. The only thing I could do was to turn my head. Other than that, I was really just guided around like a puppet on strings. There were no mechanisms that gave me choices." Individual 7.[42]

"In 6x9, I was passive."[43] Individual 6.

However, several of them did recognise that there were some interactions possible from their behalf. Individual 4 explained that she/he was able to interact with some objects by looking at them, and thereby triggering a pre-recorded message about an object. But as pointed out by a couple of the interviewees, this was not a mechanism they quite understood before after a while.

This brings us to some other interesting reflections made about the audience control in this particular piece. Individual 2, 3, 7 and 8 all had one common concern about the piece.

"Some of the elements faded away. If that was to supposed to happen, or it was because I was too slow to turn around, I do not know. That is maybe one of the pitfalls with VR that we turn

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[41] "Eg hadde nokre moglegheiter. Då eg snudde meg vekk, prata dei om andre ting. Med andre ord ein kan gjere nokre val der, men samtidig har på ein måte regissøren og produsenten på førehand tatt vala for oss." Original language.

[42] "Nummer to var den eg følte eg hadde mint kontroll. Einaste eg kunne gjere var å snu på hovudet. Elles vart eg ført rundt som ei nikkedukke eigentleg. Det var ingen mekanismer som gav meg val." Original language.

[43] "I 6x9 var eg passiv." Original language.

in the wrong direction and miss what we are supposed to see. Since I have seen this experience only one time, I do not know if I missed something in the story, and I kinda ended up with a notion of not having finished reading all the text." Individual 3. [44]

Individual 7 was even more determined in that he/she had missed important elements of the story because she/he was looking in the wrong direction.

6.2.6: The urge to interact

One category that does become much more evident in "Hunger in LA", as we shall see in a while, is a concept I have labelled "urge to interact". However, this was not something found in just the last experience. In fact, three of the cases, individual 2,5,6, did express some urge to interact also in the 6x9-experience.

"I liked the simple form of activity were you had interactive hotspots that started and stopped when you looked at them. (...) It probably would have contributed even more if I could have moved around, really seeing how small it was there." Individual 2. [45]

6.2.7: The storyteller - Who was it really?

The last category for the 6x9-experience revolves around how the interviewees perceived the storyteller in the experience. All of the eight participants did agree in terms of there being someone telling a story. However, as they were asked who this storyteller was, some mixed responses were given. Individual 1, 2 and 3 seemed to agree that a journalist was orchestrating it all. Individual 4 meant the storyteller to be both prisoners and prisoner guards. Individual 5 and 6 rose questions that maybe it was some sort of organisation working for prisoners rights. Individual 7 seemed determined in claiming that the story was told to the eyes of a psychologist. Lastly, individual 8 thought there to be multiple storytellers, even her/himself.

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[44] "Nokre av elementa faida vekk på ein måte, om det ville skjedd uansett eller om eg var for sein med å snu meg det veit eg ikkje. Det er kanskje fara ved VR, at vi snur oss feil veg og går glipp av det som er meininga ein skal sjå. Sidan eg berre har sett denne ein gong so veit eg ikkje om eg har gått glipp av noko, men eg enda på ein måte litt opp med den kjensla eg ikkje rakk å lese ferdig den setninga". Original language.

[45] "Eg likte den enkle forma for aktivitet der ein hadde hotspots som starta og slutta når ein såg på dei.(...) Det hadde kanskje bidratt endå meir om eg kunne bevege meg og sjå kor lite plass der er." Original language.

"In addition to all the voices, what you yourself see and feel is one aspect of the storyteller. Your eyes tell something to." Individual 8.[46]

6.3: Results related to the Hunger in LA experience

The results from the first two immersive experiences are in, which means it is time for us examine the last level of immersion and the interviewees experience with Nonny de la Peña's Hunger in LA immersive journalism project. While reviewing the codes derived from the transcript relating to this experience eight categories have emerged (1) presence, (2) dramaturgy, (3) role of the audience, (4) emotions and engagement, (5) control and interaction, (6) urge to interact, (7) storyteller and (8) gamification. As with the previous concepts, I will now examine each individually.

6.3.1: Presence

We once again find a familiar concept revealing itself in the data material, and that is 'presence'. As with the 6x9-experience, Hunger in LA also resulted in the cases talking about some kind of place illusion, just as described in the original works behind this exact immersive piece (de la Peña et al., 2010).

"What is this? Why am I standing on the sidewalks with all these different people? I kinda got a weird feeling where I did not quite know whether or not I was there or just being a fly on the wall." Individual 1. [47]

Similar to individual 1, four other cases reported similar sensations of actually being present on the sidewalk.

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[46] "Ein kan på ein måte seie at i tillegg til dei stemmene, er det ein sjølv ser og føler også ein eigen formidlar. Augo dine fortel." Original language

[47] "Kva er dette her for noko? Kvifor står eg her på fortauet med desse folka? Eg fekk på ei litt sånn rar kjensle der eg ikkje heilt skjønte om eg var der eller om eg berre var ei flue på veggen." Original language

"I got a much stronger feeling of how it was there compared to how this would have been presented in a regular news article." Individual 7.[48]

"It felt like I was there, and that made the whole experience more realistic." Individual 5. [49]

6.3.2: Dramaturgy - More like an everyday situation

"Everything in the third experience actually felt like an existing situation in a naturally moving setting."[50] Individual 8.

One theme persistent, and once again talked about by all cases, was dramaturgy. As it related to this immersive journalism project, the cases seemed to agree to a notion similar to that of which individual 8 proposed, that there was no clear and intended dramaturgy in the experience and that it rather felt more like an *"everyday situation"* as said by individual 5.

"There was more like a long start, and then suddenly we had reached the end. (...) There was no clear main part, only life on the street. Maybe there was a climax when the ambulance came and so on. So in a way, it had a climax." Individual 1. [51]

Individual 7 did point out that time seemed to flow in a natural way, adding to the realism of the whole experience. Similar to what individual 6 and 3 had to say, claiming that the entire experience was *"slow-paced"* and that there was not much happening.

Another thing in terms of dramaturgy that was emphasised by both individual 2 and 3 was that the experience lacked some guidance of what to do.

"Automatically I was just standing there looking for some kind of text that could explain something about what I saw or maybe a storytelling voice. The experience is really elaborate

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[48] "Eg fekk ei mykje meir direkte kjensle av korleis det var der i forhold til å berre lese det i ein nyheitsartikkel." Original language.
[49] "Eg følte eg var der, og det gjorde heile erfaringa meir realistisk." Original language.
[50] "Alt i den tredje opplevinga føltes faktisk meir som ein eksisterande og naturleg bevegende situasjon." Original language.
[51] "Der var meir ein lang start og så plutselig kom slutten. (...) Der var ikkje noko klar hovuddel, det var berre liv på gata. Kanskje var det var eit klimaks då ambulansen kom og slike ting. Så klimaks hadde den jo på ein måte." Original language.

and complex in one way, but on the other hand, in terms of the storytelling, there is a lot downtime in it. It was probably the one that gave me the least storywise.” Individual 3. [52]

6.3.3: The role of the audience- The ghost and the fly

Moving on, we once again look at how the audience role was perceived by the cases. This time ghost, fly and observer are all relevant keywords, as there seemed to be a mutual understanding between all the participants that there was a certain degree of passivity on their behalf, in fact, individual 6 said it straight out: *“I felt relatively passive in this experience”*[53]. Individual 1 and 2 both used the term *“fly on the wall”* to explain who they were in the experience. Individual 4 said he/she felt like a *“B-character”* similar to what individual 5 and 7 said, claiming to be more of a *“bystander with no capabilities to influence anything”*[54] or *“a part of the line without any abilities”*[55]. Individual 8 described him/herself as a *“ghost with no control over the events taking place”*.

6.3.4: Emotions and engagement - An echo of emotions

“In the third one, the situation drove the story in itself. It was an echo of the emotions one probably would have felt if you would have been in a real life situation such as that.” Individual 7. [56]

Even more, than in the other two experience, emotion seemed more striking in the last one. As individual 3 said it.

“In a way, you feel your own emotions and how you react with anger and such. It really triggered my emotions.” Individual 4. [57]

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[52] “Eg vart automatisk ståande å sjå etter noko tekst som kunne forklare meg kva som skjedde eller ei fortellerstemme. Den er jo veldig forseggjort og avansert på ein måte, men samtidig, fortellermessig, så er det mykje meir dødtid i den. Den var kanskje den som gav meg minst historiemessig.” Original language.

[53] “Eg følte meg relativt passiv i denne opplevinga.” Original language.

[54] “Eg var ein bystander utan nokon evne til å påverke noko.” Original language.

[55] “Min rolle var ein ein del av køa der eg ikkje hadde noko innflytelse.” Original language.

[56] “I den tredje var det situasjonen i seg sjølv som dreiv historia. Det var eit ekko av dei kjenslene ein truleg ville kjent om ein faktisk stod i ein slik situasjon.” Original language.

[57] “Ein kjenner liksom på sine eigne kjensle, og kva du reagerer på med sinne eller slike ting. Det trigga verkeleg kjenslene mine.” Original language.

One feeling that seemed more prominent than others was the feeling of frustration and even anger. Individual 1, 4,5 and 6 all expressed this in some way.

"I really troubled me that nobody tried to help the man. That is why I became like "hello somebody has got to do something here". I was really angered." Individual 1. [58]

"When the ambulance finally came it seemed like they did not do anything either. It could be the bad graphics, but nevertheless, that provoked me."[59] Individual 5.

Other than feeling frustrated about the situation happening in the piece, individual 5 and 6 said they got impatient of just standing in the line and look around while nothing was happening.

"Queues are not really my strong side. So my impatience kicked in pretty fast." Individual 5.
[60]

As to why these emotions became so present in the last experience, some of the cases had some reflections in terms of that as well. Individual 1, 4 and 7 all pointed to the being some *"human factor"* with this story that was not as profound in the other experiences.

"The experience is more human, of course being in prison is also human, but the situation in the last one was more relatable. It is something that could happen anywhere at any given moment to all of us." Individual 4.[61]

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[58] "Det gjorde meg skikkeleg irritert at ingen hjalp mannen. Det var derfor eg blei litt sånn, hallo nokon må hjelpe han. Eg blei skikkeleg irritert."
[59] "Då ambulansen endeleg kom fram, såg det ut som at dei ikkje gjorde noko heller. Det kan sjølvsagt vere den dårlege grafikken, men det provoserte meg skikkeleg." Original language.
[60] "Det å stå i kø er ikkje akkurat mi sterke side, så eg kjende at utolmoda slo inn ganske kjapt." Original language.
[61] "Opplevinga er meir menneskeleg, det er jo det for so vidt det å sete i fengsel også, men det var på ein måte litt meir relaterbar situasjon i den siste. Det er slik som kan skje når som helst og kvar som helst." Original language.

"Seeing the human situation playing out in front of you gave you a greater sense of the seriousness of the news situation." Individual 7. [62]

6.3.5: Control and interaction

"Sure, I could move around and look where I want, but it did not add any value to the experience or the story."[63] Individual 2.

With similar views to that of individual 2, all eight participants in the study seemed to agree when it came to Hunger in LA and what opportunities they were provided. The users felt that they were afforded some possibilities such as "*moving around*", "*changing the perspective*" and "*look in all directions*". Despite this, however, all of the cases felt that this 'control' had little to no effect on the event and situation portrayed.

"In number three, I felt like I could not use my hands for anything. I mean, that could just as easily have been presented in the Samsung Gear VR. You could move around, but that did not do that much since I was supposed to stand on the same spot either way." [64] Individual 8.

"When I tried to interact with the people, and they did not respond, I lost the sense of being in the driver seat. I felt, ok if I can not do anything, I will just stand here and observe." Individual 1.[65]

One other type of control, however, mentioned only by individual 7, was noticeable in the fact of knowing it was a simulation and feeling some control of the simulation setting.

"I felt there was a defined difference between what I saw and the real world. I was fully aware of this being a simulation, and in that way, I felt I had control. I also knew that this

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[62] "Det å sjå den menneskelige situasjonen spele seg ut framfor deg gir deg ei mykje sterkare kjensle av kor alvorleg situasjonen er." Original language.

[63] "Eg kunne sjølvsagt bevege meg rundt og sjå kvar eg ville, men det gav ikkje noko meirverdi for verken historia eller opplevinga." Original language.

[64] "I nummer tre følte eg at eg ikkje fekk brukt henda mine til noko. Altså nummer tre kunne like gjerne ha vore i headsettet til nummer to. Ein kunne jo gå rundt, men det gjorde ikkje særleg mykje fordi ein skulle eigentleg stå på same plassen heile tida." Original language.

[65] "Då eg prøvde interagere med folka og dei ikkje responderte mista eg litt kjensla av å vere i førarsetet. Eg følte ok då kan eg ikkje gjere noko, då står eg berre her og ser på i staden." Original language.

was something that had happened and that it had an end. I knew I could not control the outcome. That is, however, a good thing in terms of this depicting real, past events."[66] Individual 7.

6.3.6: Urge to interact

As stated previously, the cases feeling some urge to interact with the environment and situations being depicted, was much more prominent in Hunger in LA. All eight participants declared that it for them was natural to try to interact with their surroundings. Especially when they got to the part of the story where a man in the food line falls into a diabetic coma.

"When he fell to the ground I thought to myself, shall I do something now to try to help him? But when I tried to touch the characters my hands only went through them, in other words, cardiopulmonary resuscitation would probably not work, so I just had to stand by and watch."[67] Individual 1.

"The way I experienced it I wanted to help, without a doubt. I kneeled down to see if there was anything I could do. It put me in a realistic position." Individual 4.[68]

Just feeling an urge to help, was not the only thing pointed out by some of the cases. A couple of cases also wanted to have that possibility to interact with something in the scene.

"Here there is really big potential. One could maybe choose some of the information yourself using the controllers. More interactivity and more choices." Individual 6. [69]

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[66] "Eg følte der var ein definert forskjell mellom kva eg såg og den verkelege verda. Eg var fullt klar over at dette var ei simulering, og på den måten følte eg at eg hadde kontroll. Eg viste også at dette var noko som har skjedd, og at det hadde ein slutt. Eg visste at eg ikkje kunne kontrollere utfallet, men det er ein god ting når ein skal ekte fortidssituasjonar." Original language.

[67] "Då han falt om på gata tenkte eg fyrst, burde eg gjere noko for å hjelpe han? Men då eg prøvde å ta på karakterene so gjekk henda mine berre rett gjennom dei. Med andre ord ville ikkje hjarte lungeredning fungert akkurat. So då blei eg berre ståande å sjå på." Original language.

[68] "Slik eg opplevde det hadde eg lyst til å hjelpe, utan tvil. Eg sette meg ned på kne for å sjekke om der var noko eg kunne gjere. Det sette med i ein realistisk situasjon." Original language.

[69] "Her er eit veldig stort potensiale ved at ein kanskje kunne vere med på å plukke litt informasjon med kontrollane til dømes. Endå meir interaktivitet, og endå fleire val." Original language

However, not everybody shared this view. As already established in the last category, individual 7 meant it was a good thing that there was no control over the events since they portray a situation that has already happened. Individual 3 neither liked the thought of interacting too much in the experience. He/she argued that this would be problematic because of the genre being journalism.

"This being journalism it makes me uncertain. The story cannot change according to who is watching the journalistic product, that would be really weird." Individual 5.[70]

6.3.7: The storyteller - Where was the journalist?

Not every one of the participants had something to say in terms of who was the storyteller in the piece, but the cases who did reflect around that subject reached some sort of conclusion that there was no clear presence of neither a storyteller or journalist. This was maybe to be expected, especially thinking about how they all commonly referred to the being less dramaturgy in the situation. For individual 5, this led to the conclusion in that it was "*all the people in the experience*" collectively telling the story together. Individual 3 and 6 pointed to there being an invisible journalist. Individual 7 argued that maybe it was the foodbank telling the story. Individual 8 said that "*there was no storyteller in the third experience*".

6.3.8: Gamification

For the last category extracted from the transcribed interviews, we once again find a familiar category, this time previously explored in the first "Mystery at Plaza" experience. I am talking about gamification. Three of the cases did make some argument that this experience initially reminded them of computer games.

"The last one is probably the one that gives me the least because it feels very much as a game like you walk straight into a game where you do not quite know what to do. Things are happening around, and you have no explanation of what it is." Individual 3.[71]

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[70] "I og med at det er journalistikk er eg usikker. Det kan ikkje vere slik at historia endrar seg for kvar person som ser det journalistiske produktet, det ville vore veldig rart." Original language.

[71] "Den siste er kanskje den som gir meg minst fordi den følast mest som eit spel, som om ein går rett inn i eit spel so veit du ikkje heilt kva du skal gjere. Det skjer ting rundt deg og det er ikkje noko forklaring på kva det er." Original language.

7: Results from the participatory observations

While not as substantial as the results from the interviews, some data was also collected while the cases were exploring and testing the different immersive journalism experiences through participatory observation. Before moving on to discussing the results as a whole, I would like to share these observational results. I will do so in three sections, divided according to the three immersive experiences and the levels of immersion.

7:1: Observations related to the "Mystery at Plaza" experience

For "Mystery at Plaza" I note two different categories. The first one concerns how long the cases explored the content, the reason being that this experience had no intended duration. I, therefore, taught it to be useful to have this data. For the second category, I looked closer to how each individual chose to explore the story, noting the order of which they explore the different interactive elements and the recreated, potential crime scene.

For the time used exploring "Mystery at Plaza" the following durations were recorded. The data is represented in minutes and seconds, presented from the shortest to longest time used to explore the piece:

03.26, 05.04, 05.52, 06.09, 06.14, 06.40, 07.35 and 07.48.

If we add the two middle values and divide the result by two, we get the mean of the duration. In this case, it is 6 minutes and 11,5 seconds. It is useful to look on the mean instead of the average here since there was one duration that stood out from the others, the session which lasted only for 3 minutes and 26 seconds. But at the same time as being different than the others, this is arguably one of the more interesting observations that prove that when the audience may choose the duration them self, it will vary from person to person. Some will take a longer time than others, and others will finish the exploration faster. How does this affect the overall experience? That is a question beyond the scope of this thesis, but an interesting question nevertheless.

What was found while observing the participants as they explored the virtual environment of the potential crime scene was that all except one were pretty thorough in their endeavour to explore the room. Seven out of eight participants did interact with every single one of the 21 interactive elements possible in the experience before declaring finished with the story. One explored only half of the room before aborting the experience, claiming that he/she was bored with the piece.

The order of which the different interactive elements were explored was noted down for each individual. One observation that may be of significance is that all the participants made similar choices when starting the experience. As the first region in the room to interact with all eight participants began to explore the points surrounding the represented 'victim' lying in the bed in the middle of the room. Six out of eight chose the potential murder weapon, a gun, as the first element to interact with. The remaining started to explore the victim's clothes. From here, the participants chose to go systematically through the experience, interaction point by interaction point, selecting those closest to the one they picked last. Six of the participants went counterclockwise while the other two explored in the clock direction. Two of the participants also went back to explore elements they thought to be of particular interest such as the gun, bullets and the digital representation of the dead body.

So the overall takeaway from the first immersive experience can be said to be that participants explored the story for various time durations. The subjects all chose a similar way in exploring the environment systematically looking at all the 21 points. We do however note an interesting instance was one of the cases decided not to explore the whole room and only nine of the interactive points, stopping because she/he was bored with the experience.

7.2: Observations related to "6x9"

For the 6x9-experience, a particular duration of the story was not relevant to consider since this one was predetermined by the duration of the piece itself. In addition to that, all eight participants finished experiencing the 9-minute long story.

What was emphasised by me, was how the participants acted while in the experienced. These observations were, as already established in the methodology chapter, limited only to body movement.

All eight participants began their exploration in a similar way. For the first 10-20 seconds of the experience, the cases sat calmly in the chair and looked straight forward. Six of them sat really straight up and down, arguably looking a bit tense. First, when a storyteller's voice started to talk, encouraging the participants to look around, we started seeing movement for the participants. The cases began to look around in the virtual space. In realising their capabilities, they began turning the chair to get a full scene of the room. Upon realising this, I noted one instance where one of the participants asked a question out loud, individual 5. He/she said: "*can I stand up and move around or something?*", something I did not respond to. The case moved around a bit and soon realised there were no tracking capabilities in this particular technology. Other than that spesific instance, I saw participants leaning backwards relaxing a bit more. After approximately 2 minutes and 40 seconds into the experience, some of the interactive elements of the story was introduced. However, the participants did not seem quite to understand the mechanisms of how some storytelling elements were activated just by looking at them. It took on average around 20 to 30 seconds or so before they understood how they could interact. This became evident since several of the subjects said phrases like "*ah, so that is how it is*" and "*oh, now I see*" the moment they understood how the mechanics worked. After the more interactive session of the experience, text starts to appear on the wall. One could see that this resulted in the cases looking much more around, trying not to miss any of the text that was popping opp in multiple directions.

For the rest of the experience, most cases sat quietly following the visual cues given to them. Something to note, however, is that some of the participants like individual 7 did miss content in the piece because he/she was looking in the wrong direction missing some text elements presented on one of the prison walls. I know this because she/he pointed it out in the interview afterwards.

One of the participants, individual 4, got a bit startled and flinched when the experience showed a ghost-like character to illustrate some of the psychological effects prisoners

experience. The participant said afterwards that he/she was just surprised and did not expect that element. Another participant, individual 5, had a similar reaction of being a little bit startled the moment the user perspective elevated towards the roof of the prison cell, once again to illustrate some of the feelings inmates feel on a psychological level.

7.3: Moving around in LA

When the cases stepped into the virtual world and on to the streets of Los Angeles in De la Peñas Hunger in LA-experience, one could observe similar traits in terms of how the cases went about exploring the situation presented to them. One thing in particular common to all eight cases was how they quickly noticed the hand controllers. Without exception, everybody waved with their hands to see how the controllers responded. The next thing six of them did is probably even more significant. In realising the ability to move their hands, these participants actually tried to touch or interact with the characters presented in the experience. Five of them tried to touch the characters like they were physical objects. One individual took a more subtle approach waving in front of the faces of the people portrayed to check for any response.

When the participants had tried to interact, and upon realising that their actions did not have any effect, they quickly seem to settle into the situation where there was no point in using their hands. Six of the participants then tried to walk around a bit, two of them stood stationary, just being part of the line.

The next situation that involved a significant reaction among some of the participant was the part where a man in the queue falls into a diabetic coma. I note five instances where the participants ended up just standing still looking at the situation unfolded. However, three of the participants, individual 3,4 and 8, actually had a pretty immediate reaction to it. Individual 5, for instance, went right to here/his knees just as the man fell down. He/she was trying to catch the virtual character almost. Here again, for these three participants in particular at least, there can be said to have been an urge to interact with the sick man laying on the sidewalk.

When the medical personnel from the ambulance arrived in the experience, we once again noted an interesting reaction from some of the participants. Individual 3, among two others, physically stepped aside, making room for the medical personnel, seemingly to make sure not standing in the way from their doing their job.

Perspective is another keyword worth some attention. Though some actions among the participant were somewhat comparable as I have just explained, there were also some distinct differences between the cases as well. This is particularly evident in where the participants chose to stand in the virtual space. They literally had a whole room of possibilities in terms of where to stand. The cases seemed to choose one of two locations from where to observe the situation. Three of the participants seemed to find it natural to stand on the side of the queue, looking into the crowd of people from a slight distance.

On the other hand, five of the participants chose to stand in the middle of the action, standing among the people in the line. As an example, I can mention how individual 2 started the experience outside of the line because of here/his relative location in the real world. However, when seeing the line, the individual seemed to find it natural to walk over into the line. There was also a similar situation. Individual 1 actually stepped out of the line in order to get more of an overview of the situation after the main character in the experience had fallen to the ground into a diabetic coma.

8: Discussion

Now that the results are in, there is only one thing left to do, and that is to assess the results in light of the research question. The way I would like to conduct this discussion is as follows. First, I would like to address all the three immersive journalism experiences and the results separately, applying the research question to each level of immersion. When this is done, I will try to pick up the loose ends and say something decisive about the research question as a whole, and also take a look back to the theories of which the research question and data collection have its origin.

First, we have the Mystery at Plaza-experience. Judging by the results from the data collected from this immersive project I will argue that the audience perception in this particular instance was that they were afforded agency in multiple ways, making it reasonable to then say that they were more like active participants in the storytelling and experience rather than passive recipients of the content. This becomes evident in various aspects, but probably most prominent in exploring the concept of control and interaction. As the results show, there seemed to be a consensus amongst the sample that this experience did afford them some self-selection of information. Participants felt they had the choice of what to explore. In other words, what was not told was also up to them. This was evident in the instance where one participant actually chose not to explore the whole piece because she/he felt bored, arguably leaving out important components of the story.

Another instance where the notion of active participation is somewhat palpable is in how the audience perceived the dramaturgy in the experience. For them, there did not seem to be a clear story arch, with a beginning, middle and end. Many of them argued that the story evolved and took form based upon their choices. Their understanding of the user role as a detective also gives some connotation of them being an explorer of content, actively shaping the argument of the possible crime portrayed.

The instance where the interviewees compared the experience to a game, should not go unnoticed either. I named this category inspired by Raul Ferrer Conill and his doctoral thesis on gamifying news, a publication in with he argues that we are seeing a trend in digital journalism of*"integrating game elements in news media, often blurring the traditional boundaries between news and games"* (NODE, 2018). Arguably such gamification speaks for the notion of the user being more active participants. In games, you are expected to interact and often take part in the story. As it relates to actor-network theory, I think this comparison made by the participants is also particularly interesting. It just goes to show that there is another group of social actors, such as programmers and designers who also have exerted a considerable amount of influence in shaping the technological actant used in this case for a journalistic activity, branded as journalism. It serves as a mere glimpse into how complex the actor-network of immersive journalism actually is, involving multiple social actors and not only journalists.

All this being said, there is still evidence in the first experience that there is some passivity relating to the users as some of the cases pointed towards there being a clear storyteller. Some of the participants still got the notion of here being a journalist putting his/her influence on the overall possibilities in the story.

So, in terms of the first experience being whats considered quite a low level of immersion, it is interesting to see that even though immersion is low we see an audience being given agency and in some ways becoming more active participants than just passive recipients in terms of the audience conceptions as described by Lewis and Westlund (2014).

Moving on, we find the 6x9-experience, one immersion level higher than the previous. Here it becomes interesting. Compared to the other experiences, I argue that this was the experience where audiences showed most traits of representing more of the normative journalistic perception of users as passive recipients (Anderson, 2013). To back up my claim, I would first like to bring forth the interviewee's answers surrounding dramaturgy. The cases in this study did see the dramaturgy of the 6x9-experience more as being served rather than they actually shaping it themselves. This is, for instance, evident by the way some of them compared the narrative to that of a documentary movie or a film in general. In terms of the concept of control and interaction, we also see that the audience felt more deprived of the possibility of choosing them self what would happen or not. Like one of the individual pointed out, he/she felt more like a puppet on strings, lead by someone that had made some predetermined choices in advance for the user. Others used the word 'passive' to describe their role in the experience. In terms of a storyteller all agreed on there being one.

However, there are some traits to the concepts of the control that still raise debate in terms of the argument for the users being entirely passive. As pointed out by multiple of the cases, they still were afforded the possibility to look in any direction, a control that in a couple of instances lead to the users missing some elements of the story. In this sense, the technological actant did afford them some agency in the experience, while the story itself was told and perceived more passively.

The feeling of presence that was also evident in this experience. Whether or not this is a concept that lends itself to either side of an argument, is not quite easy to answer. On one side, you could argue that a presence does lend the user some kind perception of having control and the means to actively take part in something. As shown in the results, individuals did report that being present made them think of things they would do if they were there. This also probably helped them in defining their role in the experience, described as feeling like a prisoner. On the other hand, this presence did not seem to change the impressions for the audience being relatively passive. In any case, the sense of being there is first and foremost evidence that the immersion, at least from a technological standpoint, was higher in 6x9. One of the cases, individual 8, actually argued that this was the *"most immersive out of the three"* [72], *e*ven though it from the technical standpoint off Mazuryk & Gervautz (1996) would be considered less. This goes to show that Shin & Biocca (2017) truly is on to something when arguing that the meaning of immersion depends strongly on the traits and contexts of the user. They argue that whether somebody gets immersed or not is determined by the users´ cognition and intentions. This maybe means that one perhaps should treat the levels of immersion rather like a scale than all-out individual categories.

Then there are the last results from The Guardian's story, and that is the concept I have labelled urge to interact. Thou there seemed to be a consensus in terms of there being less interaction from the user, it does not mean that they did not want to. In multiple instances, there were cases suggesting that there should be more interactive elements in the experience. As an example, some said that they would like to stand up and move around. One asked the question of whether or not this was possible while wearing the HMD. I will not draw such a conclusion too far, but maybe this is suggesting that the technological actant carries with them some expectancies to afford user agency. After all, this is much how virtual reality technology has been branded. In this case, this is interesting as it relates to the actor-network of immersive journalism.

So overall, in the second experience, I believe it to be favourable to argue that the audience seemed more like passive recipients, despite that the technological level of immersion increased.

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[72] "Eg vil faktisk seie at nummer 2 var den mest immersive av dei tre" Original language.

For the last immersive journalism experience, Hunger in LA, I argue that even though by Mazuryk & Gervautz (1996) definitions the level of immersion did increase, this did not definitively render the audience as a more active participant in the storytelling. However, as seen in the 6x9-experience as well, users did recognize some agency given to them. I will make the point that for this experience, the audience finds themselves somewhere in the middle of being passive recipients and active participants.

As with the last experience, I will say that the concept of presence reaffirms the level of immersion in the piece. That being said, it is difficult to use it as an argument for either of the audience conceptions. The participants in the study did feel like they were there on the street, by observing their behaviour, one could even argue they acted as though they were there. However, after realizing that their initial urge and contempts to interact did not yield adequate response, though present at the location, they felt like observers, ghosts and flies on the wall when asked about their role in the experience.

I believe a similar argument can be raised looking at the concept of control and interaction. In the start of the experience, cases did initially respond as though they had control, trying to touch and interact with the environment. But there were no interactive elements in the piece for them to respond to. Whether or not there should be is a entirely different discussion, but it is interesting to see the initial urge to explore being there. When the participants put on the HTC Vive, they almost instinctively tried to interact. Another form of control that the participants did point out was the possibility to move around and change their perspective. Arguably this is also a way in which one may actively shape how they see the situation. But, once again, their actions did not do anything, at least according to the cases own conceptions.

Looking at the dramaturgy in the piece, we see that they neither felt like it was a particularly structured story nor a self-selected narrative as in the first experience. The terms "naturally moving" and an "everyday situation" was used in describing the structure of the experience, again, not lending itself to a particular conception of the audience as I see it. They were sort of free to explore the situation from whatever angle desired, and we see from the participant

observation that they chose differently. However, they had no influence over the situation and events portrayed. So, once again, neither too active or passive in this term.

The fact that the cases did not recognize a clear presence of a storyteller might be a concept in favour of an active participant conception-argument. Without guidance to the situation, you are sort of left to explore the situation on your own. In terms of an actor-network, this does in a way hints of a shift in journalistic authority from the journalist to the audience them self. This is interesting in terms of the arguments made by Kool (2016), arguing a trend that journalist becomes more invisible in VR.

As with the first experience, the comparison to computer games also showed up in the results related to de la Peña's story. However not as prominent, this notion of being presented with a game rather than journalism is again interesting in terms of the actor-network theory. I believe it serves to show how other social actors than journalists such as developers or programmers also have extensive influence in the actor-network that is immersive journalism. These other groups of social actors might have different conceptions of the audience than that of a journalist.

9: Concluding remarks

Now that I have assessed each experience individually in relation to the research question, it is time to see the larger picture. Where do we stand as a whole relating to the research question? Does different levels of immersion in immersive journalism tend to make an audience more like active participants in the story creation, rather than passive recipients? In terms of there being a clear link between the level of immersion and the conceptions of audiences as active participants or passive recipients, I cannot say I have found enough evidence to say there is one. As shown, one could argue that it was the experience with the lowest level of immersion that afforded the audience most agency and affording them the notion of being active participants in the storytelling. When the immersion level was increased, it did not seem like it was the factor determining whether or not we did see a shift in how the audience perceives their role. It instead appears that this is more dependant on other factors like dramaturgy, interactivity and whether or no the storyteller decides to step in

an act as a guide or not. However, while increasing the level of immersion, from more of a technological standpoint, I will argue that we do see an increased amount of agency being afforded to the audience. This is evident in how participants in the research project tended to feel an urge to interact, almost instinctively. So, in terms of the actor-network theory, I would put it like this: Whether or not an audience conception changes from active to passive will have to be determined by the interplay of social actors in the actor-network that is immersive journalism. If social actors in the same network journalists, programmers and developers, for instance, have different conceptions about audiences, it might prove challenging to predict the outcome. On the one hand, programmers and developers might influence the technological actant with the intent of giving their audience agency. Journalists, on the other hand, might see audiences more like passive recipient as argued by Anderson (2013). This, in turn, leads to a sort of a clash of audience conceptions at the point where the different social actors intersect, in the technological actant, in this case, an immersive experience that mediates the content. This whole discussion sparks many other debates, beyond the scope of this thesis. It raises questions about how and whether or not one should see social actors coming together to exploring the possibilities, collaborating in how the audience should be perceived and what agency one should afford the audience. In many ways, it also raises questions already asked by scholars such as Sánchez Laws (2017) in whether or not the project of immersive journalism should adopt a more forceful role when it comes to shaping the future of virtual reality. In another way, I believe some of the points in the study raises a question of how audiences may be incorporated into shaping theories and guidelines for an evolving field such as immersive journalism.

Lastly, I think that seeing immersive journalism as actor-network have some beneficial traits to it as it is taking a more holistic research approach to this relatively new field. This thesis has only examined one intersection in the larger actor-network that is immersive journalism. It has explored a convergence point where a technological actant, developed by a diverse group of social actors diverging from a journalist, designers, programmers, meats the audience and affords them agency. However, this is not the only convergence point, not at all. By seeing immersive journalism as an actor-network, such interactions become many, which in turn leaves a large filed for researchers to explore. I argue that it is essential that both scholars and practitioners should examine these intersections closer. In examining interaction,

it is maybe possible to uncover how each actor group insert influence on each other. By seeing who and what may influence each other, it arguably becomes easier to manage who shapes what, ensuring that different actors may serve their normative functions as they see fit.

This thesis has been only a minor qualitative study, and I acknowledge there are limitations in that the finding might not be generalizable to a whole population. The conclusions are also drawn from a small sample. Nevertheless, I hope this thesis may serve as a springboard for other researchers seeking to explore this fascinating field of research. More research on the field is needed, and I would encourage others to look into the exciting field of immersive journalism.

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Attachment 1: Interview guide

(This has been translated to English)

General questions to start the interview:

What is your current occupation?
Tell me a little bit about your media habits.
Have you ever tried VR before?
Why did you say yes to participating in this experiment?

Research question:	Key Concepts	Interview questions
Does different levels of immersion in immersive journalism tend to make an audience more like active participants in the story creation, rather than passive recipients?	Engagement	- How did the different experiences make you feel? - How was it? - Was there something about the experiences you did not like? - Was there something particularly enjoyable about the experiences? - Compare the three stories In which one of them did you feel most involved? (Why?) - Which one of them engaged you the most? (Why?) - Was any of the experiences realistic? (Why?) - Thematically, was there either one of the stories that caught your interest more than the other? (Why?)
	Active participation	- What drives the different stories? - Did you have any control over the story?

		(If yes, what control did you have?) (What gave you that control?) (If no, what limitations were there?) ● Was the anything that was left unexplored for you that you'd wished you could have known more about? ● What do you you consider to be the key difference between the three experiences? ●
	Observant	● Did the story have a clear start, middle and ending? ● Did you see this as conventional news reporting? (Why, why not?) (What is conventional news reporting for you?) ● If you where to retell the one of the stories to a friend, with story would be easiest to retell? (Why?)
	Role of the audience	● What was your role in this story? (Why was that your role?)
	Interaction	● Did you feel like your actions made an effect on the story? (If yes, how?) (If not, why not?)
	Storyteller	● Who is telling the story? ● What type of stories should be told in this way? (Could alle new stories be told in such a way?)

Last question: What is your age?

(Original language: Nynorsk)

Vil du ta del i forskingsprosjektet

«A study on the levels of immersion in immersive Journalism»?

(Arbeidstittel)

Dette er eit spørsmål til deg om å delta i eit forskingsprosjekt der formålet er å undersøke korleis brukarar opplever ulike nivå av oppslukande forteljemetodar (immersjon) i journalistikk, ved bruk av virtuell verkelegheits-teknologi. I dette skrivet gir eg deg informasjon om måla for prosjektet og kva deltaking vil innebere for deg.

Formål

Formålet med prosjektet er å undersøke korleis ulik grad av «immersjon» påverkar brukarens oppleving av det som i akademisk litteratur har blitt kjent som «immersive journalism». Kort forklart er dette ein type journalistisk innhald som nyttar seg av ny teknologi, som til dømes virtuell verkelegheits-teknologi, for å «transportere» publikum nærmare den aktuelle nyheitshistoria. Her er elles fleire nivå når det kjem til kor stor grad av immersjon, kor omgitt man kan bli i slikt type innhald. Dette prosjektet vil, gjennom å la nokre testpersonar prøve ulike produkt som kan kategoriserast som «immersive journalism», undersøke kva desse nivåa har å seie for brukarens oppleving av denne type innhald.

Denne undersøkinga, test av innhald etterfylgt av intervju, vil bli brukt i ei engelskspråkleg masteroppgåve i praktiske mediefag, der målet er definert slik. "The goal of the study is to explore how users experience different levels of immersion in immersive journalism". Dette vert gjort gjennom å svare på eit meir spesifikt forskingsspørsmål. Eg vil ikkje røpe kva dette spørsmålet er enno, då det kan påverke dataa som samlast inn gjennom intervjudelen av undersøkinga. De vil derimot bli gjort merksame på hovudspørsmålet når eksperimentet er over.

Kven er ansvarleg for forskingsprosjektet?

Bjørnar Torvholm Sævik, masterstudent ved Høgskulen i Volda, er ansvarleg for prosjektet. Forskingsprosjektet blir gjennomført med hjelp i frå Høgskulen i Volda, professor Oscar Westlund og førsteamanuensis Ana Luisa Sanchez Laws.

Kvifor får du spørsmål om å delta?

Undersøkinga, som er designa for å utforske problemstillinga i prosjektet, krev teknologi som endå ikkje er kommersielt tilgjengeleg for alle. Høgskulen i Volda har derimot rette utstyr som trengs for denne type eksperiment. Du blir spurt om å delta i studien ettersom du har meldt di interesse for prosjektet gjennom eit arrangement i sosiale media (Facebook), og fordi du kan kome til Høgskulen i Volda for å delta i prosjektet. Då dette er ein kvalitativ studie basert på intervju om opplevingar av journalistisk innhald, er det ikkje meir en 6-8 respondentar i denne undersøkinga.

Som allereie nemnt, har eg kome i kontakt med deg gjennom at du sjølv har meldt di interesse for prosjektet.

Kva inneber det for deg å delta?

Deltaking i dette studiet inneberer at du testar tre ulike typar journalistiske produkt og deretter svarar på spørsmål om dine opplevingar av produkta. Dette fordrar at du gir ærlege svar på spørsmål som blir stilt, då dette vil utgjere mesteparten av datamengda for denne undersøkinga. Spørsmåla blir stil i eit intervju der du snakkar med forskar. Du vil bli spurt hovudsakleg om korleis du oppfattar di rolle og korleis du opplever dei forskjellige journalistiske produkta. Intervjuet vil bli tatt opp med ein lydopptakar og transkribert for analysering. Mens du «utforskar» dei journalistiske historiene, vil forskar notere ned observasjonar om din åferd og dine reaksjonar på innhaldet. Opplysningane vil bli lagre på en forsvarleg måte og behandlast av forskar og rettleiarar. Sjølve eksperimentet vil truleg ta ein til ein og ein halv time.

NB: Bruk av VR-teknologi kan vere uvant for mange. Tidlegare forsking viser at folk kan føle seg litt uvel rett etter bruk av denne type teknologi. Det er ikkje snakk om alvorlege plager, snarare svakare symptom som ved sjøsjuke.

Det er frivillig å ta del

Det er frivillig å ta del i prosjektet. Om du vel å delta, kan du når som helst trekke samtykke tilbake utan å grunngi det for forskar. Data om deg vil då bli anonymisert. Det vil ikkje ha negative konsekvensar for deg om du ikkje vil delta eller seinare vel å trekke deg.

Ditt personvern – korleis vi oppbevarer og brukar dine opplysningar

Vi vil berre bruke opplysningane om deg til formåla vi har fortalt om i dette skrivet. Vi handsamar opplysningane konfidensielt og i samsvar med personvernregelverket.

• Det er forskar og rettleiarar som vil kunne sjå og behandle data innhenta i forbindelse med eksperimentet.

• Data vil bli lagra digitalt på harddisk med back-up i Høgskulen i Volda sin nettsky-teneste (Microsoft OneDrive- Office 365). Dei vil kunne bli sletta etter forskingsprosjektet er gjennomført.

Deltakars identitet vil ikkje vere kjent i den endelege publikasjonen. Nokre detaljar vil derimot vere kjent, som alder og kjønn.

Kva skjer med opplysningane dine når vi avsluttar forskingsprosjektet?

Prosjektet skal etter planen avsluttast til sommeren 2019. Då prosjektet er over vil personopplysningar bli anonymisert og om ønskjeleg sletta.

Dine rettar

Så lenge du kan identifiserast i datamaterialet, har du rett til:
- innsyn i kva slags personopplysningar som er registrert om deg,
- å få retta personopplysningar om deg,
- få slettet personopplysningar om deg,
- få utlevert ein kopi av dine personopplysningar (dataportabilitet), og

- å sende klage til personvernombodet eller Datatilsynet om behandlinga av dine personopplysningar.

Kva gir oss rett til å behandle personopplysningar om deg?

Vi behandlar opplysningar om deg basert på ditt samtykke. Behandlinga av personopplysningar i dette prosjektet er i samsvar med personvernregelverket.

Kva kan eg finne ut meir?

Om du har spørsmål til studien, eller ønsker å nytte deg av dine rettar, ta kontakt med forskar på telefon, ████████

Med vyrdsam helsing: Prosjektansvarleg Bjørnar Torvholm Sævik

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Samtykkeerklæring

Eg har mottatt og forstått informasjon om prosjektet […………………..], og har fått anledning til å stille spørsmål. Eg samtykker hermed til:

[   ] å delta i prosjektet gjennom å teste tre forskjellig journalistiske produkt og svare på spørsmål om mineopplevingar av produkta.

Eg samtykker til at mine opplysningar handsamast fram til prosjektet er avslutta.

(Signert av prosjektdeltaker, dato)