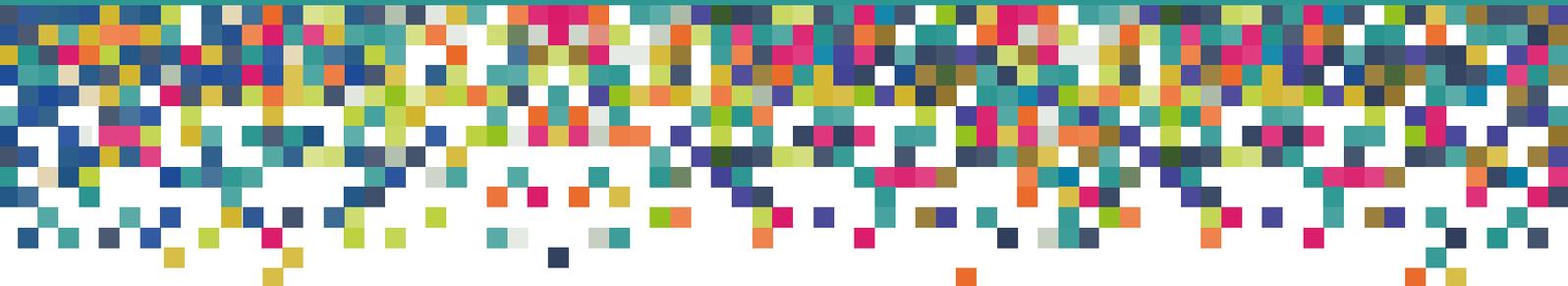




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Embodying Disability

Problematising Empathy in Immersive Experiences of Non-Normative Bodies

Pablo Agüera Reneses



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ABSTRACT

Virtual Reality (VR) enables users to embody the perspective of someone else. Multiple VR experiences have been developed in recent years that use this technique to promote empathy and change societal attitudes towards disabled people. Instead of following the positivist tradition of previous research, this dissertation will investigate the embodiment of non-normative bodies in Virtual Reality as a socio-cultural phenomenon. This will be done through a critical thematic analysis of ten interviews with non-disabled university students in the UK after experiencing a VR piece related to disability. This study situates the use of Virtual Reality Perspective-Taking (VRPT) in the middle of a contested debate inside the field of disability studies regarding the role of disabled people's lived experience. The VR experiences were found to be effective in providing unmediated access to the character's mind and producing an empathic response on the participants. However, the participants reported negative and medicalised understandings of disability. Furthermore, the VR experiences were found to incentivise the voyeuristic curiosity of the users and provoked paternalistic feelings of pity and compassion. While the results of this research do not discourage the use of VRPT for the self-expression of personal accounts of disability, they suggest that, by itself, it is an ineffective tool to promote social inclusion. This study highlights the necessity for more emancipatory research from disability scholars in the field of VR and for better accessibility to the industry for disabled creators and users. Furthermore, the great variability of responses found is indicative that the field of critical disability studies would benefit greatly from more active research of non-disabled audiences.

1 INTRODUCTION

It is only by listening to and valuing the perspectives of those who are living disabled lives that the able-bodied can begin to understand that even severe disability does not have to prevent a joyful and desired life. (Hosking, 2008: 13)

Fifteen per cent of the population experiences some form of disability; over fifteen million just in the UK, making it the largest minority group (Chan and Zoellick, 2011). Disability is a distinct social condition that characterises those with either visible or invisible impairments who face unequal social and institutional barriers imposed by an able-centred society (Titchkosky, 2003). This label, however, encompasses a diverse and intersectional group of people with multiple understandings of their lived experience and their relation to society (Shakespeare and Watson, 2001).

Social stigma still conditions and inhibits the everyday interpersonal interaction between non-disabled and disabled persons (Darling, 2013). In the absence of direct contact, the social imaginary and understanding of life with a disability is shaped primarily through the representations in the media (Haller, 2010). The media, however, provides a distorted and stereotypical picture of disability detached from reality (Shakespeare, 1999).

In an attempt to bridge our perceptual gap between non-disabled and disabled persons, a variety of simulation exercises emerged with the promise of transporting the user into the lived experiences of people with disabilities (French, 2007). New forms of digital media hold a similar promise by providing the opportunity to embody other bodies in Virtual Reality (Slater and Sanchez-Vives, 2016). Perspective-Taking Virtual Reality (PTVR) is being tested in professional, artistic and medical settings as a tool to promote empathy and awareness (Herrera et al., 2018). Inspired by the disability scholars' critique of non-virtual simulation exercises, this dissertation will explore the use of PTVR experiences by non-disabled users to embody non-normative bodies as a socio-cultural phenomenon. Diverting from the positivist accounts of previous research on PTVR that relies on survey data and statistical measurements, this dissertation will explore how this technique affects perceptions of disability through semi-structured interviews with non-disabled users.

For this dissertation, I will adopt an identity-first language (disabled person / non-disabled person), which is the standard among contemporary disability scholars in the UK, and

reflects the intentions of this research to define disability as a sociological, political and relational phenomenon, beyond the individual (Chapman, 2009; Goodley, 2011). The language used to define disability is fluid and continuously evolving. Hence, I do not treat this as strict labels and acknowledge the validity of other approaches, such as people-first language, as well as the right of those who do not to subscribe under the disability label at all (Dunn and Andrews, 2015).

2 LITERATURE REVIEW

In this literature review, I attempt to provide an overview of the relevant work that has informed this research. Due to the multidisciplinary nature of the topic, the literature is dispersed throughout a diverse array of disciplines including disability studies, neuroscience, media and cultural studies and philosophy. In the first section, I will provide a historical overview of the concept of disability. Then, I will introduce some concepts from the cultural study of media representations of disability, focusing on how this literature has theorised the non-disabled audience. Thirdly, I will provide a contextualised introduction to Virtual Reality and outline the promises and challenges of virtual embodiment. The final section will explore how Virtual Reality Perspective-Taking is being used to promote empathy and reduce implicit bias.

Given the Western focus of this dissertation, the literature review will draw primarily from authors in British scholarly tradition, prioritising the work from disabled researchers. This is not to undervalue the scholarship and history of disability in other parts of the world, but to acknowledge the specific and limited scope of my research.

2.1 Conceptualising disability

Social understandings of disability have evolved greatly throughout history (Chan and Zoellick, 2011). This conceptual variability remains today, with several responses to disability emerging from different geographies and communities (Goodley, 2011).

Disability is another form of the variability of human experiences, such as race, gender or ethnicity (Darling, 2013). Far from defining a homogeneous identity, the disability label comprises a diversity of categories: cognitive and physical, visible and invisible, voluntary

and involuntary, congenital and acquired. Furthermore, new contested terms like 'temporary able-bodied' (TAB) highlight how everyone can become 'disabled', and some 'able-bodied', throughout their lives (Couser, 2005; Goodley, 2011). This sense of fluidity is a distinct factor of the disability when compared to other forms of human variability marked by systemic discrimination (Darling, 2013).

Throughout the past decades, academics and activists have theorised multiple conceptions of disability, generally referred to as models (Marks, 1997). These models attempt to bring about public awareness and recognition of the material and psychological conditions of exclusion and discrimination faced by disabled people (Shakespeare, 2006).

2.1.1 Medical model

Rooted in a liberalist ideology, the medical model defines disability as an individual condition or deficiency (Hosking, 2008). Disability is inherent to the person and equated to their impairment (Marks, 1997). This model reduces disability to a medical condition, with its symptoms and disadvantages (Grue, 2011). Taking the able body as a normative standpoint, the medical model advocates for normalisation, i.e. curing the abnormal body (Grue, 2011).

2.1.2 Social model

In the UK, the disability rights movements of the 1980s brought forward a new paradigm that shifted the focus from the individual's impairment to the disabling environment (Carr, 2011). Inspired by Marxist theory, the social model understands disability as a systemic form of social, economic and political oppression (Grue, 2011). The social model created a conceptual division between 'impairment', a functional limitation, and 'disability', considered a social construct (Meekosha and Shuttleworth, 2009). Its proposed intervention is to overtake the system of oppression by reforming institutions and changing societal attitudes (Shakespeare, 2006). Today, the core dictates of the social model are widely accepted in the West, and the medical model is no longer considered an acceptable theoretical standpoint (Grue, 2011).

2.1.3 Critical disability studies

One of the main criticisms raised against orthodox versions of the social model concerns its disregard of individual experience. Influenced by post-structuralist and post-modernist ideas, a new wave of disability research under the label of critical disability studies (CDS) set

to challenge the strict divide between impairment and society presented by the social model discourse (Hosking, 2008; Meekosha and Shuttleworth, 2009). By disregarding the personal accounts of disability as a distraction from its collective struggle and political agenda, critics argue, the social model fails again to recognise the agency and voice of the individual (Grue, 2011). The newly proposed critical models claim back the importance of an individual's bodily experience of impairment, as well as its biological origins (Corker and Shakespeare, 2002). At the core of these models is the question of where to locate disability. Deborah Marks (1999a) argues that instead of trying to locate disability on the body, society or culture, we should consider disability as an embodied relationship. Marks defines disability as 'the complex relationship between the environment, body and psyche, which serves to exclude certain people from becoming full participants in interpersonal, social, cultural, economic and political affairs' (Marks, 1999a: 611). This definition has the advantage of moving beyond the social/individual binary, embracing a holistic understanding of disability that considers every level of experience, from the environmental and social to the psychological, including the unconscious (Marks, 1999a). It is this broad post-modernist framework that puts the embodied experience of disability at the forefront that I deem the most appropriate to analyse the complex phenomenon of virtual embodiment.

2.2 Disability and the Media

A prevalent goal of CDS is the cultural study of the symbolic and metaphorical value attached to disability through language and media representations (Hosking, 2008; Mitchell and Snyder, 1997). In contrast to other minority groups that also suffer the effects of social invisibility and institutional marginalisation, disability is actually hyper-represented in mainstream culture and arts (Couser, 2005).

Disability has become a precious cultural commodity, widely used as a symbolic plot device or character trait, to advance certain narratives (Couser, 2005; Shakespeare, 1999). These representations 'are not accurate or fair reflections of the actual experience of disabled people' (Shakespeare, 1999: 165). Instead, they rely on common misconceptions and stereotypes that reinforce the able-ist rationality and mythology and perpetuate social exclusion and discrimination (Barnes, 1992).

Non-disabled authors, drawn by the 'unknown' nature of the disability, portray disabled people as either inferior or superior individuals, rarely as people with ordinary lives (Overboe, 1999). Generally, the impairment defines the disabled characters and symbolises

their imperfection, vulnerability, weakness, pain or death (Barnes, 1992; Mitchell and Snyder, 1997; Overboe, 1999).

Furthermore, disabled characters are generally represented in isolation, disengaged from society (Marks, 1999b). According to Mitchell & Snyder (1997) disability is represented by isolated cases, instead of as communal identity, to provoke superficial emotional responses of pity or abhorrence, without having to address the real dimensions of the problem.

2.2.1 Disability in the virtual world

Non-normative bodies also populate the virtual world. Some authors argue that virtual environments present the same patterns of (mis)representation outlined above. A good example is science fiction and horror video games, in which ability is assessed and rewarded while disability represents deviance and loss, echoing the assumptions of the medical/individualistic model (Carr, 2014a, 2014b).

In contrast, Faya Ginsburg (2012) argues that digital technologies present promising opportunities for self-representation and inclusion. For example, virtual worlds, such as Second Life, have become popular platforms of self-expression for disabled people (Carr, 2011; Ginsburg, 2012). Furthermore, social media platforms present alternative, creative, first-person ways to communicate their lived experience (Ginsburg, 2012). However, while digital technologies enable spaces for the collaborative construction of virtual identities and support networks, social exclusion and disabling designs remain prevalent issues in the virtual world (Carr, 2011).

2.2.2 Life narrative: giving the voice back to the disabled

A primary reason behind the prevalence of inadequate representations of disability is the historical exclusion of disabled people from the public (and counter-public) sphere (Mitchell and Snyder, 2001, 1997). It was not until the end of the last century that disabled people started to take control of their narratives through life writing (Couser, 2005). These autobiographical accounts not only gave them a voice to express themselves but also a way to combat widespread misrepresentations of disability (Couser, 2005).

However, Mitchell and Snyder (1997, 2001) point out the limited effectiveness of life writing as a critical political tool of resistance. They argue that its first-person perspective shifts the attention from the social and institutional context to the realm of the individual (Mitchell and Snyder, 2001). Hence, it risks feeding the fetishistic curiosity of non-disabled readers to

access the private experience of being disabled without generating the necessary political and moral response from them (Couser, 2005; Mitchell and Snyder, 1997).

The personal narrative expands the boundaries of our understanding of disability on an individual level, but its attendant social and political contexts tend to be overshadowed by the emotions of pity and/or sympathy evoked by the reader's identification with the narrator's personal plight. (Mitchell and Snyder, 1997: 11)

Mitchell and Snyder's critique focuses on the response from the non-disabled audience. However, other post-modernist authors argue about the inherent importance of recognising the internal effects of oppression (Marks, 1999a). Beyond the reaction from the non-disabled audience, representation has a value in itself for disabled people (Corker et al., 1999). Echoing Nancy Fraser's (2003) 'two-dimensional approach' to social justice; recognition is not at odds or subordinate to the struggle for material redistribution.

2.2.3 The non-disabled audience

The media misrepresentation of disability has a direct effect on the life of disabled people by informing social and political attitudes (Berube, 1998; Hosking, 2008). For example, Briant, Watson and Philo (2013) found a correlation between pejorative coverage of disabled people in UK newspapers and cuts in welfare support.

While widely theorised by the literature, the non-disabled audience has rarely been actively studied by disability scholars (Woo, 2012). Instead, the over-reliance on textual analysis techniques of the field has led to a static and generalistic understanding of the motivations and responses of the non-disabled public (Woo, 2012). Most arguments depart from the idea that disabled people elicit both desire and horror on non-disabled audiences (Overboe, 1999). However, disregarding the evolving nature of audiences, the literature repeats the same arguments to explain the fascination and fetishisation of freak shows in the past and the popularity of human-interest TV and medical documentaries today (Marks, 1999b).

Overall the literature identifies two primary motivations for the consumption of media representations of disability. Firstly, the mediated gaze, both voyeuristic and objectifying, enables the non-disabled audience to explore the 'exotic' nature of disability without the risk of confrontation inherent to real-life interaction (Couser, 2005; Overboe, 1999). Secondly, by comparing themselves against the non-normative body, the non-disabled audiences reinforce their sense of normalcy and ability (Mitchell and Snyder, 1997).

2.3 Embodiment in the digital age

The 'age of information' brought about a radically new paradigm of embodiment that challenges the traditional understandings of the human body underlying the theories of mediated interaction between disabled and non-disabled people outlined above (Corker and Shakespeare, 2002).

The cyberspace has enabled new ways to represent our 'embodied subjectivity' beyond the constraints of the physical body, opening the possibility to 'disembodied subjectivities' (Hayles, 1999). Post-humanist theorists see this as an opportunity for 'getting rid of the flesh', and the social categories embedded within it (Hayles, 1999). To this cause, Donna Haraway's feminist approach to cyborg theory proposes to break the boundaries between the body, the animal and the machine through the manipulation of the body (Haraway, 1991).

2.3.1 The embodied mind

The post-humanist dismissal of the biological body as an essential feature of human being has revived the philosophical debate about the relationship between mind and body (Morie, 2007). Here is essential to draw back from Maurice Merleau-Ponty's phenomenological critique of Cartesian dualism. Merleau-Ponty defines embodiment as 'the extension of the bodily synthesis' (Merleau-Ponty, 1962). Through embodiment, objects, such as a guiding pole, become an extension of the 'realm of the senses', entering one's identity and altering the understanding of our surroundings (Iwakuma, 2002).

Recent discoveries in the field of cognitive science regarding the high interdependence between mind and body provide empirical validation of Merleau-Ponty's theory of perception (Morie, 2007). Bodies matter because our cognitive thought depends 'for its specificities on the embodied form enacting it' (Hayles, 1999: xiv).

The next section introduces the case of Virtual Reality, a technology that enables users to have embodied experiences of virtual worlds, providing the possibility to expand the boundaries of our embodied cognition (Bailey et al., 2016).

2.3.2 Embodiment in Virtual Reality

Virtual Reality (VR) is a 'computer-generated experience that can simulate physical presence in real or imagined environments' (Shin, 2018). VR allows the user to enter real or simulated environments in which to experience 'telepresence', the simulation of presence (Heim, 1995)

Despite dating back to the 1960s, it was only recently with the emergence of smartphones and cheap head-mounted displays that this medium has reached the mainstream audiences (Lee et al., 2017). While achieving a sense of immersion was already a possibility with films or books, the additional auditory, visual and haptic cues afforded by VR provides a step-up in the sense of presence and interactivity (Heim, 1995).

Virtual Reality challenges previous understandings of embodiment by allowing the possibility of existing in two different bodies simultaneously (Morie, 2007). This sense of dual existence has led to different theories, from those advocating that VR provides a disembodied experience to those who frame VR as a 'rite of passage' or threshold between two worlds (Morie, 2007).

VR creates an illusion of non-mediation, in which the mental body expands beyond the physical one (Waterworth and Waterwoth, 2014). This 'embodiment illusion' resembles Merleau-Ponty's 'phenomenological osmosis' outlined above. An extensive body of research in neuroscience and psychology has emerged in the past decades that explores the potential of virtual embodiment in shaping our mental representations, behaviour and identity (Bailey et al., 2016; Herrera et al., 2018; Slater and Sanchez- Vives, 2016).

Virtual Reality Perspective-Taking

Particularly interesting for this research is the notion of Virtual Reality Perspective-Taking, which refers to the use of virtual embodiment to 'take on the perspective of someone else' (Loon et al., 2018: 1). Recent studies support the notion that people conform to the behaviours of the virtual bodies they embody in VR; a process called the 'Proteus Effect' (Yee and Bailenson, 2007). Furthermore, according to the stereotype-activation theory, people rely on social stereotypes to inform their behaviour of virtual bodies that are different from their own (Maharaj, 2017). The effects of these virtual behavioural exchanges seem to transcend beyond the virtual world (Slater and Sanchez-Vives, 2016). For example, in Groom et al. (2009) white participants that embodied a black virtual body during a job interview recorded greater racial bias after the experience, than those that embodied white avatars.

VR as a socio-cultural phenomenon

The research on VRPT confirms the notion that ‘not just our bodies are transported (in VR), but also our history and our social and cultural context’ (Murray and Sixsmith, 1999: 320). Despite the infinite possibilities promised by VR, due to our body histories, we enact the same sociocultural patterns that guide our behaviour in real life (Maharaj, 2017; Murray and Sixsmith, 1999).

The freedom of the user is also restricted by creators, who ultimately design the role played by the user. This is particularly problematic given the lack of diversity in the field (VWR, 2019). Furthermore, since VR was developed to fit the sensory world of its developers (mostly white western able-bodied men), those not fitting that category may not find their bodily experience recognised in the same way. This is clearly illustrated by the necessity of inclusive design solutions for people with disabilities (Sharkey et al., 2006). From a socio-cultural perspective, virtual embodiment is currently a privilege that allows some the freedom to escape and exchange bodies, while others remain trapped in their corporeal experience of discrimination (Bailey, 1996). The last subsection explores the role of disability in this debate.

2.3.3 Disability in the post-human age

Disability is a recurrent theme in the socio-cultural study of technology (Mitchell and Snyder, 1997). Jean Baudrillard, for example, frames disability as an advantage, in a modern world that aspires for dehumanisation and mutation (Sobchack, 1995). In a similar vein, Hayes (1993) labels both disabled people and VR users as cyborgs due to their use of prosthetic equipment to adapt their sensory experience. These analogies, however, forgo a discussion about the struggles inherent to the lived experience of disability and are indicative of the omission of a disability studies perspective (Mitchell and Snyder, 1997).

Critical disability studies share with posthumanist theory the defiance of the normative status of the liberal body and offer new alternatives ways of living and connecting with the world (Goodley et al., 2014). However, orthodox social model scholars see posthumanist ideas as a scapegoat from the real struggle against oppression (Corker and Shakespeare, 2002). For them, these arguments threaten the fight of disabled people to gain allegiance to the category of ‘human’, an essential prerequisite to fulfil their demands for social justice and human rights (Goodley et al., 2014). In a similar vein, Vivian Sobchack (1995) rejects Baudrillard’s post-structuralist analysis and proclaims the importance of the flesh. Without

the lived body, Sobchack (1995) argues, we would be techno-bodies with no sympathy or value for life since we need to be bodies to feel the pain of others.

Virtual Reality is not ultimately interested in getting rid of the body, but on expanding its horizons into the virtual world. Hence, it has also been proposed as a tool to enable empathic responses through virtual encounters. This is the focus of the final section.

2.4 Simulation and empathy

Empathy is generally considered essential for social cohesion due to its ability to bridge the gap between *us* and the *other* (Matthiesen and Klitmøller, 2019). Hence, several techniques have emerged throughout history to evoke or train or empathic response. However, empathy is a far more complex phenomenon that may not always lead to the intended consequences (Assmann and Detmers, 2015).

2.4.1 Empathy and inclusion

Empathy is 'the ability and tendency to share and understand other's internal states' (Loon et al., 2018: 1). The literature tends to make a distinction between cognitive empathy (recognition of other's state of mind), affective empathy (sharing emotional states) and compassionate empathy (motivation to help others) (Challita, 2016). However, research suggests that these are highly interrelated processes (Matthiesen and Klitmøller, 2019).

The idea that empathy is the foundation of moral action has been challenged recently on multiple fronts (Assmann and Detmers, 2015). Two of them are particularly relevant for this research.

Self-interested empathy

Several authors have argued that empathy is biased, partial and unreliable, and hence, an invalid guide to moral judgement (Bloom, 2016; Prinz, 2011). These arguments rely on the notion that empathy is an ego-centric emotion (Bloom, 2016).

Even though it consists of imagining someone else's state of mind, research suggests that we base these predictions on how we would feel in their situation (Boven et al., 2013). This process of self-recognition is faulty since our predictions are biased to our current emotional state and overestimate the similarities between ourselves and others, generating 'empathy gaps' (Boven et al., 2013).

According to Fritz Breithaupt (2015), empathy provides us with the inherent sense of superiority and control embedded in knowing and anticipating other's emotions. It is up to the individual to decide to use this power for either moral or immoral actions (Breithaupt, 2015). Furthermore, there are also costs (or self-loss) that condition when we decide to 'turn it on' (Breithaupt, 2015). Empathy generally involves an obligation and, sometimes, can even lead to emotional exhaustion, which provokes avoidance instead of prosociality (Assmann and Detmers, 2015). Fictional characters enable us to enjoy the benefits of empathy with no commitments attached (Breithaupt, 2015).

According to these critiques, empathy is problematic because it leads to social judgments that are made 'in comparison to the self, in service of the self and in the direction of the self.' (Boven and Loewenstein, 2005: 293). While it is important to take their warnings into account, it would be a mistake to frame empathic behaviour as solely motivated by self-interest (Sen, 1977).

Sameness and difference

Empathy is generally described in terms of sameness; the ability to feel the same as others (Matthiesen and Klitmøller, 2019). Instead, Hannah Arendt argues for the value of difference and uniqueness (Matthiesen and Klitmøller, 2019). Moral action starts with recognising the *other* as different (Arendt, 1998). Instead of projecting ourselves on others, Arendt proposes to visit the other, leaving behind the comfort of the familiar (Matthiesen and Klitmøller, 2019). While this involves rejecting the possibility of achieving a complete understanding, it is the best way to learn about other's unique experience of the world (Matthiesen and Klitmøller, 2019). Furthermore, the process of understanding others involves active judgement, not passive reception. Moral action requires us to perform an independent judgement, to retain our own voice, which is only possible if we maintain a 'proper' distance with the *other* (Nash, 2018).

2.4.2 Contextualising simulation exercises

The idea of getting under the skin of disability to promote empathy is not new to Virtual Reality. Non-virtual vicarious simulations of disability were already very common in inclusion and diversity training (Flower et al., 2007). Simulation exercises place non-disabled people in situations designed to simulate an experience of disability, for example by covering the eyes to simulate blindness, under the hypothesis that this will help them understand and empathise with their disabled peers (French, 2007).

Despite being enjoyable and promoting empathy, there is a lack of evidence that supports their effectiveness in bringing about attitude change (Flower et al., 2007). In fact, research suggests personal interaction to be far superior in this regard (Flower et al., 2007). Even more worrying are the claims that simulation exercises may have the opposite effects that they intended. Sally French (2007) argues that disability simulation provides a distorted view of disability and inculcates negative and paternalistic attitudes. For example, in a wheelchair simulation exercise, nurses reported feeling isolated, inferior and unattractive (Richardson, 1990).

Similarly to Mitchell and Snyder's (1997) critique of life writing, French (2007) argues that simulation exercises focus solely on the impairment, ignoring societal factors and the psychological effects of life-long discrimination. Furthermore, Silverman (2015) claims that these exercises can only simulate the experience being temporarily disabled because participants can ultimately stop being disabled whenever they want. Furthermore, the simulation ignores the role of coping mechanisms and support networks, overstating the difficulty of simple tasks (Silverman et al., 2015)

2.4.3 The empathy machine: VRPT, empathy and disability

One of VR's alleged powers is the ability to promote empathy by allowing the user to see through someone else's eyes (Hassan, 2019; Herrera et al., 2018). A large body of scientific research has emerged to study the potential of VRPT as a tool to exercise the 'muscle' of empathy (Carey et al., 2017; Loon et al., 2018).

There is robust evidence suggesting the ability of VRPT to promote empathy and prosocial behaviour towards others (Herrera et al., 2018; Loon et al., 2018; Slater and Sanchez-Vives, 2016). The effects, however, seem to be moderated by technical factors (presence, immersion, interactivity) and personal traits (motivation, disposition, openness, inherent empathic traits, familiarity with the emotion) (Loon et al., 2018; Shin, 2018).

Particularly relevant for this research is the use of VRPT to promote empathy towards disabled people. Several experiences have been developed to recreate the experience of deafness, schizophrenia or autism, among others. One study found that a virtual simulation of schizophrenia induced empathy and positive perceptions of mental health, but only when paired up with traditional empathy induction exercises (Kalyanaraman et al., 2010). There is also evidence that this technique can be beneficial for informal care-givers by improving their understanding and feeling of competence (Wijma et al., 2018).

There are three main problems with the current research on VRPT and empathy. Firstly, the field is at its early stages and consists only of a handful of isolated, small sample-size lab experiments (Herrera et al., 2018). Secondly, it relies almost entirely on survey data or self-reported quantifiable measurements that cannot fully capture the subjective emotional experience of the users (Carey et al., 2017). Thirdly, the field repeatedly fails to consider the problems with empathy that were briefly introduced above (Hassan, 2019; Nash, 2018)

Beyond the lab, companies, NGOs, advocacy groups, news organisations and artists have already started to develop publicly-available VRPT experiences (Herrera et al., 2018). VRPT might soon be a widely used tool in humanitarian communication, activism, awareness campaigns, education, journalism and inclusion training for workplaces and schools (Hassan, 2019; Herrera et al., 2018; Slater and Sanchez-Vives, 2016). Hence, the research of VRPT can no longer ignore the social, cultural and political dimensions of this phenomenon (Nash, 2018).

2.5 Theoretical framework and research question

The use of VRPT to promote empathy towards disabled people needs to be conceptualised beyond the positivist framework of neuroscientific research. The above discussion attempted to highlight the multitude of factors that interplay in the understanding of this technique as a socio-cultural phenomenon.

This dissertation attempts to engage in a critical discussion about the embodiment of non-normative bodies in virtual reality and the social consequences of using this technique to promote empathy. The aim is twofold.

Firstly, it sets to introduce the critical lens of disability studies in the study of virtual embodiment. VRPT has been theorised as the next step in the trajectory towards a posthumanist reality and as the ultimate medium to express the lived experience of disability. However, these analyses overlook the social and cultural context surrounding this technique. Hence, it is essential to engage with previous debates around the role of simulation exercises and first-person narratives in advancing the goals of disabled people. Furthermore, it is crucial to question the effects of this technique beyond simple quantitative metrics of empathy.

Secondly, this research aims at expanding the study of non-disabled audience's interaction with the disabled imaginary. Cultural disability studies need to move beyond the treatment

of non-disabled public as a passive homogeneous audience and consider their role as active meaning-makers and producers of the ableist mythology. New technologies provide a fresh opportunity to explore this player-centred approach since they involve more active forms of engagement and participation (Behrenshausen, 2013; Livingstone, 2003). Moving away from effect-oriented studies, I am interested in understanding the multiple subjectivities that emerge from VR simulations and the acts of 'appropriation' and 'subversion' used by the users to resist the structure and meaning of the VR experience (Behrenshausen, 2013).

While VRPT has not yet been directly studied by disability scholars, its proposed reconceptualisation of the human experience situates it in the epicentre of an ongoing debate inside the field of disability studies between the structuralist social model and the postmodernist critical accounts. Hence, it presents the perfect opportunity to engage in conversations regarding the role of disabled people's bodily experience, the limits of empathy and the representation of disability in the digital world.

Three main concepts interplay in VRPT experiences of disability: embodiment, empathy and disability. However, as we have seen, all of them are complex and contested phenomena. In order to fill the two gaps in the literature identified above, it is necessary to adopt an interdisciplinary approach that enables a dialogue between the different disciplines that have engaged with these three concepts. Only when the contributions of the psychology, disability studies and cultural studies traditions come together, we will better understand the social and cultural consequences of using PTVR to change social perceptions around disability.

It is with this vision in mind that my research will attempt to answer the following research question: *In what ways does the embodiment of non-normative bodies in VR environments affect perceptions of disability among non-disabled users?*

3 RESEARCH DESIGN

This section presents the rationale for the choice of methodology, an overview of the research design and a discussion of ethics and flexibility. The design of this research was informed by the lessons learned from a previous pilot study with the creators of the VR experiences.

3.1 Methodological rationale

The mission of this research is not to find a measurable and generalisable proof of the effectiveness of VRPT experiences of disability but to critically assess it as a socio-cultural phenomenon. Hence, instead of survey data and quantitative empathy measurements, symptomatic of the positivist tradition of behavioural and cognitive science, I decided to conduct in-depth semi-structured interviewing (Bolderston, 2012). Qualitative interviewing allows the researcher to enter the life-world of the participant, and explore their subjective understandings, motivations and interpretations (Opdenakker, 2006; Warren, 2001). I decided to conduct individual interviews, instead of focus groups, because of the sensible and intimate nature of the topic (Elmir et al., 2011), and to explore how their individual life experiences affected their unique interpretation of the VR experience (Galletta, 2013).

3.2 Sampling design

While the first intuition was to set the sample universe on casual VR users, interviews with the creators made clear that these experiences were designed for the general audience, regardless of their level of experience with VR.

Given that a certain level of homogeneity would improve the likelihood of finding overarching themes (Robinson, 2014), I decided to set my inclusion criteria based on the most common demographic of users in the UK: urban young university-educated UK residents of 18-35 years old (Buckle, 2018).

The initial intention was to follow a quota sampling with at least 5 participants from two categories:

- A. Participants that had participated in a VRPT experience related to disability by their own initiative.
- B. Participants who would undergo a pre-selected experience as part of the interview.

This strategy would ensure heterogeneity on the level of interest and knowledge of VR, as well as counteract the current gender and ethnic imbalance in VR usage (Buckle, 2018). Type B participants were recruited through convenience sampling by randomly approaching people on the London School of Economics (LSE) Centre Building. Due to failed attempts to recruit type A participants from online forums or public showcases, the only type A participant resulted in being a personal connection. The final sample of the study consisted

of ten participants, one type A and nine type B (see APPENDIX A for the participant profiles).

My research falls into the problematic habit of sampling from university students (Henrich, Heine and Norenzayan, 2010). However, it is important to note that this study does not have the intentions to treat the sample as representative of a wider population.

3.3 The VR experiences

The participants underwent at least one of the following VR experiences: *The Party* (2017), *A Walk Through Dementia: On The Road (AWTD)* (2016), *Face to Face (FF)* (2018) and *Manic VR* (2018) (See APPENDIX B for the descriptions).

Manic VR and *FF* are independent artistic projects, while *The Party* and *AWTD* were designed as awareness campaigns. *Manic VR* involves haptic feedback, while the other three are web-based 360-degree videos. An unintentional strength of the sample of VR experiences is its diversity, both in terms of the types of disabilities and on the age, ethnicity and gender of the embodied characters. Despite being produced by non-disabled creators, all four pieces are based on real-life experiences of disability and involved, in different capacities, disabled people in the creative process.

3.4 Topic guide

The interviews were conducted following a semi-structured approach, which enables 'opportunities for the researcher and participant to inquire into connections between the participant's experiences and a constellation of human relationships, institutional structures and discourse' (Galletta, 2013: 94) The topic guide included both open-ended questions and theory-guided questions (Galletta, 2013). This combination allowed for spontaneity while also ensuring the discussion covered the relevant themes (Whiting, 2008). The topic guide included an opening segment with introductory questions to allow the participants to situate their personal story and build rapport before moving to discuss more sensitive topics (Elmir et al., 2011; Warren, 2001).

3.5 Interview dynamics

For type B interviews, participants who fitted the criteria were randomly approached among the people in the building and asked for their participation. *The Party* and *AWTD* were selected to be showcased during the interviews because they are freely available online,

compatible with mobile headsets, and have received significant public attention. For inexperienced users, I provided basic instructions and helped adjust the Freely VR mobile headset and headphones used to showcase the experience. The participants could decide how to experience the piece; most stood up, moving freely. No participant requested to stop the experience. Once finished, participants were invited to sit down for a 'chat'.

Despite being a public space, it was relatively intimate and quiet during most interviews. They lasted between eight to twelve minutes. The topic guide was memorised and only loosely followed, rewording and reordering to maintain the natural flow of the conversation, and allowing participants to introduce new topics (Galletta, 2013). I introduced myself as a fellow student to set an equal status and loosen potential researcher/participant power imbalances (Reinharz, 1992).

The type A interview was conducted via videoconference, due to geographical constraints, and lasted significantly longer (fifty minutes). As an amateur VR creator, he was considerably more knowledgeable in VR than other participants. Despite the videoconference format, the only significant difference in terms of interview dynamics was that, since this was a personal connection, it was easier to generate a friendly and relaxed tone to the conversation.

3.6 Coding framework and analysis

The interviews were recorded with a phone and transcribed with the assistance of the online transcription tool Otter.ai. The transcripts were analysed using thematic analysis, which is the most suitable method given the exploratory purposes of this research (Maguire and Delahunt, 2017). Since I was interested in how participants construct their interpretations of the experience, I followed a constructionist approach (Braun and Clarke, 2006). This approach also acknowledges the shared construction of the text between the interviewer and the participant (Braun and Clarke, 2006).

One lesson learned from the pilot with VR creators was that a purely inductive approach would not allow me to engage in the desired critical dialogue between the theory and the data. Therefore, I decided to adopt a more critical and theoretically- driven approach loosely inspired by Lawless and Chen's (2019) Critical Thematic Analysis. The goal of Lawless and Chenn (2019) adaptation of Braun and Clarke's six- step approach is to connect the discourses in the interviews with macro-level sociocultural practices and ideologies. Hence,

it is particularly useful for analysing phenomena that involve unequal relations of power (Lawless and Chen, 2019).

Following their two-step coding method, I firstly performed an initial rich inductive coding, extracting everything I could from the text ('open coding'). Then, I did a second round using deductive coding. This time I was trying to detect links between the participant's discourse and the ideologies and societal practices discussed in the critical disability studies literature. The coding technique proved to be very successful in enabling a balanced blend between the participant's personal narratives and the relevant literature, particularly in the process of choosing the most relevant codes. With the codes selected, I processed to group them under three broader themes and map them visually using *Nvivo 12*. The themes were contrasted again with the transcripts and the original codes and verified by a colleague (Maguire and Delahunt, 2017).

3.7 Ethics and reflexivity

The design of the ethical considerations for this research was approved by the supervisor prior to the recruitment process. All participants were asked to sign a consent form that described the research and the conditions of their participation. Special considerations were taken regarding the potential sensitivity of the topic. Before starting the interview, participants were reminded that they could stop at any time or refuse to answer any questions. This created an environment in which participants felt comfortable and willing to open up (Elmir et al., 2011). While some participants were less talkative than others, there was an expressive effort to provide a balanced representation of their contributions in the analysis. The participant's names have been changed in this report to ensure anonymity (Whiting, 2008). However, I do use the real name of the VR experiences since the creators granted consent to use them in this report.

It is important to acknowledge how my identity as a white Western able-bodied male has affected the different stages of the research (DeVault & Gross, 2012) and to renounce to any claims of objectivity (Danieli and Woodhams, 2005).

In terms of interview dynamics, my non-disabled identity might have helped participants to disclose their views about disability more openly (Oakley, 2013). However, disabled researchers have also found their disability to be a facilitator of rapport by giving them a 'right' to do research or a sign of authenticity (Brown and Boardman, 2011). Furthermore,

this matching effect must not be overemphasised since there were other social characteristics like gender or ethnicity that could have been equally important (Brown & Boardman, 2011).

In order to reduce the power relations, particularly with participants less familiarised with VR or disability, I tried to make the conversation a mutual sharing of information (Oakley, 2013). As a novice interviewer, this was not always easy (Whiting, 2008). For example, when some of the language used by the participants was perhaps inappropriate or inaccurate, I was presented with the trade-off between letting them know or becoming an accomplice. I decided to avoid correcting the participants unless they purposely asked for clarification.

Historically, disability research has been conducted by non-disabled scholars, and this is still largely the case in the study of media representations of disability (Danieli and Woodhams, 2005; Mitchell and Snyder, 2001). Acknowledging my privileged position and lack experiential knowledge, I can only hope this study will encourage more emancipatory research and more recognition for the value of disability studies in the field of VR.

In an attempt to counteract my bias as an able-bodied researcher, I decided to consult my research with disabled scholars, disability organisations, VR creators and psychiatric doctors (Farmer and Macleod, 2011). This was done via telephone calls and attending a workshop session. Their comments and advice were taken into careful consideration. However, I do acknowledge that, instead of occasional conversations, it would have been preferable to have an ongoing collaboration throughout all the stages of the research (Farmer and Macleod, 2011). As a sign of reciprocity, the results of this research will be disclosed with the participants and consultants.

Despite deciding not to conduct a textual analysis of the VR experiences, my analysis was inevitably conditioned by previous conversations with VR creators and by my personal interpretation of the experiences. Finally, given the specificity and size of the sample, readers are advised not to extrapolate the results of this dissertation beyond its geographical and temporal context.

4 ANALYSIS

In this chapter, I will present a discussion of my findings divided into three major themes: *gaps in the 'emotional' empathy machine, negative understanding of disability, and unmediated access to the disabled brain*. Unintentionally, the themes link back respectively to empathy,

disability and embodiment, the three main concepts of my theoretical framework. Each section includes references to the literature and a selection of relevant quotes from the interviews.

4.1 Gaps in the 'emotional' empathy machine

I felt a connexion to the main character, to the girl. Yes. Because I could feel empathy and I could understand her in a way.

- Mary

Concurring with the evidence from previous research, most participants affirmed that the experience had made them more 'empathetic' or 'sympathetic' towards disabled people. In this section, I will attempt to dissect the intricacies of their empathetic response.

4.1.1 Emotional identification

Several participants reported a strong identification with the emotions of the character, even to the extent of talking about the character's emotions in first-person.

I felt, I felt, I was alone, because there was no company. And I feel like nobody under... understand what, how I feel. So I didn't. I didn't talk to anybody.

- Robert

These comments are suggestive of what the literature calls an illusion of body identification (Kilteni et al., 2012). The term refers to the identification with the embodied character, to the level of forgetting one's own identity (Kilteni et al., 2012).

However, not everyone experienced that level of emotional connection. Lara, echoing Shin's (2018) findings, suggested that this connection is conditioned by the openness and emotional intelligence of the user.

Mathew, Nicola and Robert, who reported feeling little or no connection to the character, attributed it to a lack of sufficient context. Surprisingly, Mathew and Robert requested explicitly to see the face of the embodied avatar. The ability to see the virtual body in a

mirror is, in fact, a common technique in VR experiments to trick the brain into accepting ownership of the virtual body (Banakou et al., 2016; González-Franco et al., 2010; Louie et al., 2018).

Their comment can also be interpreted as a requirement to individualise and identify the narrative. The VR experiences differed substantially on this aspect. The creators of *Manic VR* and *FF* decided to disclose the name and life-story of the embodied avatar because they wanted to document a real-life story. In contrast, *AWTP* and *The Party* were designed as abstract and generalisable experiences. Lucas, who had experienced both *FF* and *Manic VR*, highly appreciated their person-first approach.

The biggest strengths of both of the pieces is trying to give a perspective of a specific disability, but only that perspective of the person living with that, they didn't try to generalise too much.

- Lucas

The interest in contextualising the experience suggests a necessity to direct the empathic response towards a particular individual (Matthiesen and Klitmøller, 2019). According to Blakey Vermeule, we form emotional attachments to (fictional) characters because we ‘think about most things—facts, values, norms, society, even our own fates—by binding them up into figures and stories about other people’ (Vermeule, 2011: 23). The participants wanted to ‘personify’ the issue of disability. The preference to know the individual, instead of the aggregate, is also symptomatic of people’s interest in gossip over dry information (Mantymaki, 2014; Vermeule, 2011). Furthermore, according to Breithaupt (2015), this could be understood as a demand to know the character not just *through* (their eyes) but *from above*, i.e. not only identify with their feelings but get to know beyond what the character knows, putting the user in a position of power and control.

4.1.2 Self-prediction, sameness and normalcy

As suggested by the ‘empathy gaps’ theory, there were multiple occasions in which participants would compare the reactions of the character with their self-predictions of how they would react to the same scenarios (Boven et al., 2013).

Participants would relate to previous personal experiences in which they felt similarly to how they interpreted the character was feeling.

I guess like everyone's probably been to a party where they feel a bit awkward or like a bit out of place.

- Lisa

This finding resonates with the notion that empathy requires the identification of what the 'viewer' and the 'viewed' have in common (Assmann and Detmers, 2015). In contrast, when the character's reaction differed substantially from the participant's self-prediction, i.e. no commonality was found, it created a sense of strangeness and disconnection. For example, Mathew found it impossible to conceive why the character in *AWTD* (an older woman) would feel unable to walk up some stairs. Instead of acknowledging the difference between their lived experience and the disabled avatar's experience, as Hannah Arendt recommends, participants attempted to bridge the perceptual gap through sameness by relating to familiar situations (Matthiesen and Klitmøller, 2019).

A further problem with this process of familiarisation or self-prediction is that it led to the identification of their abled-bodied experience as the 'normal' status. The normalisation of the experience was a pre-requisite for identification. If the participants were unable to identify the character's symptoms as 'normal', they reacted with 'shock', expressing compassion and pity towards the disabled character for not being able to have a 'normal' experience.

Some participants considered the perceptual gap with the embodied disabled character to be too wide to enable an emotional identification. Instead, they reported a connection with secondary (non-disabled) characters with whom they shared some commonalities. For example, Lara felt a connection with the son/caregiver in *AWTD*, since he reminded her of a previous experience as a caregiver. Similarly, Lucas felt it with the director of *Manic VR*, who was present during the showcase. In these cases, their non-disabled status seemed to be conditioning the empathic connection with the protagonist. Instead, the indirect third-person identification was considered a better 'window' into understanding life with a disability. The same effect was found in a non-virtual simulation exercise with nursing students in which the effect was bigger for those who took the role of the care-giver, instead of the patient (Levett-Jones et al., 2017).

4.1.3 Empathy as a pre-requisite to action

Another notable finding was that participants treated empathy as an essential prerequisite to action. Several participants claimed that the fact that they felt more empathetic towards people with disabilities would help them be more cautious with their actions and more proactive to help. Paradoxically, those who reported a weaker emotional connection also reported a similar willingness to change their behaviour. They argued that the experience had given them more 'data' or 'tips' on how to behave. As Jesse Prinz (2011) argues, despite the common misconception, we do not need empathy to act morally. Those who knew someone with the disability or considered themselves generally empathetic already also reported a weaker effect from the experience. This diversity of responses is suggestive that participants experienced varying degrees of affective and cognitive empathy, and that 'sameness' was not always necessary to preclude moral action.

Looking closely at the claims to action triggered by the empathetic connection, they were mostly related to offering their help and support or to being more cautious when interacting with disabled people.

If I in future see people suffering from that sort of thing. I might go and help them because now I'm aware of it.

- Emily

This sort of compassionate response is precisely what Silverman et al. (2015) and French (2007) critiqued about simulation exercises since the underlying premise is that a life with a disability is a burdensome and of inferior. The next theme addresses more similarities between VRPT and non-virtual simulations.

4.2 Negative understanding of disability

While each VR experience represented disability in its unique way, there is a significant level of commonality on how the participants described the experience of disability of the characters. Similarly to the studies on non-virtual simulation exercises described by French (2007) and Silverman et al. (2015), participants predominantly talked about disability in negative terms.

4.2.1 Disability as a personal burden

[i]t felt like everything was a problem even when it wasn't.

- Mathew

Participants repeatedly referred to how hard they imagined life with a disability to be. These comments were mostly made in relation to the 'challenging' or 'difficult' scenarios that the characters had to face throughout the story. Participants referred to the disabled character as 'confused', 'uncomfortable with the surroundings', 'anxious', 'insecure', 'frustrated' or 'nervous'.

These comments are reminiscent of the medical model discourse that considers disability as a burden or obstacle to life (Grue, 2011). Furthermore, participants tended to locate the source of the difficulties on the person's impairment, instead of on disabling environmental factors (Marks, 1997). For example, Emily's very first comment about the experience was:

I feel like (the father) should have be a bit more considerate, or like eh making less requirements of her if he was she was showing that, or like tell her she could retreat and go to her room whenever she wanted.

- Lisa

It was surprising to find no references to the disabling effect of institutional or societal forces. However, this might have been an issue related to the content of the VR experience, and not to the lack of awareness about structural issues by the users. The VR experiences focused on daily activities, and the only interactions presented were with family members, inevitably setting the tone of the conversation. According to Jan Grue, these are 'soft' scenarios in which 'the identification of an external, systemic cause of disability is more problematic' (Grue, 2011: 541). Hence the social model discourse was just harder to apply here than in other scenarios like a classroom or a job interview, in which disabling forces are more present, or at least more visible (Grue, 2011). Furthermore, the questions asked also did not actively encouraged those conversations.

4.2.2 Disability as isolation

Another negative interpretation of disability found in the interviews and widely documented by the literature is the perception of disabled people as isolated or lonely (Marks, 1999b). Multiple participants described the character as 'misunderstood', 'lost' and 'not talking to anybody'.

So the person with autism just feels that that person doesn't belong in a social environment, even if those people around that person are familiar and even if there are family members, that person still feels misunderstood and lost and just that person feels uncomfortable and yeah.

- Mary

It is a common misconception to consider disabled people with communicative disorders, e.g. people in the autism spectrum, as misunderstood or voiceless (Ginsburg, 2012). Contrary to the positive examples presented by Ginsburg (2012), this time, the use of digital technology as an innovative way to express disabled people's life narratives, failed to dismantle this stereotype.

The reports of isolation might be explained by the fact that embodied character was the only disabled person in the virtual environment. This individualistic take on disability was another shared characteristic of these experiences with other forms of media representations (French, 2007; Mitchell and Snyder, 1997; Shakespeare, 1999).

4.2.3 Accuracy

Most participants felt uncomfortable or reluctant to judge if the VR was presenting an accurate representation of disability, given their non-disabled status. However, they seemed willing to trust that it was. Furthermore, when asked to compare the VR experience to other non-immersive mediums, the consensus was that VR made the experience more realistic and able to 'completely show the situation' (Rosa). Surprisingly her, and others, considered literary works to be too subjective and reliant on the reader's imagination, failing to realise that their interpretations of the VR experience were also highly subjective (Maharaj, 2017). Lisa also considered *The Party* to be a better representation for not falling on the stereotypical portrayal of autistic people as geniuses and, mostly, male.

Some participants did acknowledge that the case presented was not representative of the broader diversity of experiences of disability. However, while most participants suggested making the experience longer and more contextualized, only one participant raised specific concerns about the representation of disability in the piece.

I don't know, I feel like the VR representation... I wouldn't call it negative, but I would be interested to see like representations of autism not in like a moment of panic. Like not in a moment of crisis. Not in a moment where it's like a struggle but it's like, you know. Everything can't be a struggle if you're autistic. Right? [...] So, what's it like just kind of going to work, or like, what's it like being at school, like the highs and lows. [...] I think that, in terms of like Em normalizing Eh autism in society would be interesting to kind of see just like, you know any sort of minority representation. Which is like, what is a boring every day. Was does it feel like? What does it look like?

- Julie

This comment is relevant since it proves that the non-disabled public cannot be theorised as homogenous and passive since there are users that do detect and resist flaws in the narratives presented to them.

4.3 Unmediated access to the disabled brain

As aforementioned, the literature is divided on how to describe the experience of embodiment in virtual environments. It was interesting to find that same variance in the participant's responses. Some described it as a sense of presence: 'being there', being part of 'their world' or 'the situation' (Nash, 2018). Others refer to VR as a vessel that allows 'seeing from her perspective' or 'seeing through the (character's) eyes' (Morie, 2007).

However, the most frequent metaphor used by the participants was: 'being in someone's head'. This was considered a unique characteristic of VR, not achievable with other mediums, not even with a face-to-face conversation.

I guess in my experience the things that I've seen in film maybe it's more em like you're seeing it from an outsider's perspective even when eh even when it's told from a first-person view. It's difficult to get inside that person's head.

- Julie

The illusion of unmediated access is a key feature of Virtual Reality and is usually attributed to design features like the first-person point of view or the level of interactivity (Maharaj, 2017; Waterworth and Waterwoth, 2014). Surprisingly, in this case, the participants considered the audio to be the most crucial feature in generating the feeling of embodiment and unmediated access. All four VR pieces involved the voice of the characters narrating their internal feelings, as well as sound effects, such as a heartbeat. According to Murray and Smithin (1999), VR technology was designed to prime the sense of vision, following the Western cultural tradition. This finding challenges that tradition. The relevance of sound in these experiences might be explained by the fact that, differently to other VR narratives, the distance between nondisabled and disabled people is not temporal or spatial, but subjective. Hence, the users were more interested in understanding the character's internal state than in the 'place illusion', i.e. the spatiotemporal transportation (Nash, 2018).

According to Riva et al. (2014), there are three conditional features to unmediated presence: user characteristics, media form and media content. While all three played a role in the level of emotional connection, as discussed above, they did not condition the feeling of presence. Even the participants who reported no emotional connection reported feeling engaged with the experience. The following section presents a potential explanation for this finding.

4.3.1 Voyeuristic curiosity and the power of knowing

Participants reported enjoying the ability to peek into the character's brain. Even those who did not connect emotionally with the character were interested in using the technology again for this purpose. While this interest might fade with time and could have been overemphasised in order to please the researcher, participants seemed genuinely keen to try similar experiences again, and some had even thought of what they wanted to see next.

Lucas was the only one to notice the thin line between using VR for understanding others or for voyeuristic purposes. He found the fact that *FF* was not an individualistic representation of disability made the experience less morally problematic.

Because family was around I think, it stopped it from being sterile, I think, and it stopped it from being like voyeuristic as well. Because I think that would be a bit inappropriate for it to be like looking at somebody with a disability. I'm not looking

at, I don't think (pause) it's it's trying to understand and trying to see through their eyes I suppose, ironically, that's not a good phrasing.

- Lucas

The participants' interest in entering the character's mind echo new findings regarding the voyeuristic intentions behind content consumption in social media. Here I am referring to voyeurism, not as a sexual practice, but as the gratification from looking at others without exposing ourselves (Hamilton, 2017; Mantymaki, 2014). It is crucial to differentiate curiosity from voyeurism. We are a curious species and wanting to learn about how disabled people feel and experience the world is not inherently wrong (Mantymaki, 2014). The problem comes from the one-sided nature of VR embodiment, and the power dynamics that this creates.

4.3.2 The power of knowing

All participants praised the value of VR as a learning tool. They argued that the VR experience had provided them with a better understanding of disability, either by reaffirming their previous beliefs or by teaching them something new.

As Mantymaki (2014) notes, voyeurism is not just about the gratification of looking into someone's private life, but about the power of taking information without giving back in return, which sets the observer in a position of power. Furthermore, 'the voyeur also avoids the opportunities for attachment building and developing social relationships' (Mantymaki, 2014: 3). There are two different ways in which the knowledge acquired during the VR experience generated unequal relations of power.

The first concerns the purpose of their pursuit of knowledge. Participants seemed keen to use this newly acquired knowledge in future interactions with disabled people. For example, Julie found that 'it gave some interesting cues about like best practices of like how to interact with people on the spectrum as well as things to maybe avoid'. This resonates with Vermeule's (2011) theory that we enjoy (fictional) characters because they allow us to learn how to improve our real-life interactions and predict other's behaviour.

However, participants seemed more interested in learning how to cope with an eventual encounter than in seeking it out themselves. For example, the lack of two-sided interaction during the VR encounter was not raised up as an issue, and most participants considered the

VR experience to be 'enough' to understand the experience of disability. This resonates with the idea that media representations of disability provide a safe space for the non-disabled public to explore the topic of disability while avoiding the risk of real-life interaction (Mitchell and Snyder, 2001). Only Lucas, who had a chance to talk to the creators and the protagonist of *FF* in real life, mentioned that this was essential for 'humanising' the experience.

The second power imbalance relates to access. Even if the participants would want to use the newly acquired knowledge for a self-less purpose, at the structural level, VR remains a very inaccessible technology. Again it was only Lucas, perhaps because of his 'insider' position, who commented on this power imbalance. When asked if he would watch a similar experience again, he answered:

Yeah, for sure. I mean, em, again, it's a question of access, I think a lot of it should be factored in when you're talking about disability as well that some people will be excluded from being able to take on those experiences. [...] I think there's an accessibility issue there.

5 DISCUSSION

The analysis above highlights the diversity of factors playing into the non-disabled user's understanding of disability after embodying a non-normative body in VR, which range from the specifics of the story to their personal connection with the theme. The overall reaction to the piece was positive, and the creators succeeded in generating the illusion of 'being in the shoes' of someone else. However, as displayed by the themes, there are also severe underlying issues with how the audience referred to the disabled character, as well as with the type of response that the VR generated. This section will explore the interrelations between the three themes and link them back to the two gaps in the literature that motivated this research. It concludes with some recommendations for future research.

5.1 A critical disability studies approach to virtual embodiment

Many of the criticisms that Disability Studies scholars have previously raised against non-virtual simulation exercises or life writing seem to apply to the four VRPT experiences of disability studied here. In order to generate an empathic response, these experiences focused

on the internal experience of disabled people in challenging everyday scenarios. However, this led participants to describe the experience of disability in negative and individualistic terms.

The first-person 'inside the head' illusion proved successful in maintaining the participants engaged with the character's testimony, in a way that other VR experiences that transport the user in space and time fail to achieve (Nash, 2018). This approach succeeded in portraying the internal states of pain and oppression produced by the character's impairment; a side of disability largely ignored under the ideological dominance of the traditionalist social model (Shakespeare and Watson, 2001).

However, despite the potential accuracy of the representation, the participant's prior subjective beliefs inadvertently affected their understanding of the experience. In pursuit of an empathic connection, the participants reduced the experience of disability to their own able-bodied interpretation, instead of validating it as unique (Overboe, 1999). This, in effect, generated mostly feelings of pity or compassion, ultimately perpetuating the hierarchisation of disabled people's lived experience as inferior (Silverman, 2015).

What this analysis suggests is that, just like its non-virtual analogous, VRPT has severe limitations and can produce undesirable effects when used as a tool to promote empathy. A potential way to mitigate these would be to complement the VRPT experience with real-life interaction (French, 2007). While only one participant, Lucas, experienced this combination, it seemed to produce a more positive, dialogical and holistic understanding of disability.

Finally, another worrying aspect of VRPT found by this analysis relates to the power imbalances created between the user and the non-normative body. At its current state, VR is only enabling the post-humanist dream of experiencing the world through other bodies to a privileged few (Maharaj, 2017). Unless VR becomes more accessible to disabled users and disabled creators, it risks becoming a voyeuristic tool for non-disabled users to peek into the private life of disabled people, instead of a platform for mutual exchange of intimate experiences and empowering self-expression.

5.2 The active role of the non-disabled user

Beyond the commonalities discussed above, the analysis found a surprising heterogeneity among the participant's interpretations of the VR experience. Their personal experience and knowledge of disability were found to play an important role in their reaction to the

experience. While some participants passively accepted the message presented to them, others were able to detect flaws and limitations in the VR experience. The diversity in the participant's interaction and interpretation of the experience also affected the type of empathetic responses found in this research. Kate Nash, based on the theories of Roger Silverstone and Lilie Chouliaraki, argues that VR creates an 'improper distance' by incentivising 'self-focus and self-projection rather than a more distanced position that allows for the recognition of the distance between the self and other' (Nash, 2018: 125). What the analysis above suggests is that, while most participants fell into this process of over-identification, others were able to maintain a separation that enabled critical judgement. This variability highlights the necessity for disability studies to acknowledge the role of the non-disabled public in shaping and even resisting the meaning of media representations of disability.

5.3 Notes for further research

The findings above suggest that qualitative interviewing is a valuable methodology to explore the social and cultural dimensions of VRPT that other approaches fail to take into account. Despite the identification of common narratives, the ten interviews in this research can hardly provide a generalisable picture of the demographic group studied, let alone of the wider public. Furthermore, the context of the interviews and the researcher's identity were also important conditional factors. As Livingstone argues, a holistic critical analysis of audiences requires researchers to 'engage with audiences meaningfully in and across the contexts of their lives' (Livingstone, 2019: 10). Hence, at best, this study can serve as exploratory guidance for future research on the topic.

While this dissertation purposely focused only on the users, it would be interesting for future research to consider mixed-method approaches in which the participant's reactions can be contrasted with a critical textual analysis of the VR experience or with the assumptions and intentions of the VR creators. Such analytical framework would enable a better understanding of the interconnections between structure and agency that started to emerge from this research.

Furthermore, this study looked at four VR experiences portraying very different cases. However, 'seeking to provide an overarching meta-analysis covering all dimensions of every disabled person's experience – is not a useful or attainable goal' (Shakespeare and Watson, 2001: 19). Hence, future research should instead treat each specific form of disability as an

independent unit of analysis, focusing on individual cases of VR representation instead of looking for imperfect generalisations.

6 CONCLUSION

While researchers in humanitarian communications and journalism are starting to respond to the increasing use of Virtual Reality in their field (see Hassan, 2019; Nash, 2018), disability studies scholars have not yet entered the debate. This study represents an initial exploratory attempt to understand the social and cultural effects of the embodiment of virtual non-normative bodies by non-disabled users. Doing this from the perspective of critical disability studies helps to contextualise the phenomenon of virtual embodiment as part of an extended history of media representations of disability. Furthermore, due to its innovative nature, VRPT provides the perfect opportunity to test some of the deeply rooted assumptions in the British disability studies tradition.

This study found VRPT to be largely successful in its proclaimed objectives of immersing the user into the lived experience of a disabled person and generating an empathic reaction from them. This result concurs with the positivist accounts of previous neuroscientific and psychological research on the topic. However, the use of qualitative interviewing, instead of survey data and quantitative measurements, enabled the discussion of other aspects of the participant's reaction that challenge this initial promising picture.

The VRPT experiences evoked in the participants a negative, isolationist and, in some instances, medicalised understanding of disability. Furthermore, despite generating an empathic connection, they generally failed to bring about the appropriate attitude-change. In this sense, the use of VRPT fits surprisingly well with Mitchell and Snyder's description of literature as 'both a utilitarian tool for transformation and a medium to further stigmatising disability in the imaginations of its audience' (Mitchell and Snyder, 1997: 13).

However, it would be a mistake to consider this a unanimous and homogeneous reaction or to blame the problems of VRPT solely on its individualist focus. Despite the fact that VRPT was found to fall short of its promise to bring about social change through empathy, the conclusion of this research is not to reject the medium altogether. Beyond the non-disabled users' reaction, there is an inherent value in allowing disabled people to express their lived experience, and VRPT proved to be an engaging tool to explore the internal dimensions of oppression that are, otherwise, generally overlooked. However, in order to avoid the

negative consequences and unequal power structures found by this research, it is essential to increase the accessibility to VR for both disabled creators and disabled users and to understand that social inclusion requires more than a mediated understanding of the other.

Perhaps, the most important lesson from the study is that, in the same way that the VR industry would benefit from more inclusion of disabled creators telling their own stories, VR research would also benefit significantly from the contributions of critical disability scholars, particularly in the form of emancipatory research.

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APPENDIX A: PARTICIPANT PROFILES

The following table provides information about the ten participants in the research. Note that the names have been changed to ensure anonymity.

Name	Type	VR Experience	Previous knowledge or experience of VR	Previous knowledge or experience of the disability
Emily	B	AWTD	Basic First-time user	No
Julie	B	The Party	Intermediate Sporadic user	Intermediate
Lara	B	AWTD	Basic First-time user	Caregiver experience Academic knowledge
Lisa	B	The Party	Intermediate Sporadic user	No
Lucas	A	Face to Face Manic VR	Advanced Frequent user and amateur creator	Family member experience
Mary	B	The Party	Basic Second-time user	No
Mathew	B	AWTD	Basic First-time user	Family member experience
Nicola	B	AWTD	Intermediate Sporadic user (gaming)	No
Robert	B	The Party	Basic First-time user	Yes Friend experience

Rosa	B	The Party	Basic First-time user	No
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APPENDIX B: DESCRIPTION OF VR EXPERIENCES

This section includes a brief description of the VR experiences discussed in the research. The information was collected from the projects' websites or provided, under consent, by the creators themselves.

Manic VR (2018)

Duration: 11 mins

VR simulation that recreates the three stages of bipolarity (mania, psychosis and depression) through interactive psychedelic animations (Bertin, 2019). Guided by the voicemail recordings of the creator's siblings, 'the user embarks on a journey to decipher the whirlwind of mania, psychosis and depression' (Bertin, 2019). 'By enabling visitors to see and experience the heightening of senses, the poetic hallucinations and the beautiful but frightening imagination that can accompany manic-depression, this immersive experience aims to raise awareness and build empathy around the real, lived conditions of bipolar disorder' (Bertin, 2019). Complimentary piece to the feature-length documentary *Manic* (2017).

Face to Face (FF) (2018)

Duration: 45-60 mins

'An intimate look at gun injury and human resilience that is based on the life of a mother of two daughters, who wears a facial prosthetic due to near fatal gun injury' (Gabel and Holland, 2018). The immersive three-act installation involves a real-life recreation of her house, a virtual reality experience and a real-life conversation with the protagonist (Gabel and Holland, 2018).

The Party (2017)

Duration: 7 min

Producer: The Guardian

360 film of an autistic teenager at a surprise party celebration (Bregman et al., 2017). 'You will hear her thoughts about what she is experiencing and how it is affecting her, and share the sensory overload that leads to a meltdown' (Bregman, Fernando, & Hawking, 2017). Both written and voiced by people with autism. 'The storyline was developed after extensive focus groups and interviews with people on the autism spectrum as well as with input from the National Autistic Society, the Autism Research Trust and the University of Cambridge' (Bregman, Fernando, & Hawking, 2017).

A Walk Through Dementia: On The Road (AWTD) (2016)

Duration: 4 min

Producer: Alzheimer's Research UK and Visyon

360-film that recreates the symptoms that a person with dementia may experience when walking through a busy street. 'Busy streets and noisy crowds can be overwhelming for someone with dementia, full of unfamiliar places and people' (Alzheimer's Research UK, 2017). One of three VR experiences developed by Alzheimer's Research UK to increase understanding of the everyday life of people with dementia (Alzheimer's Research UK, 2017). The experiences were created through interviews with people with dementia and are also being used as 'training resource designed to put healthcare professionals in the shoes of the people they care for' (Alzheimer's Research UK, 2017).

APPENDIX C: TOPIC GUIDE

Type A Participants

General reception

1. Tell me about your previous experience with VR, had you use it before?
2. Generally, what did you think of the VR experience?
3. How did it make you feel?
4. What did you think was the message of the experience?

Representation of disability

5. Disability is a prevalent theme of this experience. If you don't mind sharing, tell me about your personal experiences regarding disability.
6. How did you feel about the way the experience presented the topic of disability?
7. Did this experience affect in any way your understanding of disability?
8. Did you feel identified in any way with the characters?

VR compared to other mediums

9. How do you compare VR experiences about disability to representations in other mediums (film, writing ...)?

Final thoughts

10. Would you watch similar content again?
11. Is there anything else that we have not talked about yet and that you would want to mention?

Type B Participants

General reception

1. Tell me about your previous experience with VR?
2. Generally, what did you think of the VR experience?
3. Why did you decide to engage in this experience?
4. How did it make you feel?
5. What did you think was the message of the experience?

Representation of disability

6. Disability is a prevalent theme of this experience. If you don't mind sharing, tell me about your personal experiences regarding disability.
7. How did you feel about the way the experience presented the topic of disability?
8. Did this experience affect in any way your understanding of disability?
9. Did you feel a connection to any of the characters in the story?

VR compared to other mediums

10. How do you compare VR experiences about disability to representations in other mediums (film, writing ...)?

Final thoughts

11. Would you watch similar content again?
12. Is there anything else that we have not talked about yet and that you would want to mention?

APPENDIX D: CODING FRAMEWORK

The following table presents the results of the coding process. It includes the three themes, three main codes within each theme and an illustrative quote for each code.

Theme	Main codes	Illustrative quote
Gaps in the 'Emotional' Empathy Machine	Identification	'So I could clearly, clearly feel that I was that person' (Mary)
	Normalcy	'And instead even in such a normal situation a person with autism can feel a, a stranger' (Rosa)
	Primacy of voice	'But I could hear her voice and I that I think was helpful' (Mathew)
Negative Understanding of Disability	Negative experience	'[...] it's really hard for people like this.' (Emily)
	Isolation	'And I feel like nobody under... understand what, how I feel. So I didn't. I didn't talk to anybody.' (Robert)
	Realism	'So this was more real, because it was like you're inside her head.' (Mathew)
	Pity	'We do not need to judge others and we first need to think about what it's like for them. Em. And how difficult life might, might be for them,

		and what would be our reactions and our thoughts if we were experiencing the same difficulties as those people are experiencing' (Mary)
Unmediated Access to the Disabled Brain	Self-interested knowledge	'Like I like that's not something that you learn about in a classroom setting. So I think that definitely helped me understand more of what a person with dementia might be going through' (Lara)
	Unmediation	'[...] you're kind of like living the experience and doing it this way. Totally makes you part of (it)' (Rosa)
	Inside the head	'I think it's, it's an interesting medium to be kind of... Be able to be inside someone's head.' (Julie)