Embodying Blindness

Exploring Multimodal Perception in Video Games

A Master's Thesis for the Degree of Master of Arts (120 credits) in Visual Culture

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ABSTRACT

Embodying Blindness: Exploring Multimodal Perception in Video Games

Video games *Perception* (2017) and *A Blind Legend* (2015) are both connected to blindness, though in two distinct ways. While in both games the player embodies a blind narrator, *Perception* is, in many ways, what we expect a video game to be: visual, while *A Blind Legend* is an audio game, exploring methods to navigate other than visual. While problematising ocularcentrism, this thesis investigates the multimodal qualities of these two games, emphasising video games as something broader than a visual experience based on sight. It analyses if, how and to what extent the concerned games question aesthetic norms and ocularcentric assumptions while attempting to understand what role they have in an ocularcentric culture. The thesis aims to explore ways to produce visual perception and analyses how blindness is visualised and portrayed, as well as different ways of "seeing". Furthermore, the topic is approached through a visual culture perspective, utilising research within this field.

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INTRODUCTION

In the first-person horror video game *Perception* (2017), the player takes on the role of a blind woman seeking to uncover the secrets of a haunted mansion. Being without sight, the narrator, Cassie, views the world in her unique way, using echolocation to sense her surroundings. Echolocation is a physiological orientation process - the ability to produce or hear a noise and listen to how it resonates within an environment. The noises produced in the game create a splash of colour, washing over the environment before vanishing, letting the player navigate in an environment through visualised sound. However, while the narrator is without sight, the player is not - the game can not be played without the ability to see the screen. While Cassie is blind and sensing her surroundings using echolocation, the video game is in many ways like any other video game, where the player's sight is essential for playing; for this is not sightlessness per se, but a mere visualisation of blindness for people with sight.

Video games for the visually impaired or blind do exist and are also often catering to a seeing audience; action-adventure audio game *A Blind Legend* (2015) is an example of such a game. Similarly to *Perception*, it is a first-person game, and the narrator, a knight called Edward Blake, is blind. In the ocularcentric culture, where vision is ranked over other senses, playing video games is significantly associated with sight and processing visual information. In *A Blind Legend*, which has extremely limited visual elements, eyesight is discarded while other technical tools are brought forward. Besides the fact that the game is made to be accessible, it challenges the sighted to explore beyond what is familiar. In this thesis, I want to bring forward a way of thinking that is not "video games for visually impaired/blind" versus "normal" video games, but to emphasise the urge that makes us explore other modalities, beyond ocularcentrism. These two games and the following concepts mark the point of departure.

Background and Relevance

The video game industry has grown tremendously for many years and continues to do so, which means that academic research on the subject is both relevant and essential. The potential with video games is the same as with computers - they can 'both visualize auditory

data and "sonify" visual data.'[1] Furthermore, humanity is greatly centered around curiosity, the urge to understand the world and the people in it. Video games can and do work as a source to saturate this curiosity, because they operate on many levels: they can touch upon themes that are foreign to us and give access to matters outside our ordinary sphere, they can work as a learning tool and just as movies, they can provide escapism - the list is endless.

As previously stated, there are games produced to be accessible for people with visual impairment; another example of this is *Lost and Hound* (2020), a rescue dog adventure game produced by Australian indie game developer Brian Fairbanks. The player follows an audio trail reflecting a dog's powerful senses. With accessibility in focus, the aim was to create a game accessible to the visually impaired gaming community while being visually appealing enough to interest mainstream gamers. Fairbanks emphasises the importance of having accessibility in mind from the very beginning of production - not as an afterthought at the end of the process, saying, 'You don't make a game and then say what can I do for people with a cognitive impairment, hearing impairment, visual impairment?'[2] This brings me to ableism.

Ableism

While I will not deal with ableism or disablism, nor is this a part of disability studies, I have chosen to include parts of the book *Academic Ableism* by Jay Timothy Dolmage (2017) in my background because parts of it cover some essential aspects that need to be touched upon to clarify my direction. To concisely explain the terms previously mentioned:

> […] ableism makes able-bodiedness and able-mindedness compulsory. Disablism constructs disability as negative quite directly and literally. Ableism renders disability as abject, invisible, disposable, less than human, while able-bodiedness is represented as at once ideal, normal, and the mean or default.[3]

Dolmage writes about academic ableism and brings forward something as "simple" as steep stairs outside a university lecture hall. While this can be aesthetically pleasing, it can also be considered to be a 'spatial and architectural feature that excludes' some people with

[1] R. Moseley, 'Music, Visual Culture, and Digital Games' in Shephard, T. & A. Leonard, A. (ed.) *The Routledge Companion to Music and Visual Culture*, New York, Routledge, 2019, p. 377

[2] M. Pusey, 'Lost and Hound: Video Games for the Vision Impaired', *Particle* [webpage] 6 June 2019, Accessibility Awareness, https://particle.scitech.org.au/tech/lost-and-hound-video-games-for-the-vision-impaired/ (accessed 17 March 2022)

[3] J. T. Dolmage, *Academic Ableism*, Michigan, The University of Michigan Press, 2017, p. 7, LubSearch [online database], accessed 1 April 2022

disabilities.[4] Connecting this to this thesis, I am well aware that *all* games can not be played by *everyone*, but it still brings me back to Fairbanks's comment on the issue of adaption as an afterthought. What makes this relevant for the context of playing video games is the fact that we live in an ocularcentric culture dominated by visual images.[5] Dolmage touches upon multimodality in relation to his topic, which is the primary method used in this thesis, as I will explain in the subsection in Method & Methodology. While Dolmage focuses on academic learning environments, which I am not, parallels can still be drawn to receiving and processing information - a central part of playing video games (or games in general) as well as in an educational context. Dolmage writes that,

> [I]n the classroom, we have focused on very few literacies and modes of expression for far too long. It follows that students who think and communicate differently have been suppressed and silenced through our teaching.[6]

In this thesis, I want to challenge how we traditionally think about video games, which can be highly visual without images, but through the verbal-visual descriptions resulting in mental images. I am not trying to illuminate one mode while pushing another away but to question and problematise *how* we use and think of modalities in relation to playing video games.

A 'sonic flavourscape'

Using one or many modalities to highlight others, or to highlight senses in general, is nothing unusual; we see people gesturing while speaking, we hear music on slideshows, we see people drawing while speaking to get their point through, etc. The theme has been stressed in many contexts before, and we do not need to go much further than to commercials we face on an everyday basis. One example is an advertisement video by Partizan, produced for herb and spice expert brand *Schwartz*. The video is an 'audio-visual dramatisation' of the intense impact that these taste components' can have on our senses. In the video, herbs and spices such as cumin seeds, parsley, pepper, and cinnamon explode in artistic sync, accompanied by

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4 Dolmage, *Academic Ableism,* p. 9

5 Dolmage, p. 104

6 Dolmage, pp. 111-112

a musical composition, aiming to illustrate the intense experience that a symphony of taste can infuse. The brand themselves described it as a 'sonic flavourscape.'[7]

Figure 1 (0:34) and Figure 2 (0:53) Screenshots from Partizan Official's video: exploding herbs and spices

The method used in the video, demonstrated in the print screens above, is the same concept as in *Perception* and *A Blind Legend*, meaning that in order to stress a sense, others have been emphasised. This will be further developed throughout the thesis, starting from Chapter 1 and Chapter 2, where the video games will be analysed in depth.

Aim & Research Questions

Gillian Rose writes that '[…] nothing is ever just visual […] all visual images are accompanied by other kinds of semiotic resources integral to their meaning.'[8] To continue on this path, W.J.T Mitchell writes that '*all media are mixed media*. That is, the very notion of a medium and of mediation already entails some mixture of sensory, perceptual and semiotic elements.'[9] This brings us to multimodality, which is the main method used in this thesis. By using a multimodal approach, this thesis intends to investigate the role of a variety of modes of communication found in these two video games, both connected to blindness in two separate ways. Both multimodality and the modes will be further explained in Method and

[7] 'Schwartz Lunches Explosive 'Sound of Taste'', *Little Black Book* [webpage] 10 January 2014, https://www.lbbonline.com/news/schwartz-launches-explosive-sound-of-taste (accessed 17 March 2022)

[8] G. Rose, *Visual Methodologies,* 4th edition, London, SAGE, 2016, p. 138

[9] W.J.T. Mitchell, 'There Are No Visual Media', *Journal of Visual Culture*, vol. 4, no. 2, p. 260, Available from: LubSearch (accessed 11 April 2022)

Methodology. I am approaching the field from my point of view, as a sighted scholar - it is the only point of view I am able to have and analyse from, and the following questions are based on this. The first research question, dealing with *Perception*, is:

- How is blindness visualised in *Perception* - for people with sight?

Another perspective will be taken into consideration, focusing on video games produced to be playable for both visually impaired/blind people as well as people with sight. Focusing on *A Blind Legend*, my second question is:

- How do video games like *A Blind Legend*, which do not follow the hegemonic modalities of mainstream games, cooperate with other modes than the visual to create a perception?

My third question will investigate the possible effects of these two games:

- What is the position of these games in an ocularcentric culture?

To quote Mitchell, 'Visual culture is the field of study that refuses to take vision for granted, that insists on problematizing, theorizing, critiquing and historicizing the visual process as such.'[10] Games, and especially digital games, depend on visual stimuli to a great extent to provide information to the players. Furthermore, digital games are usually referred to as video games, emphasising the visual "video" content.[11] This thesis will culminate into a discussion grounded on multimodal theory, aiming to illuminate video games as something broader than a visual experience based on sight and as a possible encounter for sighted people that may or may not result in a greater understanding. This, while analysing how blindness is represented by focusing on the central games.

Empirical Material

The empiric material in this thesis consists of gameplays accessed on YouTube of the two video games mentioned, of which two of them are complete play-throughs, and the third has been used as a compliment - this will be further explained in Chapter 2. The *Perception* gameplay (by account SHN Survival Horror Network) extends over about 2 hours and 43

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[10] Mitchell, 'There Are No Visual Media', p. 264

[11] R. Andrade, MJ. Rogerson, J, Waycott, S. Baker, F. Vetere, 'Playing blind: Revealing the world of gamers with visual impairment', *CHI '19: Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*, Glasgow, ACM, 2019, p. 1

minutes.[12] The *A Blind Legend* gameplay, the complete play-through (by account Muhammad Hajjar) is about 1 hour and 16 minutes long.[13] Finally, the complementary material from *A Blind Legend* (by account ANDROLIKOS) contains three parts - only the first one has been used, which is about 24 minutes long.[14] They are all without commentary, which is essential for an unbiased analysis. The reason why I chose these two specific games is that 1) the concept and graphics in *Perception* are quite unique and makes a valuable source to approach the topic, and 2) *A Blind Legend* is suitable because it has extremely limited visual content and is audio-based. In a comprehensible way, *A Blind Legend* can emphasise blindness while problematising ocularcentrism. None of the two video games consumes too much time to play, which provides better opportunities to analyse them in more detail. Both of the games are single-player and centred around a blind narrator. For a better overview, I will describe them briefly.

Award-winning *Perception* was released in 2017 by Deep End Games and is described as an adventure/indie/narrative thriller video game. As previously mentioned, the narrator of the game, Cassie, is blind and explores a mansion by using echolocation, in other words, she is using 'sound as her sight' because 'every sound creates a visual.'[15] In the mansion from her nightmares, she is not alone but accompanied by a deadly entity, *The Presence*. Although echolocation is essential for Cassie to navigate, every noise Cassie makes draws *The Presence* closer to her. It is Cassie's mission to travel back through history and solve the mysteries.[16]

A Blind Legend is an action-adventure audio game developed by studio DOWiNO, whose mission, according to their website, is to focus on health, disability, sustainable development, CSR, and solidarity.[17] The game, which is fully accessible to visually impaired/blind people, was co-created with support from a community of fans who helped with the crowdfunding campaign and is the result of a co-production with France Culture, a Radio France station. Furthermore, it is written that:

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[12] *Perception | 4K 60Fps | Longplay Playthrough Gameplay No Commentary* [online video] YouTube, SHN Survivor Horror Network, 25 May 2017, https://www.youtube.com/watch?v=cc8yxNPZ_5A&t=717s, accessed 20 May 2022

[13] *A Blind Legend full playthrough* [online video] YouTube, Muhammad Hajjar, 10 September 2019, https://www.youtube.com/watch?v=94enSSqpcSA&t=276s, accessed 21 May 2022

[14] *A Blind Legend - Walkthrough Gameplay Part 1 (Android) [Headphones Recommended]* [online video] YouTube, ANDROLIKOS, 23 February 2017, https://www.youtube.com/watch?v=cc8yxNPZ_5A&t=717s, accessed 20 May 2022

[15] 'Perception', *Steam* [webpage] Om detta spel, https://store.steampowered.com/app/426310/Perception/, (accessed 27 April 2022)

[16] Ibid

[17] 'Homepage', *DOWiNO* [webpage] Our Mission, https://www.dowino.com/en/, (accessed 15 March 2022)

> This hack and slash game, with a heroic-fantasy flavour, harness and the innovative technology of binaural sound, which delivers a gripping 3D soundscape and brings characters and actions vividly to life around the player - as if they were actually in the game.[18]

Both games will be further examined and explained in Chapter 1 and Chapter 2, giving a more explicit description of the concept and the plot in combination with multimodal theory. The theory will be further explained in the next section.

Theory

This thesis will work within a multimodal theoretical framework and branch out into various directions within the multimodal field; these directions will be explained in the following subsections. By analysing the games through multimodal theory, I aim to understand how the modes operate in these video games, both for perception and how they visualise and portray blindness, and what position they have in an ocularcentric culture. Among the directions this thesis will branch into, extra attention will be given to semiotics and the gaze, specifically the *blind gaze*, and my approach to this term through these video games. For the latter direction, I will use one specific article, soon to be discussed.

Multimodality

'If all media are mixed media, they are not all mixed in the same way, with the same proportions of elements.'[19] It is precisely this mixture, usage, and dominance (and possibly inferiority) of elements that have relevance to the context. As mentioned, this thesis investigates the role of different modes of communication. According to The New London Group, there are five: visual, aural, linguistic, spatial, and gestural mode. All of these produce meaning. *The Five Modes of Communication* are the following: The **visual mode** includes images - both moving and still. It also includes the visual layout and design, font, size, formatting, symbols and other visual data. The **aural mode** focuses on what we hear, meaning

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[18] Ibid

[19] Mitchell, p. 260

sound, music, spoken words etc. It also focuses on how we hear it in terms of volume, rhythm, speed of delivery, pitch, tone and voice. **Linguistic mode** means the language in terms of words, both written or spoken as well as the choice of words - vocabulary, grammar, structure and organisation of sentences and paragraphs. **Spatial mode** is the physical arrangement, position and spacing, proximity, direction and distance of elements. Finally, the **gestural mode** includes movement, speed, expression, body language, facial expressions and physical proximity, as well as interactions between people.[20]

In addition to this, I have added the *sensorial mode*, something that The New London Group did not include in their modes of communication but that has relevance, both in general and in this particular context, because of possible sensory aspects of playing video games that will be taken into account. Professor of Comparative Literature, Lars Elleström, has another categorising model than The New London Group, 'The four modalities of media', consisting of material modality, spatiotemporal modality, semiotic modality and, finally, sensorial modality. He means that *The Five Modes of Communication* has its 'pragmatic advantages'. However, 'it produces a rather indistinct set of modes that are very hard to compare since they overlap in many ways that are in dire need of further theoretical discussion.'[21]

Elleström describes the sensorial modality as 'the physical and mental acts of perceiving the present interface of the medium through the sense faculties.'[22] We all know the five senses of humans, which Elleström describes as the 'five main modes of the sensorial modality: seeing, hearing, feeling, tasting and smelling.'[23] In many ways, the sensorial modality crawls into the other modes already mentioned but opens up opportunities to approach them from other angles. I have chosen not to follow the Elleströms categorisation model but to add the sensorial modality while keeping with *The Five Modes of Communication*, since I claim that this is, in fact, the most practical way to approach the material in this thesis. The point is not to compare the modes and claim that one is more significant than another but to analyse their functions in the player experience. I will discuss these modes, what part they play and how they effect the perception, more or less and to a varying degree, in relation to the central video games.

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[20] A. Fillmore, 'Multimodal Communication: Writing in Five Modes', *Pressbooks* [webpage] The Five Modes Explained, https://openenglishatslcc.pressbooks.com/chapter/multi-modal-communication-writing-in-five-modes/, (accessed 10 May 2022)

[21] L. Elleström, *Media Borders, Multimodality and Intermediality*, London, Pelgrave Macmillan, 2010, p. 14

[22] Elleström, *Media Borders, Multimodality and Intermediality*, p. 17

[23] Ibid

What is of interest in this thesis is if and how these video games differ from other games because of their connections to blindness, how they differ from each other, how blindness is portrayed and to discuss ways of "seeing" using a combination of modes. In the following article, the concept of *blind gaze* is analysed, which makes a fruitful entrance gate for these interests. In the article, 'The blind gaze: Visual impairment and haptic filmmaking in João Julio Antunes' *O jogo/The Game* (2010)' (2017), two movies engaging with blind filmmaking are processed; *Hollywood Ending* (2002) 'displays ableist attitudes in both its form and content', and *O jogo/The Game* (2010), 'exemplifies how cinema by a blind director might differ from sighted filmmaking through its formal characteristics and in its representation of disability.'[24]

Analysing this material, the author of the article, Eduardo Ledesma asks – 'can there be a "blind" cinematic style? If so, how might "blind cinema" augment the sensory experience of both sighted and non-sighted spectators?'[25] The article, which suggests a shift towards a tactile way of seeing and advocates for inclusive filmmaking, touches upon relevant themes within the frames of this thesis.[26] I will primarily focus on *O jogo*[27], as this material is most relevant for my direction and, to quote the Ledesma, 'displaces vision in favour of a multimodality that relies on tactility, sound and other senses.'[28] But what is the blind gaze? This is a way of beholding, of gazing, at the world, outside the restrictions of sight.[29] By applying relevant approaches provided in the article on *Perception* and *A Blind Legend,* this thesis will engage in a multimodal analysis, hand in hand with the now six modes of communication.

This article by Ledesma has also operated as a structural influence for writing this thesis. Ledesma started from the two movies mentioned, both of them connected to blindness though

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[24] E. Ledesma 'The blind gaze: Visual impairment and haptic filmmaking in João Julio Antunes' O jogo/The Game (2010)', *Studies in Spanish & Latin American Cinemas*, vol. 14, no. 1, 2017, p. 23, Available from: LubSearch, (accessed 4 March 2022)

[25] Ledesma, 'The blind gaze', Ibid

[26] Ibid

[27] I have not been able to access and watch *O jogo/The game*, all information is collected through other sources and their descriptions of the content. However, what I am focusing on is not an analysis of the movie itself, but the movie as a trigger for discussing the concept of the blind gaze

[28] Ledesma, p. 25

[29] Ibid, p. 37

in contrasting ways, just like the video games. The movies, like the video games, open up an arena for discussion and analysis of ocularcentrism and multimodality.

Semiotic Resources

Semiotics, a part of multimodality, concerns how people learn, communicate and convey information through various types of media, hence different forms of modes. The concept of semiotic resources comes from social semiotics. This thesis is in many ways connected to meaning-making, and these can be produced socially. Furthermore, semiotic resources are central to multimodality.[30] While the blind gaze is a way to express oneself visually, the semiotic resources are the tools found in this product. Theo Van Leeuwen, quoted in *The Routledge Handbook in Multimodal Analysis*, describes semiotic resources as actions, materials and artefacts that we utilise for communication. He continues,

> [W]hether produced physiologically - for example, with our vocal apparatus, the muscles we use to make facial expressions and gestures - or technologically - for example with pen and ink, or computer hardware and software - together with the ways in which these resources can be organized. Semiotic resources have meaning and potential, based on their past uses, and a set of affordances based on their possible uses, and these will be actualized in concrete social contexts where their use is subject to some form of semiotic regime.[31]

Semiotic resources can be understood as signs that produce connotations, which is a focal point in the case studies. In the analysis of these (Chapter 1 and Chapter 2), the aim is to describe certain content in the video games as a semiotic resource, carrying meaning potential.

Method and Methodology

In this section, I will go through the methods chosen for analysing the video games. This has been done in three ways: case studies based on observations and visual analysis, content analysis of reviews and readings of relevant material.

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[30] C. Jewitt, *The Routledge Handbook of Multimodal Analysis*, Abingdon, Routledge, 2011, p. 22

[31] T. Van Leeuwen quoted in Jewitt, *The Routledge Handbook of Multimodal Analysis*, pp. 22-23

The empirical material has been analysed through case studies, which in this case mean observations and visual analysis of the gameplays, accessed on YouTube. Because *A Blind Legend* is an audio game, the visual analysis was performed solely on *Perception* and its graphic content. The analysis will be of semiotic character - recurring signs will be identified and analysed how they combine into a larger structure resulting in meaning.[32]

The quality of the plot is not of interest, but multimodal utilisation, focusing on the modes previously explained - both how they stand alone and how they combine with each other. A common method when studying film is to analyse segments and to repeatedly go over the same segment. One does this with and without the audio track and sometimes with *just* the audio. This is necessary, Paul Dancum writes, because we are used to the full experience, however, 'unaccustomed to attending to its separate parts.'[33] This method is valuable also when studying video games. I will analyse the material collected by applying theories within multimodality, focusing on the blind gaze and semiotics, in combination with close readings of other relevant material. I need to elucidate not only how the games are similar by representing blindness, but what sets them apart - which modality/modalities are primary in each game, and how is a perception created using these modes?

An unbiased analysis is central to my approach, which is why I have chosen not to play the games in question, but only to analyse the gameplay videos and study the reviews. From my own experience, the immersion that playing a video game can produce can make it challenging to examine them. Much like walking into a black saloon at the theatre, the critical distance needed in an academic context becomes challenging. I have central aims that need specific focal points, disconnected from the pleasure of playing and my personal opinions about it.

The reason that YouTube was chosen for collecting material instead of, e.g. Twitch, which is quite common for game studies, is simply because there was not much material from the specific games to choose between on Twitch, and the material available was with commentary. The complexity of studying video game material accessed on platforms such as YouTube is that every product differs from the other because it is uniquely created by the

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[32] F. Mäyrä, *An Introduction to Game Studies, Games in Culture*, London, SAGE, 2008, PAGE, p. 157

[33] P. Dancum, 'Visual Culture Isn't Just Visual: Multiliteracy, Multimodality and Meaning', *Studies in Art Education,* vol. 45, issue 3, 2004, Abingdon, Routledge, p. 260, Available from: LubSearch (accessed 19 January 2022)

player, depending on how they played the game. Hence, this is something one needs to have in mind while analysing. While *Perception* offers the player increased chances to explore the mansion, *A Blind Legend* does not. The specific gameplays chosen for this thesis, though, have been chosen specifically because of the fact that the player is aiming to finish the chapters/sections without much exploring. Because the material analysed is unique, it can not be recreated and has therefore been stored.

Content Analysis: Reviews

Because both the production side as well as the reception side of the games are of interest, the final method used in this thesis was performed by collecting and analysing a handful of reviews from players, accessed on *Steam* - a video game digital distribution service that will be further explained briefly in Chapter 3. The aim of this method is not to reflect upon whether the players painted the video games in a good or bad light but to pick up on the multimodal aspects they took hold of while playing. This was fruitful for analysing the third research question, as it will shed light not only on the production side but also on the reception side of the games. The comments chosen for this purpose are the ones considered most helpful for other *Steam* users. I analysed the comments to find how reviewers approached and discussed modes within the games, for example, themes concerning audio, image, atmosphere etc.

Limitations

While performing the case studies, I was focusing only on two video games, one is explicitly produced to be accessible for visually impaired/blind people, as well as being appealing for people without visual impairment, and the other is a game produced for people with sight, produced to represent blindness. My interest in them is based on multimodality, blind gaze and semiotics. I had very limited interest in technical aspects, such as what console these games were played on in the gameplays. Instead, I worked in the borderland of a narratological and ludological game study. My interest is tied to the concepts of the games, in the overall visual formation, how the image is created and composed, how motives and

actions are conveyed and how the player navigates within the game through the modalities available.

Previous Research

While this thesis is a part of visual culture studies, it is also, to some extent, a part of game studies. There is previous research available within this field, focusing on multimodality in video games, audio games, sound, music etc. Among these, writing about navigation and the importance of audio design, are Raluca D. Gaina and Matthew Stephensons' paper 'Did You Hear That: Learning to Play Video Games from Audio Cues', applied in Chapter 3. Moreover, to better understand sound aspects in combination with moving images and the relationship between visuals and audio, film theorist and composer Michel Chion has been a valuable entrance port, focusing on his books *Audio-Vision* and *Film, a Sound Art*.

As mentioned, the interest is partly based on how the player navigates within the games through the modes available, which brings me to Professor Frans Mäyrä's analysis of game spaces and how to understand them. Effective game design can achieve different behaviours in the player; it can encourage them to explore, bring out their playfulness, it can stage conflicts etc. Mäyrä, specialising in digital culture and game studies, lists spacial structures in video games; among these are all text-based games with no visual spaces.[34] Spaces can be built with more than visual images; they can also be constructed using sound, letting us visualise through a perceptive process. Furthermore, these soundscapes created can tell us something about proportion, depth, atmosphere etc., by creating internal images. This thesis will discuss game design in terms of how the space within the game was built by using various modalities.

However, I am not approaching this thesis via game studies but from a visual culture perspective. Most of the research utilised is, therefore, based on research within film, art and visual culture. While I do not work from a perspective that indicates that video games are art, although they can contain artistic expressions, theories within this field have fruitful connections for the direction. Furthermore, within the research field of art and film, there are valuable aspects to question ocularcentrism. What is of interest in this thesis is to compare

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[34] Mäyrä, *An Introduction to Game Studies*, p. 102

these games that are connected to blindness in two different ways, by questioning oculacentrism and the visual dominance, through a multimodal perspective, which brings me to research on *looking*, as well as on blindness. Firstly, I want to cover some previous research on the gaze. The blind gaze, as discussed in the theory section, is a product of academic work focusing on this concept, which in turn is a product of research on spectatorship:

> *spectatorship* (the look, the gaze, the glance, the practice of observation, surveillance, and visual pleasure) may be as deep a problem as various forms of *reading* (decipherment, decoding, interpretation, etc.) and that "visual experience" or "visual literacy" might not be fully explicable in the model of textuality.[35]

Entering the door to this term, I will touch upon some of Margaret Olin's research within the field. Olin focuses on art and the gaze, and as mentioned, I do not view these games as artworks, but even so, research like Olin's is still relevant for my direction because it tells us something about how and why we *look*. 'While most discourse about the gaze concerns pleasure and knowledge, however, it generally places both of these in the service of issues of power, manipulation and desire.'[36] The gaze corresponds to the desire for self-completion through another, and over the gaze, there is a struggle, meaning that one gets to look, and the other is looked at.[37] 'A work of art', Olin writes, 'is to be looked at, and theories of the gaze tires to address the consequences of this action. However, sometimes, it is central to look at ourselves (looking).'[38] Olin continues, writing

> We not only need to "see ourselves as others see us," we also need to see ourselves seeing one another. To visualise looking is not as easy as it might appear. What might seem to be a purely visual theory, or a theory of pure vision, has become lost in the mysteries of human relationships.[39]

This quote, and the emphasis on how we need to see ourselves seeing another, can be connected to the blind gaze. It is, indeed, not as easy as it might appear to visualise looking, and this is where the challenge is through this thesis.

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[35] W.J.T, Mitchell quoted in N. Mirzoeff, *An Introduction to Visual Culture*, 2nd edn., London, Routledge, 1999, p. 5

[36] M. Olin, 'The Gaze' in R. Nelson & R. Shiff, *Critical Terms for Art History*, 3rd edn., Chicago, University of Chicago Press, 2003, p. 209

[37] Ibid, p. 215

[38] Ibid, p. 18

[39] Ibid

Since Ledesma and the blind gaze have already been covered in the Theory subsection, I will, from here, proceed with research touching upon ocularcentrism. In the book *Tactile Pictures*, Yvonne Eriksson writes about the massive interest in 'getting under the skin' of the human body that grew out of the 16th and 17th centuries, and because of the increased interest and new knowledge, there were attempts to map out the senses. Plato had already pointed out the importance of vision. 'The fact that the human eye can perceive light depends, according to Plato, on its possessing the same qualities as our chief source of light, that is, the sun.' This praise of vision from Plato included an interest in the Greek ocularcentrism, and in *Timeaus*, he 'declared that vision is mankind's greatest gift…'[40] From Plato, we will not go even further back in time but fast forward to historian Martin Jay.

> Martin Jay points out that even when vision was, as often still is, considered the noblest of all senses, its position was ambiguous. Vision could be considered as a pure, perfect, static form, the eye of the soul: or as the impure but immediate visual impression of the eye.[41]

In this thesis, there will be no such drastic ways of describing vision as in the quote above, but its position within video gaming, based on these two games, will be analysed and problematised. The history of theories about blindness is filled with guessing and speculating about questions that can really only be answered by the blind, which is why the *implied reader* in this thesis (or the *implied viewer* of the video games) is the sighted, and how they receive the material in question.

Ocularcentrism will, to some extent, be questioned by using research from Mitchell, who problematises the concept of visual media and illuminates the potential to do so through the field of visual culture in the article 'There Are No Visual Media.' Georgina Kleege, who is legally blind, writes about the visual dependency that is of interest for this thesis while criticising the Hypothetical, which is soon to be discussed, in her essay 'Blindness and Visual Culture: An Eyewitness Account.' Both Kleege, as well as Karin De Coster and Gerrit Loots, focus on blindness. To proceed to question ocularcentrism, I have branched out in discussions about *haptic visuality*, based on Ledesma's text, but mostly through Laura Marks and her book *The Skin of The film*.

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[40] Y. Eriksson, *Tactile Pictures, Pictorial representations for the blind*, 1784-1940, Göteborg, Acta Universitatis Gothoburgensis, 1998, p. 50-51

[41] Ibid, p. 52

Furthermore, there are certain important aspects I want to touch upon, which Kleege illuminates. Kleege writes about the Hypothetical Blind Man, or 'The Hypothetical', that for a long time has played a useful yet thankless role within western philosophical tradition. The Hypothetical is described as a prop for theories of consciousness. 'He is the patient subject of endless thought experiments where the experience of the world through four senses can be compared to the experience of the world through five.'[42] Furthermore, Kleege writes about The Hypothetical that 'His primary function is to highlight the importance of sight and to elicit a frisson of awe and pity which promotes gratitude among the sighted theorists for the vision that they possess.'[43] In this thesis, I want to step away from this fixation on sight. Since there is a great difference between sight and vision, research within visual culture holds great potential for doing so.

DISPOSITION

The first two chapters of this thesis consist of the case studies (observations and visual analysis) of the video games. In Chapter 1, *Perception* is analysed, while *A Blind Legend* is analysed in Chapter 2. Theories within multimodality, focusing on the modes, blind gaze and semiotic resources as discussed in this introduction, will be applied in parallel with, and in relation to, the case studies. Naturally, the first research question will be discussed in Chapter 1: How is blindness visualised in *Perception* - for people with sight? The second research question will be discussed in Chapter 2: How do video games like *A Blind Legend*, which do not follow the hegemonic modalities of mainstream games, cooperate with other modes than the visual to create a perception?

Finally: the aim for the third and final chapter of this thesis is twofold and focuses on the following things: 1) to further problematise ocularcentrism and why this thesis is valuable within the field of visual culture, and 2) to answer the second research question: what is the position of these games in an ocularcentric culture? The discussion of the final research question will be partly based on the *Steam* reviews written by players of both games. This last chapter is followed by the conclusion.

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[42] G. Kleege, 'Blindness and Visual Culture: An Eyewitness Account' *Journal of Visual Culture*, vol. 4, no. 2, 2005, London, SAGE Publications, p. 180, Available from: LubSearch, (accessed 11 April 2022)

[43] Ibid

CHAPTER 1: *PERCEPTION*

1.1. Introducing: Perception

The following chapter is the first case study and consists of material collected through observation and visual analysis of a gameplay of *Perception*. This section will provide the reader with a short description of the introduction of the game, and some of its setting. A deeper description of its plot and concept will be presented as the analysis progresses, where central modes and other technical tools used in the game will be discussed in-depth in relation to the theory and the first research question.

To clarify the settings of the gameplay analysed: the player can choose between different difficulty modes, which will also be further explained in Chapter 3, but also audio settings. The player can choose *Silent Night* mode, which was not how Deep End Games intended to portray Cassie but was a request that came via feedback from gamers. They, the gamers and especially the 'horror purists', wanted a more 'traditional' silent protagonist. This 'puts the ball in gamer's court', as Bill Gardner (Creative Director) described it.[44] With this setting, the protagonist only speaks for plot critical lines.[45] This setting focuses more on the visual mode, than the linguistic. Furthermore, the player can choose subtitles or not, and cane volume. In the gameplay analysed, the player uses *Spooky* mode (the original version of the game, a mix of story and danger) *with* subtitles. Furthermore, the game was played on a PC, with difficulty the level *Normal*.

Perception is divided into four chapters, set in different time eras and consists of various characters. The game's introduction offers an overview of the story and concept in terms of Cassie's use of echolocation. She tells the player, 'When you're blind, you learn a thing or two about trust. You learn *what* to trust.' The player is then illuminated about the role of sound in Cassie's situation. The Mentor, introduced as just a voice and has no central role after this part, asks Cassie the source of a sound heard in the game. Cassie's guess is correct - 'a fan.' However, when the Mentor asks what is in front of the fan, Cassie does not know. The Mentor tells Cassie, '…sounds are how we see. Listen, tap your cane.' The player then interacts with

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[44] *Perception - Silent Night Mode* [online video] YouTube, The Deep End Games, 25 June 2015, https://www.youtube.com/watch?v=sD3ymF03FNs, accessed 23 May 2022

[45] Ibid

the game, pressing a button to tap Cassie's cane to echolocate. She then realises that it is a coffee mug in front of the fan.[46] 'Though you are without sight, it does not mean you cannot see', the Mentor tells Cassie. She continues the story, saying, '…most importantly, you learn to trust yourself… Even if that means hopping on the first flight to Boston to find the mansion from your nightmares.' It is Cassie's mission to get to the bottom of the mystery, to understand why she keeps on returning to this place in her nightmares.

1.2. The Cane

In the following part, Cassie's cane will be discussed first as a semiotic resource and then as a tactile/haptic experience for the player. The cane, its functions and meanings are of such significance in the game, which is why this is discussed in more detail.

As mentioned, semiotic resources can be understood as signs that produce connotations. The following section will be the first example of such a resource. First and foremost, we need to understand the actual function of the cane, and although this thesis to a large extent avoids deeper technical aspects, it is in this case essential to touch upon the handheld controller, computer mouse or trackpad as a technical tool to understand the cane as a semiotic resource. Of course, the cane is a sign of being blind - it can be assumed that most people make this type of connotation. Furthermore, it works as an extension of Cassie's body. In turn, the player is the master of the cane by using whatever technical tool they have to control it, for example, the controller. This means that the control works as an extension of the player's body too, and the cane is a part of this extension. As previously stated, the cane is used for the echolocation process, meaning that tapping the cane results in visualising the graphic details of the game.

Henceforth, the cane will be discussed as a tactile and haptic experience. This is where the sensorial mode, as discussed by Elleström in the introduction, plays its central part: to *feel* something. Professor Jill Bennett, Director of The National Institute for Experimental Arts, writes about the immersive installation *The Watch Man* by artist Shona Illingworth, that is focusing on a watchmaker. The watchmaker's activities 'do not combine to present a narrative or portrait of a worker.'[47] Instead, Bennett writes, they 'are framed as sequential actions',

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[46] Disclaimer: although humans can learn how echolocate, one has to remember that this is a fiction video game

[47] J. Bennett, *Practical Aesthetics*, London/New York, I.B Tauris & Co Ltd, p. 2012, 64

viewed in closeness. The process of making and mending, is a tactile procedure, and the watchmaker views the interior mechanism of a watch through a selection of magnifying lenses, while the viewers see his actions on the screen - 'as if this were itself a viewing aid.'[48]

> …if this framing device is an ocular metaphor, hinting at the capture of the detail under a magnifying lens, it is offset by the surrounding elements of the installation - elements that render vision a profoundly bodily experience, mitigated by other kinds of sensing. The screen is the eye itself…[49]

There are several aspects in this that are worth taking note of and applying to *Perception*. The tactile process of the watchmaker results in a haptic experience for the viewer - Cassie's usage of the cane is also a tactile procedure, and the player sees the result of her actions on the screen while playing. This brings us to a discussion of *haptic visuality*, Laura Marks and her book *The Skin of the Film*. While Marks focuses on film, this can be discussed in relation to video games, too, as in this case with *Perception*.

The term, which functions like the sense of touch, suggests the way that vision itself can be tactile - as if the viewer was touching the screen with their eyes.[50] Marks writes that '[h]aptic visuality implies a familiarity with the world that the viewer knows through more senses than vision alone.'[51] She continues, concerning the use of other senses,

> Haptic visuality may "fasten" on its objects […], but it cannot pretend fully to know the thing seen. Instead, haptic visuality inspires an acute awareness that the thing seen invades vision and must be approached through other senses - which are not literally available in cinema. Haptic visuality implies a fundamental mourning of the absent object or the absent body, where the optical visuality attempts to resuscitate it and make it a whole.[52]

When looking at *Perception*, one can see Cassie using her cane to echolocate, as well as using technical tools like her phone (to be further explained in section Visualisation Tools). Her tactile way of navigating, the act of tapping the cane, is *heard* but never *seen.* What is seen is only the result of the tapping. One can then wonder *why* she is rarely *touching* anything - the tactile modality, resulting in a haptic experience, is underrepresented by possibly missing the

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[48] Ibid

[49] Bennett, *Practical Aesthetics*, p. 64-67

[50] L. Marks, *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*, Durham/London, Duke University Press, 200, pp. xi, 22

[51] Marks, *The Skin of the Film*, p. 187

[52] Marks, p. 191

moments where touch would be natural or useful for the protagonist to navigate. This stands in contrast to *O jogo.* Writing about a massage scene in the movie, Ledesma illuminates that Antunes places great emphasis on the hands of the masseur and, by doing this, suggests a 'sensual experience'. This, Ledesma describes, 'functions as an externalised representation of the filmmaker's tactile vision, and, indeed, of the sensory experience of the blind.'[53] Ledesma continues,

> The fact that the sighted spectator cannot *directly* engage these other senses (only *indirectly* through the haptic experience triggered by the image), places the abled in the position of the disabled, attempting to experience a lacking sense through other senses.[54]

To push the haptic visuality forward in *Perception*, instead of hiding or possibly forgetting about it, could be one effective way to, as Ledesma puts it, place the abled in the position of the disabled - if this is the actual intention of the game. Then again, another central aspect to have in mind, lifted by Mary Bunch in the article 'Blind Visuality in Bruce Horak's *Through a Tired Eye*', is that though many blind scholars illuminate the haptic experience, we need to be aware 'that the cliché of blind tactile proficiency is inaccurate and can reinforce stereotypes about blindness.'[55] Bunch, who refers to Kleege and the Hypothetical, continues writing that '[w]hile many blind people develop heightened awareness and skill at interpreting tactile perceptions, their capacity for touch is the same as sighted people's.'[56] It should be stated, though, as Bunch does, that 'Kleege does not dispute the importance of physical touch in blind experience and crip aesthetics.'[57] 'Crip aesthetics is a judgement of beauty that embraces a variety of human bodies, sensory experiences and minds.'[58] We will go back to the article from Bunch at the end of Chapter 3.

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[53] Ledesma, p. 30

[54] Ibid

[55] M. Bunch, 'Blind Visuality in Bruce Horak's *Through a Third Eye*' *Studies in Social Justice*, vol. 15, issue 2, 2021, p. 244, Available from: LubSearch (accessed 24 May 2022)

[56] Ibid, p. 244-45

[57] Ibid, p. 245

[58] Cachia, Chandler & Siebers in Bunch, 'Blind Visuality in Bruce Horak's *Through a Third Eye*'

1.3. Navigation

Echolocation is the core of the game; through this process, Cassie navigates without eyesight. It works as a tool for visualisation by illustrating and colouring content and exposing the visual material to the player on-screen. Within the echolocation, a causality occurs between two modalities: the tapping of the cane, the audial modality, results in exposing the surroundings, which is the visual modality. Like *Perception*, *O jogo* can only be experienced (as intended, at least) by those with sight - like most other movies or video games. Furthermore, although disability is not shown directly on camera in *O jogo*, it is 'encoded within the image' because it shows 'how some blind directors engage in more unique screen representations and self-representations of visual impairment […]'[59] To connect this to ocularcentrism, Ledesma brings forward the fact that *O Jogo* both questions ocularcentric assumptions and aesthetic norms.[60] While *Perception* might not be questioning these ocularcentric assumptions, because the visual modality is very much centralised, it does question aesthetic norms within the video game culture, with the, to some extent, limited visual information given to the player. Here, I am referring to the dominating darkness of the image and the sparse colours, which will be discussed in the next section. However, while it is limited in this manner, it can also be described as maximalist - it is visualising what can actually *not* be seen by the naked eye - sound waves, the wind, Cassie's *sixth sense* etc. This sixth sense is another special skill that Cassie possesses. By using the sixth sense, the player can see the next goal as a glowing light somewhere in the mansion. Basically, it brings the player effectively forward in the story.

The majority of sounds in the game appear to be diegetic, meaning that Cassie can hear them too. The fact that Cassie can hear the sounds is plausible since they push the game forward by helping her to navigate. It is not only the tapping noise of Cassie's cane that lets the player navigate but other sounds such as the wind, gramophones, instruments, different types of devices such as recording machines and radios, breathing and voices, as well as the presence of something supernatural. However, as the house is listening, the player is also informed that too much noise attracts enemies - *The Presence*.

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[59] Ledesma, p. 24

[60] Ibid, pp. 25-26

1.4. Colours

As mentioned, there is a dominating darkness and sparse colours in the game. When approaching the mansion, the sound of the wind highlights it with bright blue and white colours, exposing the player to the location. The visualised sound of the door closing behind Cassie when entering the mansion gives a first glimpse of the inside space. The player navigates deeper inside the room by tapping the cane, revealing more and more details through the echolocation. The room's interior is quite detailed, but it is not obvious if the player can see what it actually looks like or if it is how Cassie imagines it through her use of echolocation.

Throughout the game, the mansion is explored in this manner, with the same white and bright blue colours, but with some exceptions. Some doorframes and other objects have a green colour, and further ahead in the game, it is revealed that landmarks and memories appear in green. But what do the colours add or take away from the game? After all, colours often carry some sort of meaning - both on a general and/or personal level. As previously mentioned, it is not clear if the player can see what anything in the game "actually" looks like or if it is all based on Cassie's imagination. The colours, though, are most likely not seen by the protagonist and will probably only have individual meaning for the player, if any meaning at all.

Figure 3: Screenshot (8:12) from SHN Survival Horror Network's video: a Landmark in *Perception*, highlighted in bright green

In one room, a fireplace is suddenly filled with blue flames, and the room is coloured yellow and red - warm colours indicating heat.

Figure 4: Screenshot (5:17) from SHN Survival Horror Network's video: a room in *Perception* that has turned red because of *The Presence*

However, although it might indicate heat, this change of colours is not explained. At first, it appears to be the fire that triggered it, but during the next fire, there is no such change of colours. While Cassie's fear remains, the room retains its blue, white and black colours. It is later understood that is it connected to *The Presence*. As seen in Figure 5, the red colours return with the creature.
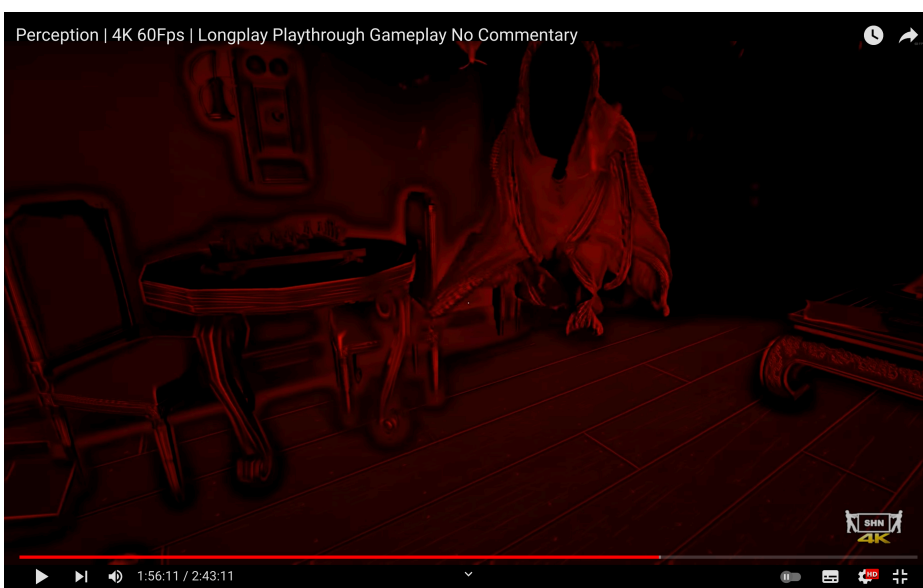

Figure 5: Screenshot (1:56:11) from SHN Survival Horror Network's video: *The Presence*

1.5. Visualisation Tools

In the game, there are other tools helping the player navigate, proceed and unravel the story. Some of these will be explained in this section. The player quickly encounters memories that can be found and re-triggered throughout the mansion. To provide an example: Cassie takes up what appears to be a card from the floor, and at first, she seems to be reading it. However, it becomes increasingly clear that the memory speaks to her. The concept has a sixth sense function, which lets Cassie and the player get to know the game's characters primarily through their voices and, to some extent, its visually present ghosts.

Sound is frequently used throughout the game, allowing Cassie to visualise the room through echolocation and unravel the story. To provide another example: The player is told to press play on a recorder in the first chapter, which is a recurring task but with various props. The player receives small portions of the story by listening to these recordings. When hearing sound coming from recorders, gramophones, etc., light, looking like sound waves, highlights the surroundings, almost resembling ripples in water. This is also a part of echolocation.

Figure 6: Screenshot (1:14:53) from SHN Survival Horror Network's video: echolocation through visualised sound waves

When exploring a car in a garage, Cassie finds a jar with pills, and unlike the memories that Cassie can hear with her supernatural connection, she uses a text-to-speech function on her phone. She scans the text that is then read aloud to her by taking a photo. The phone is also used for connecting with a live community, *Friendly Eyes App*. Through this app, users

(without visual impairment) help Cassie by explaining images she sends verbally. Cassie takes a photo of "something" and sends it on this app, and the users can send voice messages describing the photo back to her.

1.6. Summary

In this summary, I want to conclude by discussing which is the main modality/modalities. The game has an extra focus on Cassie's own senses, such as scent, the feeling of heat (fire) and sound, both familiar and unfamiliar sounds. These senses are highlighted because Cassie is blind, but the fact that the player can see, albeit with some limitations, still remains. Therefore, the main modality is still visual through the moving images. The game, however, acknowledges modes experienced by Cassie that are usually not acknowledged to this extent: sensation (heat) and sound (echolocation).

Sound is constantly emphasised throughout the game - Cassie's footsteps, the sound of her cane, recorders and gramophones, mysterious music, the wind, voices, both from the narrator, from the app and other people and creatures, as well as different sounds hard to identify, giving the mystery more space. The combination of these creates a certain eerie atmosphere, highlighted through visual material, such as how the sparse, bright colours and limited vision emphasise the darkness. However, although spoken words, the sound of the cane and other sounds are a central feature of the game and essential to creating this eerie atmosphere, the game is, in fact, *playable* without sound since everything Cassie expresses verbally is, or can be, texted. This makes the linguistic mode one of the main modalities for navigating and moving forward. However, a lot of the desired atmosphere for a horror video game would be lost.

CHAPTER 2: *A BLIND LEGEND*

2.1. Introducing: A Blind Legend

For this case study, we are going deeper into audio description rather than a visual analysis because this is an integral part of the multimodal approach. For playing *A Blind Legend*, headphones are compulsory, according to *Steam's* website, and players are urged to close their eyes - they will be of no help. The game utilises binaural sound, resulting in a 3D soundscape that 'brings characters and actions vividly to life around the player.'[61] *Bi* means two, and *aural* refers to our ears. Sound waves hit each ear at different times with varying volumes, and through this information, our brains can calculate the origin of the noise.[62] Out of pure curiosity, I did try to experience parts of the gameplay without headphones. It could possibly work with a surround system, but without it, one loses the ability to navigate from which direction voices and other sounds come from. This is naturally a great obstacle in combat, possibly making the game impossible to play. Furthermore, the video game was developed for Microsoft Windows, IOS, macOS and Android.

The player embodies Edward Blake, a blind knight who lost his sight after his brother cut his eyes out. Blake is guided by his daughter Louise and must find a way to avoid traps that lie in the High Castle Kingdom while confronting enemies.[63] The game is not eerie like *Perception* but does, too, have a "scary" atmosphere, much because of the vivid sound effects in combat. *A Blind Legend* is described as fully accessible for visually impaired people and is 'aimed at anyone who's eager for an original, immersive sensory experience through a ground-breaking video game.'[64] It is also stated that because the user plays as the character, who is blind, it will help raise public awareness of the disability in question.

For this analysis, I have used two gameplay videos created by two different accounts on YouTube. One of these is a complete play-through and is the material that I used to analyse the game's full content. However, in this play-through video, the original screen while playing

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[61] 'A Blind Legend', *Steam* [webpage] Om detta spel, https://store.steampowered.com/app/437530/A_Blind_Legend/, (accessed 10 May 2022)

[62] A. Smith, 'Binaural Audio: What is that? How can you get it?', *What Wi Fi* [webpage] 19 May 2017, https://www.whathifi.com/advice/binaural-audio-what-it-how-can-you-get-it (accessed 10 May 2022)

[63] A Blind Legend', *Steam*

[64] Ibid

was replaced with an image with no connection to the game. Therefore, I used parts of another gameplay (played on a phone) to grasp what the actual screen looked like. It turned out that the game does have some visual details. On the screen, while playing, one can see that when Blake fights with his sword, a white light shows up on the screen. This feature is included both when the game is played on the phone as well as on the computer. While loading, the *A Blind Legend* logo is also displayed. Other than these exceptions, the background is monochrome, looking like a dark, lightly cloudy night sky. However, it is unclear why this light effect is present. It can be a creative choice or a detail meant to create an effect for those who can see it, which can be an issue in itself. In fact, it can be said to disturb the purpose of the game, an unnecessary, possibly disturbing detail that could be seen as exclusive.

Figure 7: Screenshot (8:29) from ANDROLIKOS' video: the visual effect of when Blake uses his sword

2.2. Audio navigation

Although *Perception* does have unique features such as limited vision and other content connected to blindness, the player experience is in many ways like in any other game. However, we need a better understanding of *A Blind Legend* - it is an audio game, but has similarities with audiobooks in that one follows a plot using audio. However, the game has interactive elements, which makes it possible to describe it as some type of interactive audiobook. Since *A Blind Legend* is an audio game, the significance of this is undoubtedly

apparent, but how does the sound operate to let the player navigate? I can detect two main ways for navigation: the first of these ways is through voices : 1) a female instruction voice, 2) the voice of Blake's daughter Louise, and 3) *Other Voices*. The second way to navigate is through all the other sounds the player can hear throughout the game that are not connected to speech. In the next subsection, I will go through these ways of audio navigation.

2.2.1. Navigation through Speech

At the beginning of the game, the instruction voice informs how to move around in the game, which on the phone, for example, is by making various finger movements. The player navigates in the game, as the instructing voice describes in the beginning, guided through sound, and can tap on the screen whenever for Louise to instruct the player on how to reach her: 'Over here!', 'It's straight-ahead!', 'You're close!', 'All right!'. Every time the player reaches Louise, she will say so, and you will set off to the next destination. The instruction voice is present to make the player understand the functions of the game, while Louise's instructions help the player navigate and proceed with the story.

To compare this to film: textural speech, Chion writes, which is usually voice-over commentaries, has some attributes of the intertitles in silent films. This is because, unlike theatrical speech (like Blake's or Louise's voices), it acts upon the images.[65] Chion writes that, 'Textural speech has the power to make visible the images that it evokes through sound - that is, to change the setting, to call up a thing, moment, place, or characters at will.'[66] While there is no visual material, the textual speech has the same function. The *Other Voices* are often used to build up a scene and further develop the story. It is not always immediately apparent what is happening in the game; the player has to listen to the interactions between people, in combination with other sounds providing information, to understand the plot. The content of the speech compensates for the absence of visual material by being excessively descriptive about what is unfolding - *where* they are going and *what* they are going to do. Blake is also speaking, letting the player participate in his thoughts, plans and reactions. To go back to the binaural sound function of the game, the instruction voice says,

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[65] M. Chion, *Audio-Vision: Sound on Screen,* New York, Columbia University Press, 1994, p. 172

[66] Ibid

During a fight, try to work out your enemy's position. You can hear them on the right, the left, or straight in front of, or behind you. When he's about to strike, quickly slide your finger in his direction to strike him. Do not strike too soon or too late, wait for the right moment.

As the instruction voice says, the player is guided through sound, which does not only include voices. In the following subsection, some of these sounds will be further discussed.

2.2.2. Navigation through Other Sounds

The soundscape in the game is well-developed via the binaural sound function, volume, and where sound is placed in the audio image. When moving, the player can hear Blake's footsteps following the instructions. Actions, in general, are all accompanied by sound, confirming the action just performed. This is, however, nothing unique for this game in particular. The audio descriptions are all distinct since the player can not physically see where they are or where they are heading; hence the player is constantly told so.

The first destination is the village square, which Louise informs. While going there, the player can hear church bells, soon accompanied by other ambience of their surroundings - footsteps, voices, horse wagons, dogs barking, cackling chickens, swords fighting, etc. The sound of the changing weather and nature is also emphasised by giving it a noticeable amount of space in the soundscape. 'The importance of vision to visual art is not the physiological phenomenon of seeing', Richard Leppert writes.[67] It all comes down to perceiving, controlled by the eyes in conjunction with the brain and a human's relationship to the external reality.[68] This can be applied to sound, too. The player does not only *hear* the sounds around them, but they also *listen* to them, and make meaning through them. Of course, this happens automatically, simply because, '[t]he question of listening with the ear is inseparable from that of listening with the mind, just as looking is with seeing.'[69]

In 'The Mind's Eye: What the Blind See', author Oliver Sacks writes about a book sent to him in 1991. In this book, *Touching the Rock: Experience of Blindness*, author John Hull, who gradually lost his eyesight before becoming completely blind due to cataracts, writes about his

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[67] R. Leppert, 'Seeing Music', in Shephard, T. & A. Leonard, A. (ed.) The Routledge Companion to Music and Visual Culture, New York, Routledge, 2019, p. 10

[68] Ibid

[69] M. Chion, *Audio-Vision*, p. 33

insights relating to his life as a blind person. Eventually, Hull identifies himself as being a 'whole-body seer', which for Hull means shifting his attention to other senses. He speaks of how the rain, which previously did not receive much attention, now could 'delineate a whole landscape.'[70] Sacks quotes Hull, writing,

> Rain […] has a way of bringing out the counters of everything; it throws a coloured blanket over previously invisible things; instead of an intermittent and thus fragmented world, the steadily falling rain creates continuity of acoustic experience… presents the fullness of an entire situation all at once… gives a sense of perspective and of the actual relationships of one part of the world to another.[71]

This quote, about the audial experience of rain, demonstrates the spatial information one can collect from this single but spatially filling sound. It exemplifies that sound is an effective tool to provide, what can be described as, visual information. The sound of Blake's heartbeat reflects his health: the more he gets hit by his opponent, the faster it gets. In many video games, health is displayed through a visual meter, a *health bar*, but here, once again, audio is effectively used. These sounds of strong bodily reactions, beneficially used to effect the player, are recurring: heartbeat, panting, screaming, the sound of tinnitus etc.

Sound of dialogue and sound effects, Chion writes, imposes a temporalisation of the image. 'Why', he continues, 'in the sound-image relation, is sound a temporalising element? Firstly, it is because the temporal sensitivity of the ear is much finer than that of the eye.[72] He continues,

> The ear is capable of identifying and analyzing variations in energy, timbre, color, duration, and of course pitch in a very short amount of time, so short that our eyes, quick as they are, are outdone if subjected to equivalent variables of a visual order.[73]

Secondly, sound is, in general, directional in time, especially natural sounds, in contrast to synthetic. '[Natural sound] almost always has an evolution - a "story" of tensions and relaxations.', as Chion describes it.[74] What all of this is telling us is the amount of information that we can collect from sound - and we might not even reflect upon this fact.

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[70] O. Sacks, 'The Mind's Eye: What the Blind See', in D. Howes (ed) *Empire of the Senses: The Sensual Culture Reader,* Oxford/New York, Berg, 2005, p. 26-27

[71] J. Hull in O. Sacks, 'The Mind's Eye', p. 27

[72] Chion, *Film, a Sound Art,* New York, Columbia University Press, 2009, p, 265

[73] Ibid

[74] Ibid, p. 266

Other sounds, clearly distinct from the ambient noises, also give the player essential information. The instruction voice informs the player that 'whenever you hear this sound ("chirp"), an important scene is imminent.' Or, 'whenever you hear this sound ("quit chime"), it's your time to play.' For someone who is not familiar with keeping track of these kinds of sound cues, they are rather hard to keep track of without any visual tools, possibly, because of an extensive visual dependency. Kleege quotes Magee and Milligan (one sighted and one blind), from their book *On Blindness*, writing:

> By the sighted, seeing is felt as a *need.* And it is the feeding of this almost ungovernable craving that constitutes the ongoing pleasure of sight. It is as if we were desperately hungry all the time, in such a way that only if we were eating all the time could we be content – so we eat all the time.[75]

Furthermore, Magee argues that a sort of panic emerges when sighted people need to keep their eyes closed, even for a short amount of time.[76] Are we really *that* visually dependent?

As mentioned, *Perception* is divided into four chapters. *A Blind Legend* does not have these distinct chapters but does contain several different scenes. To change the scene, the game goes silent, the sound of a heartbeat comes on, and the instructions voice says, 'loading'. The game is divided into these scenes, changing the location as the game moves on. This happens a significant amount of times throughout the game.

2.3. The Heartbeat as a Semiotic Resource

In this section, the second example of a semiotic resource will be discussed - Blake's heartbeat. Again, first and format, let us refresh our memory of the function of the heartbeat. In the game, it has two functions - 1) it reflects Blake's health and 2) it is a sonic element while the game is loading. As mentioned, health is usually displayed through a health bar, but sonic elements, like a heartbeat, can still be present to increase the attention to the health and how it is effected by the combat. For reference, this is the case in Marvel's *Spider-Man* by Insomniac Games (2018). While we can see the health bar on the screen, the sound of the heartbeat is increasing the immersion. The heartbeat in *Spider-Man*, though, beats evenly and does not provide any additional information but works only as a sonic detail. While the

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[75] B. Magee & M. Milligan quoted in G. Kleege, 'Blindness and Visual Culture', p. 187

[76] Magee quoted in Kleege, p. 187

heartbeat can be described as mono-modal in *A Blind Legend*, it has many functions: it wants to induce the feeling of stress and seriousness *while* it is informative. What unites these functions is that the heartbeat is present to increase the immersion. Furthermore, the heartbeat as a semiotic resource in *A Blind Legend*, can be seen as a tool for criticising the visual.

2.4. Intensification of the Senses

As stated by Ledesma, the director of *O jogo* 'displaces vision in favour of multimodality that relies on tactility, sound and other senses.'[77] *O jogo* is in fact a silent film (without dialogue, but with musical accompaniment). Because of the importance of sound for visually impaired/ blind people, this choice might be confusing, though, in an interview, Antunes states that the idea of making a silent film was intriguing as well as challenging.[78] Blind sound designer Mirco Mencacci illuminates the importance of silence in cinema, suggesting that this forces us to think.[79] Proceeding within the field of sound as well as the absence of it, it is further written that,

> The absence of sound, for the sighted, functions to intensify the visual experience, much like the absence of images can, for the blind, intensify other sensory inputs. In addition, the absence of spoken dialogue in *O jogo* brings more attention to the haptic quality of the images themselves.[80]

While the empirical material in this thesis is not silent, the quote above brings us closer to the concept in *A Blind Legend* in relation to its players with sight, moving towards a multimodal arena where visual perception without sight is centralised. This, in turn, calls for a deeper analysis of the blind gaze in relation to the game in question.

As previously discussed by Olin in the Previous Research section, the gaze corresponds to the desire for self-completion through another, and over gaze, there is a struggle - one gets to look, and the other is looked at.[81] To further build on this through Rosemarie Garland-Thomson: we expect others to have certain behaviours, and we stare when we notice someone

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[77] Ledesma, p. 25

[78] Ibid, p. 26

[79] M. Meyer quoted in Ledesma, Ibid

[80] Ledesma, Ibid

[81] Olin, 'The Gaze' in Nelson & Shiff, pp. 209-15

who looks or acts in ways that oppose what was expected. 'Staring offers an occasion to rethink the status quo.'[82] This, in many ways, goes hand in hand with what *O jogo* appears to be doing to its audience - it offers an opportunity to rethink how we usually view the world because it is made from a point of view that we have, and most likely will - never experience. This, then, can be further connected to *A Blind Legend*, that in many ways contradict what we may assume that a video game "should" be: visual. Kleege writes about the visual studies scholar,

> The visual studies scholar, highly skilled in understanding images, who loses some or even all of her sight, will not lose the ability to analyze images and to communicate her observations. Professor Mitchell's classroom exercise, 'Showing Seeing', assumes that some students will be better at the task, while others might improve their performance with practice, and in all cases their aptitude would have little (if anything) to do with their visual acuity. The skill, as I understand it, is in the telling as much as it is in the seeing – the ability to translate images in all their complexity and resonance into words.[83]

This can be applied to playing video games: the experienced player, also highly skilled in understanding images, will not lose the ability to analyse the information provided through other modes than the visual. To physically see something is simple for the sighted. But to hear something and translate this into words can prove to be more of a challenge, because of the inexperience of doing so.

2.5. Summary

In *A Blind Legend,* the interplay between especially two modes is central to the video game. Firstly, audial and linguistic mode plays their parts. The spoken information of the instruction voice is central for understanding the functions of the game. However, it is when it comes to Louise and a selection of other characters that it gets more interesting. It is through their voices and *where* they are in the soundscape (in relation to Blake) that we can truly understand the importance of the spatial mode in the game - physical distance, position, proximity etc. Headphones are needed when playing *A Blind Legend*, in order for the interplay between these modes to work. Through our headphones, the player can understand who is speaking and if this person is a threat or not. When facing combat, they do not only

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82 R. Garland-Thomson, *Staring: How We Look*, New York, Oxford University Press, 2009, p. 6

83 Kleege, p. 188

need to hear the enemy but understand where the enemy is, and, of course, the same principle applies to Louise. Louise's instructions and, to some extent, the guidelines from the instruction voice are central in the game, to an extent that it can be described as *verbocentric* - the game is dominated by words. Because humans are voco- and verbocentric in their habitual behaviours, so is sound in film, according to Chion. He writes that in any sound environment, when we hear voices, they catch our attention before other sounds, such as music, wind, rain, traffic etc. After we know who is talking and what they are talking about (if one knows the language, that is), the attention might shift to other sounds.[84] This point of view is interesting in relation to ocularcentrism. It emphasises the merge of modes we use to understand the world and that *one* mode rarely excludes others; in fact, they *have* to coexist. The same generalisation as Chion makes on film can be applied outside this field, such as to video games, including the ones analysed in this thesis. To listen to voices and understand what they are saying is a habit, something that happens naturally.

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[84] Chion, *Audio-Vision*, p. 6

CHAPTER 3: WHAT IS THE POINT?

The last chapter of this thesis will focus on two things: 1) to further problematise ocularcentrism and why this research is valuable within the field of visual culture, while 2) answering the final research question - what is the position of these games in an ocularcentric culture? These two things will be discussed hand in hand throughout the chapter. It will also provide chances to discuss the games next to each other, and not separately. Furthermore, it will discuss not only the content of the games but also the production and the reception side of them.

3.1. Seeing is Believing

Let us yet again return to Kleege and the Hypothetical, as mentioned in the introduction. Kleege discusses the work of a selection of blind authors, among them Helen Keller, and their shared 'desire to represent their experiences of blindness as something besides the absence of sight.'[85] Kleege writes, 'Unlike the Hypothetical, they do not feel themselves to be deficient or partial-sighted people minus sight – but whole human beings who have learned to attend to their non-visual senses in different ways.'[86] What the content of this quote is doing is that it sets the relationship between sight and blindness in a new perspective. To once again go back to Kleege's reference to philosophers Magee and Milligan from their book *On Blindness*, writing about seeing as a need for the sighted (in subsection *Navigation through other sounds* in Chapter 2), sight is described as a hunger, something that is desperately needed to feel content. One can wonder if it is possibly hindering the sighted from fully attending to other senses. Video games like *A Blind Legend* force sighted people to, to some extent, try their ability to attend to their non-visual modes in various ways, while *Perception* does not. From here, sight will be further discussed, as well as visual dependency.

'If one closes one's eyes in the middle of a dance performance, something is missed and the spatiotemporal form cannot be grasped in its entirety.'[87] While this quote by Elleström is accurate, I think there are more ways to look at how the spatiotemporal form was created in

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[85] Kleege, p. 187

[86] Ibid

[87] Elleström, p. 19

the first place. We grasped the spatiotemporal form because we could see it before closing our eyes. However, without sight, we would still have a perception of it, built using our other senses, other modes, that is - we can *hear* the room, we can *feel* the room. This perception of the spatiotemporal form is accurate to us until we open our eyes again. Now, if we close our eyes yet again, we would still perceive the spatiotemporal form, which will also feel true to us until we open them again. When describing Bach's "Cello Suite No. 1" in a Q&A, American-Chinese cellist Yo-Yo Ma says, 'We all can imagine something that is both constant and always changing.'[88] The dance performance can be said to be constant, but the spatiotemporal form is constantly changing, and while we might not *see* it, we can *imagine* it - why would this perception not be accurate? Why is our ability to see so centralised for meaning-making?

'In our contacts with art we take sight for granted; it is always there, a work of art is created by using sight and is evaluated by using sight.'[89] This quote from De Coster and Loots, who was briefly mentioned in the introduction, in their article about meaningful art education for blind people, is also connected to ocularcentrism. Furthermore, it is applicable far beyond the boundaries of art. De Coster and Loots write that 'it is only in confrontation with blind people that we start reflecting on this matter.'[90] This implies that games like *Perception* and *A Blind Legend* can be viewed as relevant sources for questioning conventional game design. After all, Kleege started her essay 'Blindness and Visual Culture: An Eyewitness Account' by writing,

> I began from the premise that the average blind person knows more about what it means to be sighted than the average sighted person knows about what it means to be blind. The blind grow up, attend school, and lead adult lives among sighted people. The language that we speak, the literature that we read, the architecture that we inhabit, were all designed by and for the sighted.[91]

Exploring what takes us out of the comfort zone is (often) a good place to start, though *Perception* can be a somewhat questionable source for this purpose, although it provides players with graphic limitations. Ledesma refers to David Feeney, and how the visual alone is not enough. In fact, it may limit the aesthetic experience. Ledesma continues, stressing that

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[88] *Yo-Yo Ma Answers Cello Questions From Twitter | Tech Support | WIRED,* [web video], 21 April 2021, https://www.youtube.com/watch?v=XPv4ohPTC4M&t=66s, accessed 23 May 2022

[89] K. De Coster & G. Loots, 'Somewhere in between Touch and Vision, In Search of a Meaningful Art Education for Blind Individuals' *International Journal of Art & Design Education*, vol. 23, issue 3, 2004, p. 328, Available from: LubSearch (accessed 23 May 2022)

[90] De Coster & Loots, 'Somewhere in between Touch and Vision, p. 328

[91] Kleege, pp. 179-80

'Antunes' film enriches the aesthetic experience through a multitude of senses, so that all of the non-visual sensory modalities [...] collectively result in a multifarious aesthetics of blindness"'[92]

Sight, has been a recurring term all throughout this thesis and the centre of attention so far in this chapter. After all, the focal point is how sighted people experience these video games. Still, while on this topic of taking sight for granted, let us not forget the fact that…

3.2. …There Are No Visual Media

> If we turn down the sound of a TV program, we find out how important dialogue is to our understanding of the picture. If we turn off the audiotrack to a video game, we find how critical the sound effects and music are to experiencing the game. And if we block out the written text on a website, we find that while the remaining images may be beautiful, or sensuous, or possess any number of qualities, it is usually impossible to say with any certainty what they are intended to mean.[93]

The quote above, from Paul Duncum's article 'Visual Culture Isn't just Visual: Multiliteracy, Multimodality and Meaning', is simple, accurate and highly relevant for this thesis. The basis of his article is, as he writes, both clear and obvious: *There are no visual sites*.[94] This fact has been emphasised in this thesis through both Mitchell and Rose, and will now be further discussed in relation to both games, as well as visual culture as a field, to illuminate why this research has relevance. To once again quote Mitchell and to emphasise *why* this is important:

> Visual culture at its most promising offers a way to get beyond these 'scopic wars' into a more productive critical space, one in which we would study the intricate braiding and nesting of the visual with the other senses, reopen art history to the expanded field of images and visual practices which was the prospect envisioned by Warburgean art history and find something more interesting to do with the offending eye than plucking it out. It is because there are no visual media that we need a concept of visual culture.[95]

Because there are no visual sights, no visual media, it is central to give room for other modes of communication within the field of visual culture. In Viveca Kjellmer's text on visual textures, she writes about research on sensorial-based thinking within architecture that has been published in recent years. This is useful to analyse museum rooms and exhibitions as a

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92 D. Feeney quoted in Ledesma, p. 33

93 P. Dancum, 'Visual Culture Isn't Just Visual', p. 252

94 Ibid (Dancum)

95 Mitchell, p. 265

complete experience, meaning that it is about something broader than sight; it is about taking all sensory aspects into account, to create a more complete experience.[96] While this thesis is not focusing on taking *all* sensory aspects into account, this endeavour to explore video games as something broader than a visual experience based on sight, was described in the introduction. In the same text, Kjellmer refers to Finish architect Juhani Pallasmaa. Pallasmaa confirms that Western science and philosophy have, for a long period of time, regarded sight as the primary sense - which is an established fact that is hard to break. Hence, he points out that it is time to question the visual dominance and to acknowledge the significance of the other senses for the experience of the outside world.[97]

3.3. Body-centrism

Ledesma describes how *O jogo* 'embodies its critique of ocularcentrism by aspiring to place the spectator in the position of the visually impaired.'[98] By doing this, it celebrates imperfection. The plot is not the innovation of the movie but the usage of cinematic formal techniques that shed light on texture and produces a sense of *haptic visuality*, as discussed in Chapter 1. Furthermore, it 'adopts the filmmaker's phenomenological point of view by embodying within the frames aspects of the experience of visual impairment.'[99] This includes blurred edges and adding a filter that emulates the grain, noise and dust, as in an old movie or of damaged eyesight.[100] This change in graphics is found again in *Perception*, where the player is supposed to experience the echolocation as a blind character, which results in the distinctive style of the game. Let us, once again, go back back to Bennett and *The Watch Man*. Bennett writes that the spectator is not only in the watchmaker's space but has an inner-body experience - 'an indistinct, anonymous, collective body, an "inside like" experience of a shared space or sphere.'[101] It is interesting to think of first-person video games in these terms -

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96 V. Kjellmer, 'Visuella Texturer: Modeutsällningar som kroppslig upplevelse och visuella konsumtion', in I. De Wit Sandström & C. Fredriksson, *Á La Mode: Mode mellan konst, kultur och kommers*, Stockholm/Göteborg, Makadam förlag, 2016, p. 305

97 Ibid, p. 305

98 Ledesma, p. 27

99 Ibid

100 Ibid

101 Bennett, p. 67

as an inside like experience, which applies to both *Perception* and *A Blind Legend*. Much like in *O jogo*, the player *is* placed in the position of the visually impaired.

Ledesma writes how *O jogo* 'displays a special sensibility to the contradictions of dominant regimes of visuality, and it proposes another kind of filmmaking that could be denominated as a "blind gaze"'.[102] This can be described as a way to deemphasise 'ocular-gaze', to replace it with *body-centric* ways to experience film (or, in this case, video games), which lifts other types of sensory input.[103] This can be applied to both video games - through Cassie's cane as a haptic/tactile tool and the pronounced auditory modality of *A Blind Legend* and its voco- and verbocentric qualities.

3.4. For What It's Worth

According to the results of many experiments, audio game-based training has been proven to be a valid strategy to improve spatial-auditory resolution in virtual environments.[104] This indicates that players can improve their own abilities. But what other answers can we find beyond self-improvement? Although it has been argued that the modern world has become a visual phenomenon, Mitchell has asked if this characterisation of the world as newly visual is actually correct by arguing that, in a historical context, this is, in fact, nothing new.[105] I will not argue that the ocularcentric culture necessarily must be connected to the modern world; however, this thesis is approaching a relatively modern medium, video games, that is, in relation to ocularcentrism.

What role do games like *Perception* and *A Blind Legend* have in this culture? Dolmage refers to Aimi Hamraie and *added value*[106]*:* 'designs that produce disability access also have added value or benefit insofar as they are useful to non-disabled people.'[107] While *Perception* does not fit into this description, *A Blind Legend* can be said to be doing just that. By

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[102] Ledesma, p. 27

[103] Ibid

[104] O. Bălan, A. Moldoveanu, F. Moldoveanu, Huron Nagy, G. Wersényi & R. Unnórsson, 'Improving the Audio Game–Playing Performances of People with Visual Impairments through Multimodal Training', *Journal of Visual Impairment & Blindness*, vol. 111, no. 2, 2017, p. 149

[105] Jewitt, *The Routledge Handbook of Multimodal Analysis*, p. 3

[106] There appear to be various ways of using this term within different fields of study.

[107] Dolmage, p. 133

analysing the material, a purpose that is based on access can be detected, which is important to bring forward. Added value can be understood as a product that unites rather than excludes. To add to this, in their article 'Swept to the sidelines and forgotten: Cultural Exclusion, Blind Persons' Participation, and International Film Festivals', Isabel Pedersen and Kristen Aspveig write, in relation to *O jogo*, that 'collaborative endeavours between sighted and blind filmmakers in the pursuit of telling life stories is a positive step toward making film culture more inclusive.'[108] Beyond *O jogo*, this can also be applied to *A Blind Legend*.

In 'The Cinema of Isolation: A History of Physical Disability in the Movies', author Martin Norden observes that mainstream cinema, produced by abled-bodied filmmakers, has tendencies to 'other' the disabled, leading to that films that depict the blind often turn them into 'objects of spectacle'. These films, according to Norden, stereotype disability as something negative, yet never as a condition creating a different type of empowering 'sight'.[109] This, however, can be said to be quite the opposite of what both *Perception* and *A Blind Legend* are aiming to do. However, one should not forget to reflect upon who made these games and for whom are they made, bringing us to a developed discussion of purpose. While *Perception* is produced by people with sight, for people without visual impairment, *A Blind Legend* is produced by both parties, for people with *and* without visual impairment. In relation to Ledesma's material, he states that:

> By analysing both the production side (work by sighted and non-sighted filmmakers that use an aesthetics of blindness) and the reception side (how such works might be appreciated by sighted and non-sighted spectators) we can begin to challenge our assumptions about the mainstream aesthetics of visuality, demonstrating its contingent, non-universal nature.[110]

While this section of the thesis has been more based on production and reception, and not so much on the content of the games, the quote above provides value to this direction, and takes us back to the core of this thesis - to problematise ocularcentrism and emphasise the urge that makes us explore modalities beyond the visual - and all this while trying to answer the last question. The purpose of analysing the production and reception of these games is to challenge the industry as a whole, which in turn can make us challenge mainstream aesthetics of visuality.

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[108] Ledesma, p. 25

[109] Ledesma, p. 28

[110] Ibid, p. 29 (Ledesma)

So far in this thesis, I have paid rather much attention to the production side; I have analysed video game material produced by sighted (and to some extent non-sighted) that use an aesthetics of blindness. However, I have not yet explored the reception side and how they experience this material. To do this, reviews from the players have been utilised.

3.5. A Penny for your Thoughts

The answer to what these games are doing for people with sight might be closer than in previous research about *other* material; hence, I chose to turn to the reviews on *Steam* from players of both games. *Steam* is a website for playing, discussing and creating games. Users can meet new people, join groups, form clans, chat with each other and more. Users can participate in discussions about games and gaming and, what is of interest in this chapter, write reviews about player experiences. These reviews can be commented on and receive responses if they are helpful for other users.[111] While I do want to write this thesis from an unbiased point of view, these comments are a fruitful source to start analysing the specific question of interest in this chapter, working as a catalyst for discussion. The comments chosen for the following sections are among the ones considered the most helpful by other people.

3.5.1. Diving into the reviews: Perception

Many of the comments compared *Perception* to a walking simulator. Walking simulator games means that, rather than being heavily based on action, these games focus on stories, often with mystery and horror elements, where players can explore.[112] There are different difficulty modes to choose between in *Perception*, and the outcome after *The Presence* catches the player depends on this choice. *Story Mode* removes the threat of death and lets the player explore the mansion. *Scary Mode* makes is aggressive, lowers the health and removes

111 *Steam* [website] https://store.steampowered.com/about/ (accessed 17 May 2022)

112 K. Morris, '12 best Walking Simulators that Everyone Should Play', *Game Rant* [webpage] 20 May 2021, https://gamerant.com/best-walking-simulators/, (accessed 10 May 2022)

checkpoints. *Spooky Mode*, which is the original setting (and the one used in the gameplay in this thesis) offers frequent checkpoints so that Cassie does not have to restart the chapters.[113]

Though the majority of the reviews were positive towards *Perception*, the plot and lack of horror other than jump scares seemed to be the biggest complaint. What is interesting, though, is how the modalities were perceived and discussed by the players. Player A found the graphics style appealing and found it 'neat' how everything is 'lit up and revealed sound.' However, the user also points out that:

> It's an interesting twist on games that are typically just set in dark places. The range on the echolocation is very large, and most things are visible as if you could see clearly. This echolocation ability has no cooldown, and you can spam it as much or as little as you'd like. I'd even say that it gives too much visibility.

Player B wrote that the game has 'lackluster graphics'. Furthermore, Player B writes that:

> Although the idea of showing the player an interpretation of what a blind person might see if he or she were able to use echolocation is commendable and interesting, it doesn't take long before you get the feeling you're missing literally everything the game's surroundings could have shown you.

Here, Player B gets disturbed by the visual limitations. In contrast to the first comment, who implies that the echolocation 'gives too much visibility', the second comment thinks the opposite and does not appreciate these limitations, which actually makes the game different. Player C appears to agree with Player B. Although confessing that the environments look cool, Player C writes that 'Still, due to the fact that there are enemies lurking around, you will spend most of your time in the dark, so it will be hard to enjoy your environments.' The issue seems to be that the game can not quite decide what it wants to be - it is teasing its players with limitations, and it is not always well received. But let us then, once again, go back to Magee and Milligan, and how seeing is experienced as a *need*. The obsession with the visual limitations can be said to hinder the player from fully attending to other senses.

What both Player A and Player B emphasise, and agree upon, was the sound and music. Player A writes that 'music and ambience are very effective at creating an immersive atmosphere that feels very eerie and tense (at first).' Player B claims the soundtrack is one of *Perception's* strong points. The ambient sounds are, according to Player B, often genuinely creepy, and the background music is of terrific quality, very well suitable for the atmosphere

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[113] A. O'Conner, 'Perception adds new difficulty modes, extra dialogue', *Rock, Paper, Shotgun* [webpage] 1 November 201, https://www.rockpapershotgun.com/perception-remaster-update, (accessed 10 May 2022)

of the game. Player D agrees with this. Although the review was negative, Player D admits that, 'If there's one element a game like Perception absolutely needs to get right, it's the sound design, and in this one area it's an unqualified success. In every other respect, its not quite as assured.'

As previously mentioned, although *Perception* is, in fact, highly visual, sound plays a significant difference in the player experience. It is an exceptional example of how modalities interact with each other. Player C embraces the audio design, writing that:

> I was playing the game in the dark with my headphones on max volume and it resulted in a great experience which shook me to my core. Footstep creeks and sounds around the mansion all help build amazing atmosphere which doesn't let up until the game is over.

While *Perception* is a video game where sight is necessary to play, the visual mode being one of the main modalities, the graphics were not mentioned in this comment. Instead, the sound helped to build an atmosphere. Then how do the players relate to *A Blind Legend*?

3.5.2. Diving into the reviews: A Blind Legend

There are reviews from both visually impaired, blind and sighted people on this game. The fact that *A Blind Legend* is accessible creates a possible added value, as discussed at the beginning of this chapter, and the comments can help us to see this more clearly. The review rated as most helpful on *Steam* is, in fact, from a player who confirms that they are legally blind. While approaching the game with a degree of scepticism, the player was pleasantly surprised, writing,

> Without having to squint or move closer to the screen I can just play. Well done, the Dev set out to make a game for the visually impaired and succeeded. There are no graphics as such you have to play with your ears. If you cannot appreciate this, walk away. If you can then walk that mile in my shoes and enjoy. Buy, experience and enjoy.

While this can be a sign of a possible added value, this thesis focuses on how sighted people experience *A Blind Legend*, where the familiar format has changed, and the player has to use other modes to navigate but visual, using senses that are usually not as active while gaming.

This is also why the comments chosen for this section are *not* from people who are blind or visually impaired, or at least have not written that they are in their review.

Similarly to *Perception,* there are difficulty levels to choose between, but fewer: normal and hard mode. The majority of the top reviews were positive, except for the negative responses about the instruction voice (or Tutorial/Guide voice, as one player called it). As the graphics are extremely limited in *A Blind Legend*, most of the comments touched upon other modalities (mostly audio) and, of course, the plot itself. Player E comments that the sound has to be great for a game like *A Blind Legend*, and continues:

> [...] and here it is excellent: footsteps, wolves howling, waterfalls, entering a cave... Everything feels extremely realistic. And the voice acting is very good as well, with your typical British Game of Thrones accents.

Player F agrees, stating that 'The ambient sounds that make the areas feel alive are beautifully done.' Furthermore, Player F provides a highly relevant comment for this thesis, writing that they were intrigued when hearing about the game, writing 'A video game I play with my aural system not my occular system? Foolishness. But yeah, nah, it's actually solid and really easy to pick up once you get going.'

This comment from Player F, who originally approached the game from a sceptic perspective, is questioning themselves and their own ocularcentric view. To continue within scepticism: Player G had a negative perception of the game. Like many other reviews, some of the complaints were directed towards 'Tutorial/Guide voice'. Furthermore, Player G was expecting there to be *more* effort put into the sound making. However, Player G also commented 'They were creative in painting the world around you.'

Player H provides us with another comment, also highly relevant to reflect upon, writing that 'I absolutely [*sic*] love being able to play a game with my eyes closed and imerse [*sic*] myself in this weird and wounderful [*sic*] experiment.' More than one aspects of this comment are interesting. One relevant question to ask ourselves through it is why, although it is also described as wonderful, this game would be considered *weird*? Describing the video game with this word is most likely referring to the fact that it is different to what the player is used to. The player also touches upon the fact that they can play with their eyes closed and, by doing so, facilitate immersion (this also indicates that Player H is *not* blind).

Ledesma writes, 'The absence of sound, for the sighted, functions to intensify the visual experience, much like the absence of images can, for the blind, intensify other sensory inputs.'[114] While blind people most definitely do have more advanced senses due to lack of sight, I disagree that this solely has something to do with being blind or sighted. Closing one's eyes can increase concentration on other senses because we do not need to process any visual information. Instead, we can be fully present in the, for example, audial and linguistic mode. The player, who is experiencing a temporary change, can truly become immersed in the game's *atmosphere* - a term that will be further discussed after the next section. The next section will further build on the discussion of sound and music in video games.

3.6. Audio Cues

In their paper about video games and audio cues, Raluca D. Gaina and Matthew Stephenson, who refers to several texts within the field of video games, write that humans benefit from a wide array of sensors which can be used to navigate the world instead of focusing on only visual input or symbolic information. Sound and music have, as they illuminate, played a central role in video game development and play for a long time; it can influence the engagement and the emotional investment, as well as it can 'provide important environmental information or gameplay cues.'[115] All of these aspects have been stressed through this thesis. To build on this, Gaina and Stephenson write that sounds in games can be utilised to alert the player (especially when it is dark, which we can actually describe *both* games as) and provide clues for solving puzzles. 'This additional sensory output is different from traditionally visual information, and allows for many new gameplay possibilities.'[116] Some types of games, especially within the horror genre, rely to a large extent on audio to create an immersive atmosphere. Without it, it would lose much of the effect.[117] This statement can be confirmed by looking at *Perception*. Other games (like *A Blind Legend*) require that the player listen to and understand certain sounds to move forward. 'Without the ability to process audio input,

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[114] Ledesma, p. 26

[115] R. D. Gaina & M. Stephenson, 'Did you Hear That: Learning to Play Video Games from Audio Cues', *Conference on Games (CoG)*, London, IEEE, 2019, p. 1

[116] Ibid

[117] Ibid

we would likely be unable to play many of these games effectively.'[118] As discussed in relation to *A Blind Legend*, this can probably be more of a challenge for someone inexperienced, but as Gaina and Stephenson highlight, some expert players are able to play games only via audio input,

> […] even where on the surface visuals would appear essential, such as visually impaired players competing in fighting game tournaments […] or speedrunners attempting of finish games such as Mario, Zelda or Punch put while blindfolded.[119]

Gaina and Stephenson conclude their paper by lifting the fact that audio design raises important challenges. To be able to play many video games, people who are blind or have some type of visual impairment solely rely on audio and minor haptic feedback. Combining audio with visual information can make completing it much more plausible for visually impaired gamers. Furthermore, to add to the accessibility aspects and to make a compartment - people with hearing difficulties would find it difficult to play heavily audio-based video games.[120] In the next section, we will go back, yet again, to the atmosphere.

3.7. Atmosphere

In the reviews, *atmosphere*, which was also mentioned in the paper just discussed, has both been described and expressed - a term that will be further discussed in this section. What is an atmosphere, and how is it multimodally produced? Bennett writes about an atmosphere as 'that quality which an event may conspicuously generate or lack - is an effect of the transmission of affect, a process about which we still know surprisingly little.'[121] Furthermore, Bennett refers to Teresa Brennan and how we theorise about expression/ perception or reception, the twin poles of affect, without knowing much about what happens between the poles. Yet, Bennett continues - 'all of us know an atmosphere when we are in it […]'.[122]

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[118] Ibid

[119] Ibid

[120] Ibid, p. 4

[121] Bennett, p. 61

[122] Ibid

With reference to the comments, the atmosphere experienced by the players was mostly created through music and sound - aural mode and linguistic mode. In *Perception*, the visual mode, which is limited, also plays its central part - both appreciated and not so much appreciated by the players. It is valuable to illuminate that this atmosphere might not be one that the players recognise from their real lived experiences. Instead, we are, once again, back to the subject of semiotic resources. To quote Bennett once again, who discusses art, however, this can be applied within the field of game studies:

> Art does not capture and replicate a given subject's experience of the event but draws bodies into sensations not yet experienced. It generates new experience from an event, moving outside of the parameters of what is already known or habitual.[123]

The music and the sound in the video games work as a semiotic resource, which eventually results in the atmosphere experienced by the players. Furthermore, Leppert writes about the semiotic possibilities suggested by visual representations:

> Visual representations, except perhaps those that include decipherable musical inscriptions, tell us nothing specific about particular pieces of music; instead they suggest the range of semiotic possibilities for specific compositions performed under conditions similar to those represented.[124]

These games do not capture and replicate a player's experience but draw the players into sensations that generate a *new* experience. These experiences are formed with the semiotic possibilities and resources (that can be both aural, linguistic, visual etc.) offered to the player throughout the video game.

3.8. The Individual Player

This atmospheric experience is also highly individual. One central aspect to remember, which was also illuminated through the different opinions aired in the reviews from players, is that isolated perception is produced constantly, unique to each individual. Walter Mürch writes that 'the mental effort of fusing image and sound in a film produces a "dimensionality" that

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[123] Ibid, p. 63

[124] R. Leppert, 'Seeing Music', in T. Shephard & A. Leonard (ed.) The Routledge Companion to Music and Visual Culture, New York, Routledge, 2014, p. 9

the mind projects back onto the image as if it had come from the image in the first place.'[125] This results in the viewer seeing something on the screen that exists only in our own minds, and the finer details are unique to each individual.[126] And, as Chion illuminates, to emphasise the relationship between image and audio: 'We never see the same thing when we also hear; we don't hear the same thing when we see as well.'[127]

Furthermore, Mürch quotes John Huston, observing that 'the real projectors are the eyes and the ears of the audience.'[128] This is probably most applicable on *A Blind Legend*. Without the perceptive help that visual images can provide, players need to work more with their own mind. One central aspect important to take note of, though, when discussing the individual experience, reviews and what games can do for a player (referring to the third research question) is the different interests players enter a video game with. Some players, let us call them Example A, concentrate on the rule system; they aim to compete and win the game, while the game world and backstory might be of little interest to them. While 'it is likely that all players are to some degree are influenced also by the representational parts of the game', like graphics, sound etc, some players, let us all them Example B, experience intense pleasure from this secondary element.[129] This, while the game itself (what Example A concentrates on), would maybe not be so interesting for Example B.[130] Other players, Example C, might enjoy the game through the combination of all these factors. It is exactly this individuality that makes the last research question a complex one to answer.

3.9. Blind Visuality

In the last section of this chapter, and of this thesis, we will once again return to Mary Bunch, mentioned in Chapter 1, where haptic visuality was discussed. Bunch also writes about haptic visuality, but more than this, she writes about *blind visuality*. In her article, she proposes this concept as 'a response to the injunction to look differently at both visual images, and vision

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[125] W. Mürch in Chion, p. xxi

[126] Ibid

[127] Chion, *Audio-Vision*, p. XXVI

[128] W. Mürch in M. Chion, *Audio-Vision*, p. XXI

[129] Mäyrä, p. 18

[130] Ibid

itself, posed by Bruce Horak's exhibition *Through a Tired Eye*.'[131] Bruce Horak is a Canadian actor and artist who is blind. Bunch continues writing about his work, describing his brightly coloured impressionistic paintings. These paintings, Bunch writes, 'suggest an artist who revels in the domain of the visual, yet he describes his practice as a representation of blindness.'[132] Bunch continues, arguing that,

> [B]y expanding understandings of vision and multi-sensory knowledge, deconstructing the separation between vision and haptic perception, and challenging western ocularcentricism, blind visuality poses an alternative economy of looking that reflects disability aesthetics, shifts from individualism to relationality, and challenges understandings of perception/knowledge as a form of mastery.[133]

When analysing *Through a Tired Eye*, Bunch integrates two concepts developed in art criticism and cinema studies: *haptic aesthetics*, that 'refers to artistic consideration of touch and other bodily sensations (Fisher, 1997)', and *haptic visuality*, 'a way of seeing that blurs the boundaries between vision and embodied feeling by evoking physical memories of touch (Marks, 2000).'[134] In Bunch's text, it is emphasised that '[b]lind perspectives contribute to aesthetic discourses and cultural knowledge.'[135] Furthermore, it is written about a description from Kleege, 'the cliché of the blank canvas as a space of lack; a metaphorical blindness that the artist must overcome with an act of creation (2018).'[136] Bunch reflects upon Horak's paintings of his blindness: '[…] active, shifting and moving excess of sight. His blindness fills the canvas […].'[137] While *A Blind Legend* has extremely limited visual material, *Perception* has in this thesis been described as dark and limited, but also maximalist. However, with reference to these extracts from Bunch, in relation to *Perception*, it is essential to once again ask us *who* made *what*, and for *whom* is it for? In the end: is *Perception* merely portraying the sighted's image of the blind?

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[131] Bunch, 'Blind Visuality in Bruce Horak's exhibition *Through a Tired Eye*', p. 239

[132] Ibid

[133] Ibid

[134] Ibid, p. 240

[135] Ibid, p. 241

[136] Ibid, p. 252

[137] Ibid

CONCLUSION

While both of these games are connected to blindness and have (some) similarities, what strikes the most are their differences. In *Perception*, blindness is portrayed for people with sight (which may seem paradoxical) through visualised sound via echolocation. Sound is also what unites both games in this thesis, as both of the semiotic resources discussed are sonic elements. Cassie's cane, the first example of a semiotic resource, is a symbol of blindness, but while it is *heard*, it is not actually *seen* in the game - just the aftereffects of the action. Furthermore, it also acts as a bridge between the player and Cassie, an extension of the player's own body. Without this resource, this tool, we can not "see". However, this also brings us back to a discussion of sensorial mode and the possibly underrepresented tactile and haptic modality in the game, which may stand as a critique because the player is missing out on parts of the haptic visuality. This is a contrast to *O jogo*, which, despite being a visual medium, places emphasis on the tactile vision.

While the player can see, it is with limitations because of the dominating darkness of the game. This can be described as a questioning of aesthetic norms, but it does not take away the fact that the visual modality is centralised, meaning that it does not really question ocularcentric assumptions about playing video games. Although we can think of these first-person video games as an inside experience, where the player is placed in the position of the visually impaired, the question remains: *are* the abled actually placed in the position of the disabled in *Perception*, or does this game solely represent a seeing person's image of the blind? Is the representation true? This question of trueness is of much more complex character and starts already with the echolocation.

Cassie's sixth sense is also based on the fact that she can *see* something that others do not see, or at least it can be assumed that other people can not see it. Much of the essential material in the game can, in fact, be seen, like landmarks and memories. However, audio constantly exists as a complement to the visual material and create a certain kind of atmosphere, 'eerie and tense', as described by one of the reviewers, such as the wind, gramophones, instruments, different types of devices such as recording machines and radios, breathing and voices, as well as the presence of something supernatural. The important role that sound and music have in creating the atmosphere is not denied, in fact, it was lifted by the reviews as essential for the game.

As mentioned, what really unites the games is the sound. The linguistic mode, spoken words, has its central place both in *Perception* and in *A Blind Legend*. The difference between them, though, is

that since *A Blind Legend* is an audio game with extremely limited visual material. It does not have any written text as a compliment. In this way, it can be described as an interactive audio book. The fact that one needs headphones and that the game utilises binaural sound, which results in a 3D experience, indicates the importance of audio for playing the game "correctly".

Because there is no visual content to really touch upon in *A Blind Legend,* voices, both the instruction voice and other voices, are crucial. They work as verbal-visual descriptions, producing possible mental images. This game is opposing oculacentrism in video games, through a dominating voco- and verbocentrism. However, other sounds outside the linguistic mode are equally important since the navigation within this game happens through the audial modality, which also includes sound in general. The player make meaning through sound association, which brings us to the heartbeat as a semiotic resource - a monomodal but multifunctional tool. Not only is this immersive, but the same source provides information about Blake's health. The ambiance of nature is equally important, which builds a soundscape, allowing the player to *imagine* the surroundings through perception, instead of giving it to them directly, through the visual mode. This, once again, takes us back to the game as an interactive audio book. Audio also includes the sound cues, discussed both in the case studies and in the last chapter, based on Gaina and Stephenson, which finally brings us to the last research question.

The last chapter of the thesis focused on two things: to further problematise ocularcentrism and why this research is valuable within the field of visual culture, while answering the final research question: what is the position of these games in an ocularcentric culture? These two things are being discussed in parallel because while problematising ocularcentrism, I am also questioning visual dependency. What games like *A Blind Legend* are doing for people who are not visually impaired was partially answered by the production team of *A Blind Legend* themselves, claiming that because the user played as the character who is blind, it will help raise public awareness of the disability in question. If this is true or not, is impossible for me to answer. What can be discussed, though, is how Kleege illuminated how sight is felt like a need by the sighted. If we look at *Perception*, we see that even when visualising blindness - sight *still* seems to be a need: the chosen main modality for illuminating *not seeing,* is the visual modality. However, reflecting upon the descriptions Horak's work, they were everything else than non-visual. This, however, once again brings us back to the question of who is producing what, and for whom. We still need to keep in mind though, that there are no visual media. Through games like *A Blind Legend*, we are taking significant step away from ocularcentrism, by using other modes for creating perception, that can feel highly visual through associations because of semiotic qualities. *Perception* do take many sensory aspects into account,

and as Gaina and Stephenson wrote, humans benefit from a wide array of sensors. Unlike *A Blind Legend*, it does have the visual mode (at least in a traditional sense). If this can be experienced as more complete, though, is difficult to answer. Because in the end, what is a complete experience, really?

BIBLIOGRAPHY

Books

Bennett, J. *Practical Aesthetics*, London/New York, I.B Tauris & Co Ltd, 2012

Chion, M. *Audio-Vision: Sound on Screen,* New York, Columbia University Press, 1994

Chion, M. *Film, a Sound Art,* New York, Columbia University Press, 2009

Dolmage, J.T. *Academic Ableism*, Michigan, The University of Michigan Press, 2017, Available
    from: LubSearch, accessed 1 April 2022

Elleström, L. *Media Borders, Multimodality and Intermediality*, London, Pelgrave Macmillan, 2010

Eriksson, Y. *Tactile Pictures, Pictorial representations for the blind, 1784-1940*, Göteborg, Acta
    Universitatis Gothoburgensis, 1998

Garland-Thomson, R. *Staring: How We Look*, New York, Oxford University Press, 2009

Jewitt, C. *The Routledge Handbook of Multimodal Analysis*, Abingdon, Routledge, 2011

Kjellmer, V. 'Visuella Texturer: Modeutsällningar som kroppslig upplevelse och visuella
    konsumtion', in de Wit Sandström I. & Fredriksson C. *Á La Mode: Mode mellan konst, kultur
    och kommers*, Stockholm/Göteborg, Makadam förlag, 2016

Leppert, R. 'Seeing Music', in Shephard, T. & A. Leonard, A. (ed.) *The Routledge Companion to
    Music and Visual Culture*, New York, Routledge, 2019

Marks, L. *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*, Durham
    London, Duke University Press, 2000

Mirzoeff, N. *An Introduction to Visual Culture*, 2nd edn., London, Routledge, 1999

Moseley, R. 'Music, Visual Culture, and Digital Games' in Shephard, T. & A. Leonard, A. (ed.) *The
    Routledge Companion to Music and Visual Culture*, New York, Routledge, 2019

Mürch, W. in Chion, M. *Audio-Vision: Sound on Screen*, New York, Columbia University Press,
    1994

Mäyrä, F. *An Introduction to Game Studies*, London, SAGE, 2008

Olin, M. 'The Gaze' in R. Nelson & R. Shiff, *Critical Terms for Art History*, 2nd edn, Chicago,
    University of Chicago Press, 2003

Rose, G. *Visual Methodologies,* 4th edn, London, SAGE, 2016

Sacks, O. 'The Mind's Eye: What the Blind See', in Howes, D. (ed) *Empire of the Senses: The Sensual Culture Reader,* Oxford/New York, Berg, 2005

Journal articles

Bălan, O., Moldoveanu, A., Moldoveanu, F., Nagy, H., Wersényi G., & Unnórsson, R. 'Improving the Audio Game–Playing Performances of People with Visual Impairments through Multimodal Training', *Journal of Visual Impairment & Blindness*, vol. 111, no. 2, 2017

Bunch, M. 'Blind Visuality in Bruce Horak's *Through a Third Eye*' *Studies in Social Justice*, vol. 15, issue 2, 2021, Available from: LubSearch (accessed 24 May 2022)

Dancum, P. 'Visual Culture Isn't Just Visual: Multiliteracy, Multimodality and Meaning', *Studies in Art Education,* vol. 45, issue 3, 2004, Abingdon, Routledge, Available from: LubSearch (accessed 19 January 2022)

De Coster, K. & Loots, G. 'Somewhere in between Touch and Vision, In Search of a Meaningful Art Education for Blind Individuals' *International Journal of Art & Design Education*, vol. 23, issue 3, 2004, Available from: LubSearch (accessed 23 May 2022)

Kleege, G. 'Blindness and Visual Culture: An Eyewitness Account' *Journal of Visual Culture*, vol. 4, no. 2, 2005, London, SAGE Publications, Available from: LubSearch, (accessed 11 April 2022)

Ledesma, E. 'The blind gaze: Visual impairment and haptic filmmaking in João Julio Antunes' O jogo/The Game (2010)', *Studies in Spanish & Latin American Cinemas*, vol. 14, no. 1, 2017, Available from: LubSearch, (accessed 4 March 2022)

Mitchell, W.J.T. 'No Visual Media', *Journal of Visual Culture*, vol. 4, no. 2, Available from: LubSearch (accessed 11 April 2022)

Websites

'A Blind Legend', *Steam* [webpage] Om detta spel, https://store.steampowered.com/app/426310/Perception/, (accessed 27 April 2022)

Fillmore, A. 'Multimodal Communication: Writing in Five Modes', *Pressbooks* [webpage] The Five Modes Explained, https://openenglishatslcc.pressbooks.com/chapter/multi-modal-communication-writing-in-five-modes/, (accessed 10 May 2022)

'Homepage', *DOWiNO* [webpage] Our Mission, https://www.dowino.com/en/, (accessed 15 March 2022)

Morris, K. '12 best Walking Simulators that Everyone Should Play', *Game Rant* [webpage] 20 May 2021, https://gamerant.com/best-walking-simulators/, (accessed 10 May 2022)

O'Conner, A. 'Perception adds new difficulty modes, extra dialogue', *Rock, Paper, Shotgun* [webpage] 1 November 201, https://www.rockpapershotgun.com/perception-remaster-update, (accessed 10 May 2022)

'Perception', *Steam* [webpage] Om detta spel, https://store.steampowered.com/app/426310/Perception/, (accessed 27 April 2022)

Pusey, M. 'Lost and Hound: Video Games for the Vision Impaired', *Particle* [webpage] 6 June 2019, Accessibility Awareness, https://particle.scitech.org.au/tech/lost-and-hound-video-games-for-the-vision-impaired/ (accessed 17 March 2022)

Schwartz Lunches Explosive 'Sound of Taste'', *Little Black Book* [webpage] 10 January 2014, https://www.lbbonline.com/news/schwartz-launches-explosive-sound-of-taste (accessed 17 March 2022)

Smith, A. 'Binaural Audio: What is that? How can you get it?', *What Wi Fi* [webpage] 19 May 2017, https://www.whathifi.com/advice/binaural-audio-what-it-how-can-you-get-it (accessed 10 May 2022)

Videos and Images

A Blind Legend full playthrough [online video] YouTube, 'Muhammad Hajjar', 10 September 2019, https://www.youtube.com/watch?v=94enSSqpcSA&t=276s, accessed 21 May 2022

A Blind Legend - Walkthrough Gameplay Part 1 (Android) [Headphones Recommended] [online video] YouTube, YouTube, 'ANDROLIKOS', 23 February 2017, https://www.youtube.com/watch?v=cc8yxNPZ_5A&t=717s, accessed 20 May 2022

Christ Cairns - The Sound of Taste – Schwartz I The Partizan [online video] YouTube, 'Partizan Official', 17 March 2017, https://www.youtube.com/watch?v=R3FtvQvXZUs, accessed 17 March 2022

Perception - Silent Night Mode [online video] YouTube, 'The Deep End Games', 25 June 2015, https://www.youtube.com/watch?v=sD3ymF03FNs, accessed 23 May 2022

Perception | 4K 60Fps | Longplay Playthrough Gameplay No Commentary [online video] YouTube, 'SHN Survivor Horror Network', 25 May 2017, https://www.youtube.com/watch?v=cc8yxNPZ_5A&t=717s, accessed 20 May 2022

Yo-Yo Ma Answers Cello Questions From Twitter | Tech Support | WIRED [online video] YouTube, 'WIRED', 21 April 2021, https://www.youtube.com/watch?v=XPv4ohPTC4M&t=66s, accessed 23 May 2022

Proceedings

Andrade, R. Rogerson, MJ. Waycott, Baker, J.S. Vetere, F. 'Playing blind: Revealing the world of gamers with visual impairment', *CHI '19: Proceedings of the 2019 CHI Conference on Human Factors in Computing Systems*, Glasgow, ACM, 2019

Gaina R.D. & Stephenson, M. 'Did you Hear That: Learning to Play Video Games from Audio Cues', Conference on Games (CoG), London, IEEE, 2019