O'Brien, Daniel Paul (2017) *Technological embodiment and haptic narrative: postphenomenology in cinema, interactive art and computer gaming.* PhD thesis.

https://theses.gla.ac.uk/8148/

Technological Embodiment and Haptic Narrative:

Postphenomenology in Cinema, Interactive Art and

Computer Gaming

Daniel Paul O'Brien

Thesis submitted for the degree of

Doctor of Philosophy

Department of Theatre, Film and Television Studies

School of Culture and Creative Arts

College of Arts

University of Glasgow

December 2016

Abstract

Within this thesis I incorporate Don Ihde's philosophy of technology to consider the human body's relationship to three contrasting types of media in the form of cinema, interactive art and computer gaming. Using Ihde's concept of postphenomenology, I consider how corporeality changes with different technological devices and how engagement with each of these contrasting media contributes towards a unique co-creation of story between a body and a technology.

Across three chapters I examine how a user's experience of fictional stories changes based upon the relationships between media and the user's body, understood through the framework of postphenomenology. This is considered through Ihde's key concepts of human-technology relationships, which simultaneously amplify and reduce experiences of bodyhood. In Chapter 1 I consider this through the textual analysis of a number of first person point-of-view films including Franck Khalfoun's *Maniac* (2012) and Julian Schabel's *Le scaphandre et le papillon* (*The Diving Bell and Butterfly*, 2007).

In Chapter 2 this is expanded upon through analysis of interactive art installations and original interviews with artists. These include Blast Theory's *A Machine to See With* (2010), Toni Dove's *Artificial Changelings* (1998) and Dennis Del Favero's *Scenario* (2011). Chapter 3 considers the postphenomenology of the playing body through titles that range from the *Grand Theft Auto* franchise (2001-present, Rockstar Games) to smaller independent games such as *The Novelist* (2013, Orthogonal Games) and *This War of Mine* (2014, 11 bit studios).

Using Ihde's framework, this thesis contributes a new approach to film and media studies by applying postphenomenology to consider different types of fictional experiences. This is a concept that moves viewers and participants of screen and media culture towards a haptic, corporeal and postphenomenological comprehension of narrative.

Table of Contents

Figures

Acknowledgements

While the talented hand drawn work from artist and good friend Sandy East can be seen in the illustrations in the Introduction.

Finally I would like to take this opportunity to thank all my family for their love and support, especially my sister, Dr. Angela Davies and brother-in-law Dr. Nathan Davies. Your encouragement and counsel through this process has been most welcome. Lastly and by no means least I want to thank and dedicate this thesis to my wife, Louise and my Dad, Danny, both of whom have put up with me everyday on this project and everyday before it. Honestly, I don't know how you do it but I am so grateful that you do. Like everything else in life, your love and belief in me is what got me through this.

In Loving memory of my mother,

Mary Catherine O'Brien   1939-1991

& Bella   2007-2015

Introduction: Body, Technology and Narrative

How does the human body merge with a technology? Moreover, how does this engagement create fictional scenarios or narrative experiences? I was triggered to ask such questions after watching a suspenseful sequence of scenes in the Coen Brother's neo-Western thriller, *No Country for Old Men* (2007). These scenes involved two central characters, Llewelyn Moss (Josh Brolin) and Anton Chigurh (Javier Bardem). Moss spends the duration of the film on the run from Chigurh, a skilled assassin, after discovering and taking a suitcase full of money from the aftermath of a drug deal gone awry. Chigurh is hired by the drug bosses to locate the money and kill Moss, which plays out onscreen as a tense game of cat and mouse between these two characters. A thrilling film in itself, I found one of the most interesting moments to be the contrasting methods with which each character aspires to obtain the money filled suitcase through different technological means.

After renting two rooms at the same hotel, Moss is shown assembling a makeshift hook from coat hangers, a long metal rod and duct tape in an attempt to drag this case from one hotel room to another through an air vent (figure 1). Moss, paranoid of being tracked to his original hotel room hits upon this plan and uses the utensils to extend his reach. Outside of the hotel suspense culminates as Chigurh tracks his target by way of an electronic transmitter concealed inside the case, which is unbeknown to Moss. As Chigurh drives closer to the hotel so his tracking receiver begins to beep, which increases with

rhythmic urgency as his car slowly approaches Moss's first and unoccupied room. Crosscutting back to the second room, Moss manages to hook the case with his extended reach, just in time, and get to safety with the seconds gained in luring Chigurh to the wrong accommodation.

Figure 1: Moss assembling his prosthetic grip in *No Country for Old Men*

What struck me the most while watching these scenes was how each character's narrative is fuelled by their individual engagement with their respective device. The rapid and relaxed beeping of Chigurh's tracker as he moves towards and away from the signal to pinpoint the money's location is balanced against Moss's efforts to retrieve the horde with his prosthetic grip and get to safety. Through my interest in these scenes I became attentive to other similar examples. I began to notice within other films how the phenomenon of a

body and technology relationship is often the focus of narrative subject matter upon the screen. Robert Bresson's *A Man Escaped* (1956) for instance, similarly puts a body and tool relationship under the spotlight. Within this film French Resistance fighter and convict, Lieutenant Fontaine (François Leterrier), is shown throughout the film refashioning technological objects and fixtures within his prison cell as tools to make his escape.

This process consists of Fontaine using the handle of an iron spoon, shaped from the stone of his cell into a type of chisel, to scrape between and prize open the wooden boards of his door. Following on from this lengthy task, he then makes rope from his bedclothes and bends metal from a light fixture within the cell into a curved structure. This is attached to the rope with wire from his bed, forming a strong and improvised type of grappling hook. Watching Bresson's film, I was enthralled at the detail, time spent and story built around Fontaine's protracted efforts to turn his own environment into tools in order to make his inevitable escape. In other genres, stories that portray the relationship between body and technology have been handled quite differently, from the humour of Charlie Chaplin's *Modern Times* (1936), to the nauseating body horror of the films of David Cronenberg, such as *Videodrome* (1983), *The Fly* (1986), *Crash* (1996), and *eXistenZ* (1999).

Within these films each story is constructed around a corporeal engagement with a specific technology. The teleporter in *The Fly* is central to Seth Brundle's (Jeff Goldblum's) monstrous mutation into Brundlefly, as the film focuses upon the character's bodily decay after his DNA is synthesised with that of an insect. *Crash* concentrates upon the use of vehicles to change bodies both physically and emotionally, as car crash fetishism fuels the film character's sex

drives and puts protagonist, James Ballard (James Spader), in "a relationship of flesh and metal."[1] *Videodrome* and *eXistenZ* similarly explore the engagement between bodies and technological screen media, respectively between video and computer gaming as each film graphically concentrates upon how bodies are absorbed into media spaces.

Each film gruesomely examines how the human body is reshaped by modern technology.[2] This auteur trait has been passed from father to son in Brandon Cronenberg's debut film *Antiviral* (2012), which explores with dark wit the commodity of celebrity diseases, the fictional technology that preserves and harvests them, and the consumers that line up to pay exorbitant prices to have these megastar ailments, germs or bits of flesh, injected or grafted directly into or onto their own bodies, in an attempt to feel close to their idols.

The respective Cronenberg films demonstrate a thematic interest in a human body and technological relationship that is relevant to, but also different from my own concern. Although Cronenberg's films are of particular interest to me, much has already been written about them, and this thesis attempts to move beyond the realm of analysing the representation of bodies and technology in a preexistent onscreen narrative context. Instead, this work considers how particular engagements and correlations between the human body and different media technologies come together to produce different types of narrative experiences. This is something I consider in three chapters, each devoted to a different medium, namely cinema, interactive art and computer gaming.

---

[1] D. Cronenberg and C. Rodley, *Cronenberg on Cronenberg* (Faber & Faber, 1997), 188.
[2] This is a line of dialogue spoken by the character Vaughan (Elias Koteas) in Cronenberg's *Crash*.

Of course a wealth of phenomenological literature regarding the relationship between the body and media technology already exists in each of these disciplines. Academic authors such as Vivian Sobchack, Laura Marks, Steven Shaviro, Ian Garwood and Jennifer Barker have each written about the body's relationship to the cinematic image or apparatus, while writers including Mark B. N. Hansen, Anna Munster, Timothy Barker, Torben Grodal, Gordon Calleja and Martti Lahti, have done likewise with interactive art installations and computer games.

This thesis synthesises the analysis of these authors in order to make a new contribution to these three areas of research, where I consider how the body's engagement with cinema, interactive art and computer gaming, changes from medium to medium, which in turn restructures modes of narrative experiencing. Although extensive research is abundant in the field of cinema, interactive art and gaming, I have not yet come across anything that links all three mediums together through a perspective of narrative, technology and embodiment in an interconnected triad. In film studies, focus is often upon the aesthetics or representation of the image, more so than the technology that is doing the representing. Sobchack for example, scrutinises the body's relationship towards the onscreen image through her phenomenological approach. Marks and Jennifer Barker do likewise with the inclusion of technology, but none of the authors venture into great depth about how this relationship affects a film's narrative. Marks's work in fact predominantly refrains from narrative film in favour of experimental art videos, where she discusses their abstract meanings in relation to the technology of which they are produced on. In contrast, Garwood considers the corporeal sensualness of the body's relationship towards

the screen image and how it resonates with a film's story, but eschews intricate discussion about the role of technological cinematic apparatuses, such as different film camera models and their techniques.

My contribution to the field of cinema studies, new media studies and computer game studies, is therefore to accentuate how a body and technology relationship composes narrative experiences, and to compare how these narrative experiences change from medium to medium, where the body is used differently. This thesis argues that the fundamental distinction between cinema, interactive art and computer gaming is based upon bodily differences through the way a user engages with a technology. Accordingly, the purpose of this thesis is to consider the different types of narrative meanings and interpretations that arise from the contrasting body-technological engagements.

The cinema spectator has traditionally been described in terms of passivity and stillness. This is a concept that has been advanced by Christian Metz's 'The Imaginary Signifier'[3] and Jean-Louis Baudry's 'Ideological Effects of the Basic Cinematographic Apparatus'.[4] Each paper, landmarks in the field of film studies, draws upon Jacques Lacan's notion of the mirror stage as a metaphor for the cinematic screen, which "reflects *images* but not '*reality.*'"[5] Like Lacan's mirror stage, a concept in which an infant (mis)recognises their own reflection for a more complete and proficient self in terms of motor-skills, the cinema provides an opportunity for a viewer to (mis)recognise their self into a film. As Baudry argues, the cinematic apparatus of the screen as mirror is what

---

[3] Christian Metz, "The Imaginary Signifier," *Screen* 16, no. 2 (1975).
[4] Jean-Louis Baudry and Alan Williams, "Ideological Effects of the Basic Cinematographic Apparatus," *Film Quarterly* 28, no. 2 (1974).
[5] Ibid., 45.

establishes the viewer's passivity through their "suspension of mobility"[6] as they watch a film unfold.

Alfred Hitchcock's *Rear Window* (1954) illustrates this idea well as a film that is often cited as one of the best metaphors for cinema itself.[7] Within Hitchcock's film, the viewer is allegorically represented through the immobile protagonist of L.B Jeffries (James Stewart), a photographer suffering a broken leg who is confined to his living room and wheelchair. With nothing to fill his interest other than the view of a multi-channelled story space of a neighbouring apartment block, Jeffries studies the view from his window intently. Like Jeffries, the cinema viewer is also bound to their seat, and gazes out through a cinematic window onto another world. In terms of narrativity, this gives justification as to why such a strong emphasis in Hitchcock's film presents point-of-view (POV) cinematography to the viewer. Not only do they adopt Jeffries' gaze but the viewer also assumes his immobile body, which they live through from beginning to end, emphasised at certain junctures through the use of explicit POV camerawork. In Chapter 1 I use this model to consider how other POV films, via the technology and techniques of the camera, extend the still bodied viewer into the fictional spaces of other character bodies. Although cinema in this thesis will be portrayed as the most physically inert medium of the three, I do this whilst challenging Baudry's claim. Throughout the Literature Review and Chapter 1, I advocate and argue that cinema is *not* a passive medium but instead is active, supported by a range of phenomenological writings.

---

[6] Ibid.
[7] M. Deutelbaum and L. Poague, *A Hitchcock Reader* (Wiley, 2009), 19.

In interactive art the viewer encounters a different type of experience, which is one of action, where they are required to do or trigger something that co-creates a particular effect. A contemporary example in production at the moment is an interactive adaptation of Edwin A. Abbott's book *Flatland*, planned for release in 2018. Extant Theatre Company, an organisation made up of blind or visually impaired artists, are producing this by using a body-tool relationship through wearable and haptic devices to relocate elements of story away from sight and to other senses of the body, primarily through touch and sound. Having the opportunity to meet Extant's artistic director, Maria Oshodi, at a conference in 2015, I was able to learn more about this process.

Just like Abbott's story, which begins in a two-dimensional universe, where the characters are unable to see one another and must rely on touch and sound to navigate, Oshodi's design will put participants into a pitch-black space, where they rely upon auditory and haptic senses to move around a sophisticated story world. The users navigate through motion sensors that react to electronic textiles that are woven into specialised suits that each participant will be required to wear. These in turn will feedback to a handheld haptic cube called an Animotus; a rotational device (carried by each user) that can turn left, right or protrude forward to kinaesthetically guide users around the darkened auditorium.

This device technologically leads sightless participants towards hotspots of a set, where the user can hear and feel fragments of story. A narrator's voice that both speaks through headphones that the user will wear, and at other times emanate from parts of the set, triggered by the user's presence, will inform and narrate fragments of story to the participant. It will also encourage them to touch

and feel tangible parts of the set, making the body (through technological apparatuses) directly involved with the fictionality. Oshodi's design follows a structure typical in many interactive artworks, where a co-composition between a user's active body and technological device, interface with one another to create a certain meaning or effect. This is something that I consider in more detail in Chapter 2, where I examine more examples like this as I compare the interactivity of the art-goer with that of the physically passive cinema spectator.

Computer gaming, as I argue in Chapter 3, moves a body and a technology into an even closer relationship, where continuous motion and precisely timed movements and gestures from the body onto controllers, keyboards or touchscreen surfaces, are used to produce new kinds of fictional experiences. In more recent examples this has been put into practice by turning a player's immediate environment into a fictional world, where real locations are infused with virtual characters and objects.[8] This computer game bleed between real and virtuality is currently being developed through a crowd-funding project for the forthcoming game, *Night Terror* (Novum Analytics, TBC).

This is advertised as an augmented reality, survival horror game that uses photorealistic and binaural technologies from a player's smartphone (and headphones) to put them into a haunted house scenario. Using the camera of their smartphone to look through, the player moves around their home, where superimposed virtual adversaries, lurking in each room and behind different doors appear to jump out at the player, from their outstretched phone

---

[8] The popular *Pokémon Go* (Niantic, 2016) has illustrated this well. This game relies upon a user's bodily locomotion, which is tracked through the technology of their smartphone's Global Positioning Tracker (GPS), to enable players to follow real routes and encounter fictional characters while collecting objects and points

perspective. The game is also being designed to make a map of the player's home as they move about, sporadically changing the positions of enemies on each new turn.[9]

Like cinema (stated above) most writings on the emerging fields of interactive art and gaming tend to be either about the body and technology *or* narrative and representational imagery. Again, this study makes a new contribution by merging these two areas of research together to consider how narrative is shaped through a body and technology relationship. Thus emphasis on technology, rather than just images, enables me to conceptualise the intricacy of the body as something that can craft and create narrative experiences as well as simply respond to them. To grasp this idea, this thesis utilises a theoretical framework of postphenomenology, set out by North American philosopher of technology, Don Ihde.

Postphenomenology

Ihde's postphenomenology considers the relationship between bodies and technologies. This is an area of research that can be traced back as early as 1877, when Ernst Kapp's *Grundlinien Einer Philosophie Der Tecknik* (*Philosophy of Technology*)[10] was published. Within that work, Kapp traces the evolution of tools, which as he argues, developed from the appearance and functionality of the human body. As Kapp argues, humans have limited capacities in terms of

---

[9] This game design is reminiscent of Jeffrey Shaw's *The Golden Calf* (1995), which similarly puts the body's relationship with a screen technology in a particular way to create meaning based on movement. Shaw's artwork requires a user to hold out and look through the digital screen of a tablet. Through the camera mode of this device a virtual image of a digital calf is mapped onto the real life imagery seen through the lens of the tablet's camera. The position of the calf changes in relation to how the user moves about whilst holding the tablet.

[10] Ernst Kapp, *Grundlinien Einer Philosophie Der Tecknik* (Рипол Классик, 1877).

vision, muscular strength or storable information, and consequentially overcame such limitations through tools, which should be considered as replacements to human organs, rather than an extension or supplement.[11] As Kapp argues, tools are intended to replace human organs, and as such, must be designed on human organ functionality.

"The bent finger becomes a hook, the hollow of the hand a bowl,"[12] while various technologies from swords, oars, rakes or spades evoke the positions of human arms, hands and fingers.[13] As Pasi Väliaho writes, this is what Kapp refers to as *organ projections*, "in which our corporeal apparatus, the inside, becomes exteriorized in technical objects."[14] Following Kapp, Väliaho explains how "the eye [is] an organ modulated through its projection in the *camera obscura*, whereas the nervous system is recreated through its projection in the electro-magnetic telegraph." [15] These technological projections of the body are established from "the Greek word *organon*, which means both a part of the body and a tool."[16]

Many have closely followed this line of inquiry; Peter Sloterdijk has argued that, "humans have already been strongly shaped by technology."[17] While Marshall McLuhan has famously declared in *Understanding Media: The Extensions of Man,* that, "[a]ny invention or technology is an extension or self-amputation of our physical bodies, and such extension also demands new ratios

[11] Philip Brey, "Technology as Extension of Human Faculties," (2000).

[12] C. Mitcham, *Thinking through Technology: The Path between Engineering and Philosophy* (University of Chicago Press, 1994), 24.

[13] Ibid.

[14] Pasi Väliaho, *Mapping the Moving Image : Gesture, Thought and Cinema Circa 1900*, Film Culture in Transition (Amsterdam: Amsterdam University Press, 2010), 80.

[15] Ibid.

[16] Ibid.

[17] B.J. Koops et al., *Engineering the Human: Human Enhancement between Fiction and Fascination* (Springer Berlin Heidelberg, 2013), 97.

or new equilibriums among the other organs and extensions of the body."[18] This is something that Ihde takes up, as he considers the extensions, limits and engagements the human body experiences with and through technological devices.

As Ihde observes, both tools and bodies are everywhere, pervasive across our lifeworld. Throughout Ihde's *body* of work (that includes twenty-two books published between 1973-2016) the concept of the human body and its relationship with technology, has remained the focal point of the author's attention. Within his writings, Ihde considers how different technologies change, adapt, correct, limit and extend (in a McLuhanesque way) the functionality and ontology of human experience.

From eyeglasses that correct and extend human vision to bicycles and automobiles that change our bodily sense of speed through transportation, Ihde deliberates upon how a technological apparatus restructures the corporeality and subjectivity of a human user in a postphenomenological way. Ihde's postphenomenology is inspired by the phenomenological philosophy of Martin Heidegger and Maurice Merleau-Ponty (discussed in more detail in Chapters 1 and 2), which posits a number of phenomenological ideas about the human body and how its engagement with tools shape and modify experience. There are three main ideas that I adopt from Ihde's philosophy and deploy within each of my chapters, which serve as a way to think about the body, technology and narrative relationship.

---

[18] Marshall McLuhan, *Understanding Media : The Extensions of Man* (London: Routledge & Kegan Paul Ltd., 1964), 49.

First I consider Ihde's concept of how a technology simultaneously extends and limits the corporeal body of the user. Using Merleau-Ponty's well-known example of how a blind man's cane becomes an extension of touch, which provides "a parallel to sight,"[19] I incorporate Ihde's assertion that such extension is always balanced by a synchronous reduction. As Ihde explains, the cane user can feel the textured hardness of the pavement through the cane technology but cannot experience its greyness of colour. Neither can the user feel the sensation of the pavement's warmth or coldness through the cane. The tool therefore filters certain phenomenological sensations while enhancing others. This is an approach I incorporate with the study of cinema, as I examine how the film camera both extends and restricts a spectator into a narrative film space, as I contemplate the affects this has for the viewer. This concept of amplification-reduction is given further attention in relation to interactive art.

Second, I adopt Ihde's reasoning as to what a body is. According to Ihde, a body is something that is simultaneously solid and virtual, motile and cultural. His understanding of a body bifurcates between the breathing, sensing perceptual and emotive being-in-the-world, or biological body that he calls *body one*. This is juxtaposed with *body two*, which denotes a culturally constructed representation of body; such as the messages we give out to others by the way we dress our bodies, comport ourselves and behave in society. By way of an example, Andrew Feenberg (writing about Ihde) notes how the blind man's cane "does more than sense the world; it also reveals [to others] the man as blind."[20]

---

[19] M. Merleau-Ponty, *Phenomenology of Perception* (Routledge, 2002), 165.
[20] E. Selinger, *Postphenomenology: A Critical Companion to Ihde* (State University of New York Press, 2012), 191.

This is something I consider more closely throughout the thesis, particularly in Chapter 3, where I consider computer game avatars and the philosophical ideas of bodies through Richard Shusterman and Shaun Gallagher, who like Ihde, divide the body into a *body image* and *body schema* (which I will discuss in more detail later in the chapter). Both of these theorists as well as N. Katherine Hayles, Brian Rotman, Brian Massumi, Hansen and Munster, who I introduce ahead of Gallagher and Shusterman, enable me to probe into Ihde's notion of the body as something that shifts back and forth between a real-life 'here-body', and a virtual 'image-body'.

Thirdly I incorporate Ihde's divergent body-technology relationships as separate components, which when mixed in different ways, afford new types of narrative experiencing. For Ihde, there are four main human-technology relationships in the form of: embodiment, hermeneutic, alterity and background. As a way to understand these relationships, beyond the description that follows, illustrations for each of these terms are presented in figures 2-5. Embodiment (figure 2) denotes a perception or experience *through* a technology as a tool synthesises with a body in a particular way. The cane example, eyeglasses, writing utensils, Moss's prosthetic-coat-hanger-grip (described above) or any other type of technology that is positioned between body and world, providing the body with some form of technological extension, where we act or perceive through the artefact, is what constitutes the embodiment relation. In this thesis this includes devices such as cameras, computer game controllers, touch screen interfaces, mobile phones, stationary bicycles and motion sensing.[21]

---

[21] The concept of Ihde's amplification-reduction, described earlier, is a subset of the embodiment relation. This will be described in more detail in Chapter 2.

A hermeneutical relation (figure 3), in contrast to the embodiment relationship of seeing *through* a technology, is an experience *of* a technology. Hermeneutic therefore pertains to a technology that we read, such as: clocks, thermometers, maps, books, Chigurh's tracking device or any other tool that marks a separation between body and technology. As I will show throughout the chapters, the cinema, certain interactive artworks and computer games, all possess hermeneutic qualities, insomuch that a viewer or player reads the screen. But as will become evident, such hermeneutics also instigate embodiment relations too, proven by the already profuse writings on cinema, media art and computer game phenomenology that discusses how the viewing body becomes synthesised with the imagery upon a screen.

An alterity relation (figure 4), unlike the first two examples, is a case in which a technology (from the perspective of the human) seemingly takes on a life of its own. Artificial intelligence for instance, would be a contemporary example of this. A more traditional one might be (from a human perspective) the erratic path a spinning top toy might travel. Finally background relations (figure 5) are the encounters that humans have with a technology in the peripheral of their awareness. Household lighting for example is a domestic instance of the "fringe awareness"[22] that this technology has in relation to a human user. Other familiar examples of this background relation are the very homes we live in, which conditions the way residents move about space, as the home technology shelters its inhabitants from the natural elements of the world. As Ihde asserts background relations do "not usually occupy focal attention but nevertheless

---

[22] Don Ihde, *Technology and the Lifeworld : From Garden to Earth*, The Indiana Series in the Philosophy of Technology (Bloomington: Indiana University Press, 1990), 109.

[condition] the context"[23] for the human user. In the computer game chapter I consider how background relations in the form of graphical virtual space, plays a part in conditioning what an avatar can and cannot do.
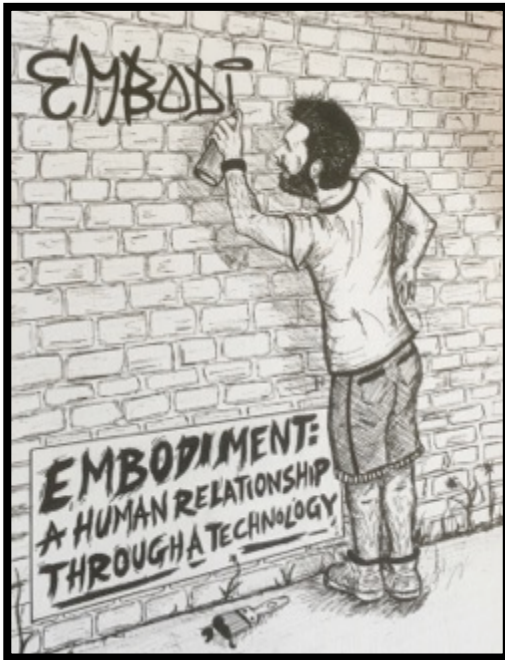
Figure 2: Embodiment Relation
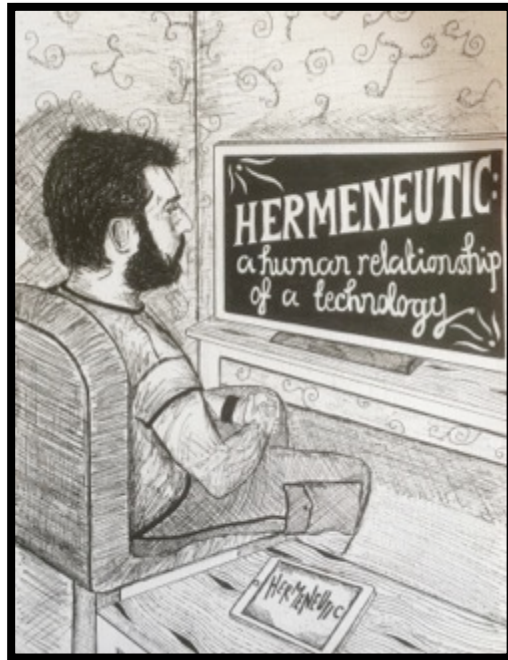
Figure 3: Hermeneutic Relation
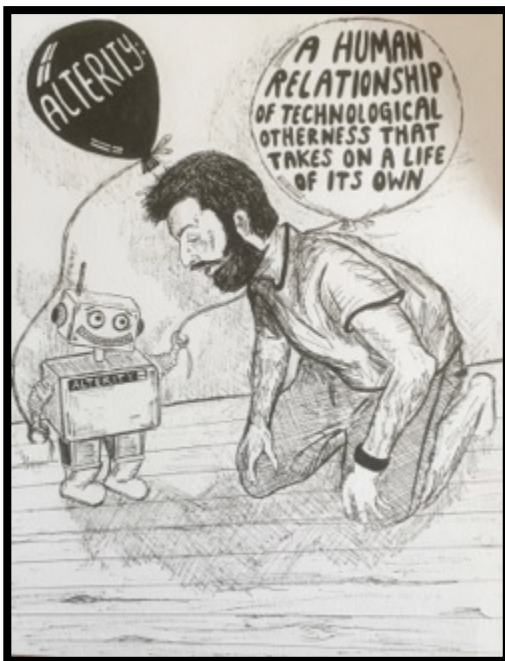
Figure 4: Alterity Relation
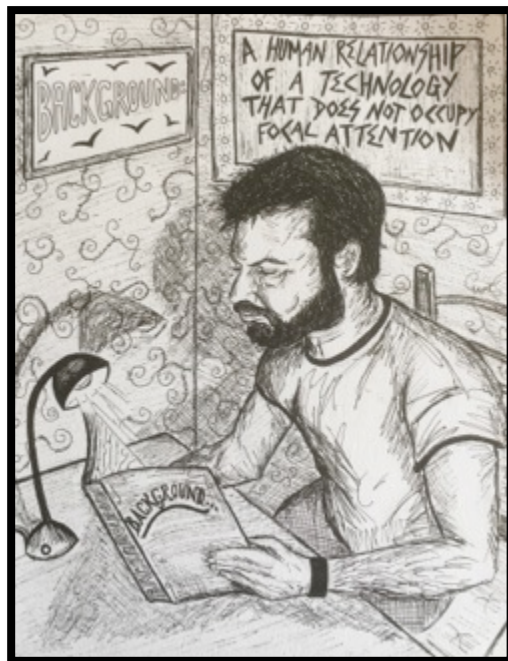
Figure 5: Background Relation

---

[23] Ibid., 111.

Each of my chapters deploys these relationships proportionally. Cinema for example makes use of embodiment and hermeneutic relations. In the interactive art chapter I consider three distinct case studies that ascend (case study by case study) through inclusion of these body-technology relationships. The first case study for example uses just an embodiment relationship through a phone interface. The second incorporates an embodiment and hermeneutic relation in an artwork that uses a screen and motion sensing technology. The most complex is the third case study, which combines the embodiment, hermeneutic and alterity relationship through a specific motion sensing, screen-based artwork that uses artificial intelligence. Different combinations of these human-technology relationships are, as I argue, what help to distinguish each artwork's level of narrativity. This leads me into computer gaming, where I contend that all three of these relationships plus background relations, affords a user a somewhat different narrative experience to that of interactive art and cinema before it.

Using and expanding upon Ihde's hypothesis, that different tools contrive varied phenomenological experiences between the body and technology, this work considers how different body and technological engagement composes varied experiences of narrative and fictional involvement. This is elucidated through Ihde's definition of a body, his human-technology relationships and other aspects of his postphenomenological approach across three contrasting types of media. In chapter 1, 'Camera', I consider through a filmography of first person point-of-view films, how the viewer embodies the camera to become extended into the diegetic film world as a character.

This is in contrast to conventional narrative cinema, which usually resists the first person experience for its duration, affording the viewer instead a sense of omnipotence in the film world.[24] This is where the viewer can "see aspects which would normally be unavailable to an observer in real life,"[25] such as the way the viewer is privy, through crosscutting, to both the Lewis and Chigurh characters in *No Country for Old Men*, while diegetically, the two characters remain uninformed of each other's actions in the present moment. Unlike the characters, the cinematic viewer is placed in a privileged position to perceive information that other characters cannot. However, such privileged information that the viewer has access to in conventional cinema is *not* shared in subjective POV films. This restriction of fictional omnipotence, and the camerawork, editing and *mise-en-scène* associated with it, are among the reasons I argue in Chapter 1 that subjective films offer uncomfortable viewing experiences.

Within the chapter, I argue that the subjective camera, like Ihde's observation of the cane or other embodied tool, enhances certain filmic experiences while nullifying others, which in turn formulates a type of inorganic surrogate body that the viewer *steps* into. This is why the predominant use of the first person aesthetic is usually to denote a negative type of body and character experience, primarily that of the killer or the victim in the film's story. I test this idea out through different types of cameras and subjective films, ranging from Robert Montgomery's *Lady in the Lake* (1947), through to more contemporary titles that include Julian Schabel's *Le scaphandre et le papillon* (*The Diving Bell and Butterfly*, 2007) and Franck Khalfoun's *Maniac* (2012). Each of these clearly

---

[24] David Bordwell considers this phenomenon via reference to Ivor Montagu in David Bordwell, *Narration in the Fiction Film* (Madison, Wis.: University of Wisconsin Press, 1985), 10.
[25] Ibid.

and respectively demonstrates the victim and killer body vessel without ambiguity. The term I give for this subjective and negative type of film body surrogate, which simultaneously extends and reduces a viewer's corporeal sensation in a technological way, is what I call 'hap-tech narration'. This is a play on Laura Marks's sensuous affect of haptic cinema, which is one of the many film phenomenologists that will be discussed within the Literature Review.

In Chapter 2, 'Interface', I expand upon Ihde's hypothesis of amplification-reduction to consider how a user's bodily engagement within an interactive art space composes a different type of fictional experience. Interactive art, as I argue, moves a human into a closer relationship with a technology than that of cinema, where passive viewing is replaced with active physical engagement.[26] Within the chapter I consider how different technologies from mobile phones, to bicycles and motion detection requires different gestural input from a user's body, to interface with and create different modes of narrative outcomes. I surmise that interactive narrative, in comparison with a traditional understanding of narrative, where only one possible outcome can achieve fruition, is an amplified version of narrative insomuch that different story branches are available to the user depending on their engagement with a technology. This in turn reduces the body to behave and move in a particular way, which is (non-neutrally)[27] inclined by the technology.

Furthermore, I discuss how different interactive art exhibits work by shuffling Ihde's human-technology relationships around. This enquiry is based on three main case studies, each of which includes original interview material

---

[26] This is not to say that cinematic viewing is mentally passive, as I will later illustrate through David Bordwell's active spectator.

[27] The idea of technology as a non-neutral entity is a concept by Ihde that I will explain in more detail in Chapter 2.

with the artworks' creators. I consider, first, Blast Theory's *A Machine to See With* (2010), which uses an embodiment relationship through a phone. Then, I analyse Toni Dove's *Artificial Changelings* (1998), a work that uses embodiment and hermeneutic relations to engage a user in a motion sensing interactive movie. My final case study is Dennis Del Favero's *Scenario* (2011), which, like *Artificial Changelings*, incorporates both embodiment and hermeneutic relations. In addition, it provides an experience of alterity through a digitally immersive space that uses artificial intelligence.

This leads me into Chapter 3, 'Controller', where I assert that the medium of computer gaming requires the user to experience all four of Ihde's human-technology relations, as background, alterity, hermeneutic and embodiment come together. The combination of these four human-technology ingredients, as I argue, structures the user to encounter a different type of experience, which I call 'somaster fiction'. This term pertains to the soma from Shusterman's concept of *Somaesthetics*. I use this in the chapter to build the argument that fictional experiences in the gaming universe are only accessible through mastery of the soma (the player's actual body controlling a virtual body in the form on an avatar) in a digital space.[28] Using Shusterman and Ihde's understanding of what a body is, in terms of real and image-body, I consider how the game body extends the player into a virtual space by way of the controller. I also look at the

---

[28] This access of narrative through computer game mastery was something that became apparent to me after viewing Natalie Bookchin's interactive artwork, *The Intruder* (1998-1999), described as a 'tale told in ten games': http://bookchin.net/projects/intruder.html. (accessed 10 November 2013) Bookchin's digital artwork is a retelling of the Jorge Luis Borges novel, *La Intrusa,* (*The Intruder*, 1966) which players access through the successful completion of ten familiar computer game levels. To illustrate, the artwork begins with *Pong,* where for every successful stroke in which the player's paddle strikes the ball, they are rewarded with one word of the story. Thus the coherency of syntax relies upon a successful rally from the playing body. This means that narrative plays a part in motivating the player's actions and action in turn prompts the narrative.

variations of this experience through the different types of controllers that have evolved from early to contemporary game systems.

In light of this work covering three different types of media, my methodology changes from chapter to chapter, mirroring a trajectory that reflects the shifting modes of media. My discussion of cinema in Chapter 1 as a physically passive experience relies upon textual analysis. In Chapter 2, where interactive art becomes the spotlighted media, this methodology changes. Because of the medium's status, which is co-composed between a user and an artist, my methodology synchronises to reflect this model. This is why the chapter is shared between my own postphenomenological experiences of interactive art and interviews I have conducted with each of the artists for my chosen case studies.

In Chapter 3, where I consider gaming to be the most interactive medium, I felt it necessary from a postphenomenological standpoint to discuss my own playing experiences by putting myself at the heart of the chapter. This is the reason why I consider the experiential involvement of my own body as it shapes and structures fictional experiences. As will become evident, these methodological changes are like gears that shift from low interactivity in film, to medium interactivity in art to high interactivity in games.

Overall, this thesis contributes a new approach through postphenomenology to consider different types of narrative experiences. This offers the reader a new way to consider postphenomenology's importance to film, new media and computer game studies. The following Literature Review considers these mediums and the central phenomenological writings that respectively encircle each.

Literature Review: The Body in Cinema, Interactive Art and Computer Gaming

In the Introduction I briefly portrayed Don Ihde's postphenomenological philosophy of technology as the framework that underpins this thesis. There I explained how I am using his analytical approach of human-technology relationships, as a way to consider the composition of narrative through different media platforms, consisting of cinema, interactive art and computer gaming. In this chapter I will draw upon the key phenomenological thinkers across each of these fields of study. Here I discuss these thinkers' conceptions before relating them to Ihde's in subsequent chapters in order to formulate my own hypothesis of postphenomenological narrative, which adapts from medium to medium and chapter to chapter. For example, the development of media categories from cinema, to interactive art, and then to gaming, charts a progression of corporeal involvement, which is fundamentally distant, physically passive and theoretical (with seated bodies in front of the cinematic screen) to highly active, impressionistic and tangible in the case of computer gaming, which usually entails handheld controls.[1] As the chapters change emphasis from medium to medium, the cinematic spectator is morphed into the role of active user through the development of technologies that engage with the body differently. What my chapters will consider is how these different body-technology relationships affect narrative comprehension.

---

[1] This is not to suggest that cinematic viewers are passive, as the following phenomenological accounts will prove. Instead I am highlighting how cinematic viewers are more physically immobile when watching a film in comparison to computer game players, or the movements of users in interactive gallery environments.

Part 1: Cinematic Phenomenology

Cinematic phenomenology has been widely discussed by a range of film theorists, who include Laura U. Marks, Vivian Sobchack, Jennifer Barker, Steven Shaviro, Matilda Mroz, Allan Casebier and Jenny Chamarette, amongst others. Sobchack and Shaviro are pioneers of the film phenomenology discipline, having addressed this topic in the early nineties with their individual books, *The Address of the Eye: A Phenomenology of Film Experience* and *The Cinematic Body*. In the former, Sobchack develops the concept of filmic perception as a sensual experience, an idea that is later advanced by Marks in *The Skin of the Film: Intercultural Cinema, Embodiment, and the Senses*, where the author develops her theory of haptic visuality in reference to a collection of sensuous video artworks. Chamarette's *Phenomenology and the Future of Film: Rethinking Subjectivity Beyond French Cinema*, along with Jennifer Barker's *The Tactile Eye: Touch and the Cinematic Experience*, and Sobchack's latter book, *Carnal Thoughts: Embodiment and Moving Image Culture*, each return Marks's hypothesis to cinema, individually applying (in their separate volumes) haptic visuality to the space between the viewer and the cinematic screen.

There is a significant crossover between these theorists, highlighting their combined importance to film phenomenology. Jennifer Barker commends much of Marks and Sobchack's approach as the guidance towards her own. Similarly, Marks, Jennifer Barker and Sobchack heavily influence Chamarette's book, which explores the reflexivity of films and filmmakers through cinematic subjectivity. Within this particular work, Chamarette asserts through application of these thinkers and Maurice Merleau-Ponty, how subjectivity is a plural entity

characterised by a 'chiasmic *in-betweenness*.'[2] The Chiasm was Merleau-Ponty's new conception for the body that he was developing in his unfinished manuscript, *The Visible and the Invisible*,[3] before his death in 1961.

This partial work indicates the body as a chiasm or a crossing over, in which subjective experience and objective existence is combined.[4] Merleau-Ponty first introduces this concept in *Phenomenology of Perception*, asserting that the way in which humans make sense of their world is through their lived bodies. As Chamarette states, in accordance with Merleau-Ponty, "our senses are the dimensions by which we come to realise and interrogate ourselves as beings-in-the-world." [5] Perception is an ontological condition for existence that simultaneously enfolds us within the world that we perceive. This is evident in the way that the body can be considered a plurality for both sensing and being sensed. Merleau-Ponty emphasises this with his well-known example of clasped hands, which demonstrates "an ambiguous set-up in which both hands can alternate the role of 'touching' and being 'touched.'"[6] The clasped hands, as he suggests, reveals a reversibility within the flesh that denotes an ambiguous status of the body as both subject and object.

As Chamarette points out, Merleau-Ponty's concept of Flesh (*la chair*) "wavers between significatory abstraction and contextual materiality: it is not a quality, but an element that reflects subjectivity upon itself and enfolds it within

---

[2] J. Chamarette, *Phenomenology and the Future of Film: Rethinking Subjectivity Beyond French Cinema* (Palgrave Macmillan, 2012), 3.

[3] M. Merleau-Ponty, C. Lefort, and A. Lingis, *The Visible and the Invisible: Followed by Working Notes* (Northwestern University Press, 1968).

[4] M. Merleau-Ponty and T. Baldwin, *Maurice Merleau-Ponty: Basic Writings* (Routledge, 2004), 247.

[5] Chamarette, *Phenomenology and the Future of Film: Rethinking Subjectivity Beyond French Cinema*, 55.

[6] Merleau-Ponty, *Phenomenology of Perception*, 106.

the world it perceives."[7] In Merleau-Ponty's own words, "[t]he flesh = the fact that the visible that I am is seer (look) or, what amounts to the same thing, has an *inside*, plus the fact that the exterior visible is also *seen*, i.e. has a prolongation, in the enclosure of my body, which is part of its being."[8] Incorporating this idea, Chamarette affirms that humans as bodies and perceiving subjects "are ontologically obligated to reach out towards, and to make contact with the 'horizon' […] in order to interrogate our being in the world."[9] This is the model she applies to cinema, where she considers how the physical situatedness and materiality of the screen shares a material presence with the physical situatedness of the viewing body.[10] This is Chamarette's basis for a phenomenological approach to film theory, which she then executes by way of Jennifer Barker, Sobchack and Marks.

Jennifer Barker's work by route of Merleau-Ponty's flesh similarly explores the "liminal space in which film and viewer can emerge as co-constituted, individualized but related, embodied entities."[11] As Jennifer Barker highlights in her work (as Chamarette does in hers) the viewer's relationship towards the screen when watching a film does not put them within it, but neither does it place them entirely outside of it.[12] "Watching a film […] [w]e exist and move and feel in that space of contact where our surfaces mingle and our musculatures entangle."[13] As Jennifer Barker further notes (by way of Jennifer

---

[7] Chamarette, *Phenomenology and the Future of Film: Rethinking Subjectivity Beyond French Cinema*, 56.
[8] Merleau-Ponty, Lefort, and Lingis, *The Visible and the Invisible: Followed by Working Notes*, 271.
[9] Chamarette, *Phenomenology and the Future of Film: Rethinking Subjectivity Beyond French Cinema*, 56.
[10] Ibid., 51.
[11] Jennifer M. Barker, *The Tactile Eye : Touch and the Cinematic Experience* (Berkeley: University of California Press, 2009), 12.
[12] Ibid.
[13] Ibid.

Deger), this contact between a viewer's body, screen image and cinematic apparatus can be considered a "transformative space of betweenness."[14]

Comparable to Merleau-Ponty's flesh, there is a simultaneous reversibility of the viewer's body in relation to the technology of the film apparatus. This assimilation, in Jennifer Barker's view, is partly because the technology of cinema shares characteristics with the corporeal body of the human subject (an idea that I build upon in Chapter 1 through the camera). Embodied human subjectivity as interpreted by Ihde (see Introduction) is a duality of solid and virtual experiences, or in his words, a "sliding perspective from the multidimensional experience of my here-body toward the image-body."[15] The technology of cinema, like the human body, also slides between solid and virtual attributes. The sequential imagery onscreen can be considered virtual, which is balanced by solid mechanical apparatuses, like the projector or camera that enables the imagery to be shown.[16]

Jennifer Barker elaborates on this notion by arguing that film, like the human anatomy, both possesses and *is* a body.[17] For Jennifer Barker, the "'film's body' is a concrete but distinctly cinematic lived-body, neither equated to nor encompassing the viewer's or filmmaker's body, but engaged with both of these even as it takes up its own intentional projects in the world."[18] Following Siegfried Kracauer, Jennifer Barker notes how cinema can be considered a body through its unique art form capability, which "addresses its viewer as a

---

[14] Ibid.

[15] Don Ihde, *Bodies in Technology*, Electronic Mediations (Minneapolis: University of Minnesota Press, 2002), 6.

[16] Cinema of course is not limited to these two technological devices and is made up from a plethora of apparatuses from sound to editing equipment.

[17] The concept of a cinematic body is first introduced in Sobchack's *The Address of the Eye*. Barker expands the idea in greater detail in her work, *The Tactile Eye*.

[18] Barker, *The Tactile Eye : Touch and the Cinematic Experience*, 7-8.

'corporeal-material being.'" [19] On a different level, Jennifer Barker also demonstrates a correlation between the human body and cinematic body in terms of systems, organic and machinic.

Just as blood runs through human veins to animate a body and keep it alive, so Jennifer Barker argues that celluloid running through cameras or projectors is vital to the life of film.[20] Lengthening this comparison farther, she also notes how the rhythm of the celluloid, like the rhythm of blood circulation or a heartbeat, cannot usually be controlled autonomously, either by the body of the human or the body of the film.[21] She further considers the organic and mechanical body to be analogous through a shared affinity of intermittences. The human body for example, is a series of intermittences: the heart a continuous opening and shutting pump; lungs, a cycle of recurring breaths in and out; and vision, an intermittence of consecutive blinking. Film share these patterns of intermittences through the way a strip of celluloid similarly operates as a series of individual disjointed pictures running at the speed of 24 frames per-second, giving the illusion of continuous movement. Like film, humans are "no more aware of the film's intermittence than we are of our own."[22] Finally, Jennifer Barker also considers the organic body's need for food, water and light, kindred to cinema's requirement for a power and light source, permitting her to argue that film has, and *is*, a body.

Pasi Väliaho makes a similar argument in his work *Mapping the Moving Image: Gesture, Thought and Cinema Circa 1900* by considering cinematic embodiment in terms of vitality affects. This concept, introduced by psychiatrist

---

[19] Ibid., 26.
[20] Ibid., 127.
[21] Ibid.
[22] Ibid., 129.

Daniel Stern, pertains to the dynamic and kinetic modes of experience that characterise our daily lives, such as breathing, moving, sucking or swallowing.[23] According to Stern, by way of Väliaho, vitality affects are subjective experiences, consisting of "temporal dynamics of changes in feelings consisting of analogical shifts, split second by split second in real time, of affects, thoughts, perceptions or sensations. For instance, the felt acceleration and then explosion of anger."[24] Vitality affects, as Väliaho notes, are crucial to experiencing the processes of life, such as breathing, feeling emotions and detecting basic needs of hunger and thirst.

Like Jennifer Barker, Väliaho notices these rhythms of life within cinema. As he states, referring to a contemporary description of the Lumière Exhibition in Sweden in 1896, cinema is about movement and twitching.[25] Cinema as a moving image captures and reflects "the micro-temporal dynamics of experience that concern perceptions of the intensity of a smile, the twitch of a muscle, or the rapidity and rhythm of hand movements."[26] This enables Väliaho to argue that cinema, like the human body, is made up of vitality affects. "We can [...] speak of the vitality affects of cinema, pointing out how the moving image consists of breathing rhythms, intensities of affective states, and form and texture dynamics, among other things,"[27] thus evoking Jennifer Barker's film body.

Stressing how this film body is independent from the bodies of onscreen performers or off-screen viewers, Jennifer Barker articulates that the film body is a collage of different parts, senses and movements, unified together to make a

---

[23] Väliaho, *Mapping the Moving Image : Gesture, Thought and Cinema Circa 1900*, 92.
[24] Ibid.
[25] Ibid., 93.
[26] Ibid.
[27] Ibid.

whole. The human body for Jennifer Barker cannot merely be considered a hand, heart or sense of visual perception, but instead can only be described holistically as greater than the sum of its parts. In the same way, Jennifer Barker's film body is the amalgamated work of a camera and cameraperson, sound operator, editor, storyboard designer and much more,[28] coming together, unified in time and space, to formulate a film body.

In accordance with Jennifer Barker, the film body, like the human, utilises modes of embodied existence in the form of sight, sound and physical movement to first convey and sense the world, then represent those sensations to the viewer. The film body like the human body is therefore a binary of sensing and sensed, subjectivity and objectification in which one is composed of blood and tissue, and the other, light and celluloid.[29] This bodily affinity between the mechanical and the corporeal is what enables viewers to become conjoined to and immersed within a cinematic experience. This is pertinent to my own analysis in Chapter 1, where I consider how camera movement (specifically from subjective POV films) is fictionally contrived as a form of human body. Of course humans, as Jennifer Barker reminds us, do not perceive the world in exactly the same way as a film does, as a zooming close-up is not part of our natural visual capability from a static point in space.[30] But it is this very difference (and similarity) between bodies that enables the viewer to explore new modes of experiencing and comprehend distinct methods of meaning making, which are concepts that I use and build upon in Chapter 1.

---

[28] We can include the: scriptwriter, sound designer, director of photography along with all the other numerous roles that are amalgamated into what a viewer experiences when watching a film.

[29] Barker, *The Tactile Eye : Touch and the Cinematic Experience*, 8.

[30] Ibid., 9.

Jennifer Barker refers to this relationship between organic body and cinematic technology as a 'fellow feeling.'[31] This, as she defines, is a particular way in which the film's body will move, which in turn, will recall a sense of movement within the viewer's own bodily experience.[32] In her own words, she identifies a type of 'muscular empathy'[33] between the film and corporeal body when she describes camera whip pans, or slow tracking shots as a familiarity that human bodies have also experienced when whipping a head from side to side, or moving stealthily.[34] This allows the viewer to subjectively merge with the cinematic body and metaphorically don it like a type of second skin. This enables an uncanny sensation to wash over the viewer through the film body's familiar similarities and unique differences. This is an idea that can be traced back to Hugo Münsterberg's *The Photoplay*.

Münsterberg's book is one of the earliest works to address cinema's parallelism with the human sensorium. Within *The Photoplay* Münsterberg asserts that when watching a film,

> [w]e feel that our body adjusts itself to the perception. Our head enters into the movement of listening for the sound, our eyes are fixating the point in the outer world. We hold all our muscles in tension in order to receive the fullest possible impression with our sense organs. The lens in our eye is accommodated exactly to the correct distance. In

---

[31] Ibid., 76.
[32] Ibid.
[33] Ibid., 75.
[34] Ibid.

short our bodily personality works towards the fullest

possible impression.[35]

In terms of cognition, Münsterberg highlights the use of close-up to stress attention, the cut to signify association between shots and the use of flashback to denote memory. In regards to the body, Jennifer Barker highlights how this correlation between human and film structures are fundamentally corporeal. As she notes, "our mental structures are embodied, borne out and at the same time inflected by our bodily behaviors (which are themselves embedded in culture and history)."[36] This is how she emphasises the importance of the spectator's body in absorbing, and interpreting the codes of cinematic language. The close-up in film correlates to the physical act of leaning in, stepping forward or craning necks. As Jennifer Barker writes, "it is those muscular movements that inspire the close-up, the zoom, and the crane shot."[37] This equivalence between film and the human body is what I consider in Chapter 1 through a subjective filmography that employs the camera as a surrogate body vessel. In Chapter 1 I will be using Ihde's postphenomenology to build upon Jennifer Barker's analysis, that the bond between film and viewer can be considered an emphatic and mimetic relationship.[38]

---

[35] H. Münsterberg and A. Langdale, *Hugo Munsterberg on Film: The Photoplay: A Psychological Study and Other Writings* (Taylor & Francis, 2013), 85-86.
[36] Barker, *The Tactile Eye : Touch and the Cinematic Experience*, 81.
[37] Ibid.
[38] Ibid.

The Mimetic Subject

Jennifer Barker's use of mimesis draws upon Marks's use of the term from her book, *The Skin of the Film.* In this work Marks describes mimesis as a tactile epistemology and representation between two things based on a type of material contact.[39] "Mimesis, from the Greek *mimeisthai*, 'to imitate,' suggests that one represents a thing by acting like it." [40] In the case of Jennifer Barker's interpretation, and my own later chapter on camerawork, this is the imitation and enjoinment between the human and film body. Marks highlights a list of philosophical thinkers who have incorporated the concept of mimesis into their own writings. These include: Aristotle, Erin Auerbach, Gilles Deleuze, Henri Bergson, Charles Sanders Peirce and Walter Benjamin[41] amongst many others.[42]

Benjamin's paper, 'On the Mimetic Faculty'[43] for example, describes the ubiquity of mimesis from child's play, dance, through to language. According to Benjamin, children's imitations of windmills or trains in the playground are as mimetic as the imitative behaviour of language to imply meaning. Marks uses this as a foundation to stress how mimesis "is an indexical, rather than iconic, relation of similarity."[44] This as Marks describes, is a type of yielding to one's environment in accordance with Horkheimer and Adorno,[45] or "a lively and responsive relationship between listener/reader and story/text,"[46] in line with

---

[39] Laura U. Marks, *The Skin of the Film : Intercultural Cinema, Embodiment, and the Senses* (Durham: Duke University Press, 2000), 138.
[40] Ibid.
[41] Ibid., 138-39.
[42] These also include: Michael Taussig and Susan Buck-Morss: ibid., 143.
[43] Walter Benjamin, "On the Mimetic Faculty," *Reflections* 334 (1978).
[44] Marks, *The Skin of the Film : Intercultural Cinema, Embodiment, and the Senses*, 138.
[45] Ibid., 140.
[46] Ibid., 138.

Auerbach, whereupon story is "sensuously remade in the body of the listener."[47]

She develops this further into her renowned concept of haptic cinema through additional reference to Benjamin.

Marks notes that within the early drafts of Benjamin's 'The Work of Art in the Age of Its Technological Reproducibility'[48] paper, the author stresses emphasis upon the materiality of aura. For Benjamin, according to Marks, "aura enjoins a temporal immediacy, a co-presence, between viewer and object."[49] As Benjamin describes, "[t]o follow with the eye—while resting on a summer afternoon—a mountain range on the horizon or a branch that casts its shadow on the beholder is to breathe the aura of those mountains, of that branch."[50] Marks interprets Benjamin's concept of aura as a haptic relationship. Similarly, Sobchack refers to Benjamin's paper as a "tactile appropriation,"[51] each implying aura as a form of tactile materiality, such as brushstrokes verifying the hand of the painter. Using this, along with Miriam Hansen's work on Benjamin,[52] Marks discerns that a "sensuous similarity"[53] between humans who are in the presence of 'auratic' objects takes form, which is more like a sensation of physical contact than looking upon a representation.[54]

---

[47] Ibid. Please note that *'story'* for Marks pertains to a personal experience like a memory. In contrast, my use of story in the subsequent chapters will pertain to the story of the film, artwork or game in the traditional sense of the word.

[48] Walter Benjamin, "The Work of Art in the Age of Its Technological Reproducibility [First Version]," *Grey Room*, no. 39 (2010).

[49] Marks, *The Skin of the Film : Intercultural Cinema, Embodiment, and the Senses*, 140.

[50] W. Benjamin et al., *Selected Writings: 1938-1940* (Belknap Press of Harvard University Press, 2003), 255.

[51] Vivian Carol Sobchack, *Carnal Thoughts : Embodiment and Moving Image Culture* (Berkeley: University of California Press, 2004), 55.

[52] Miriam Hansen, "Benjamin, Cinema and Experience:" The Blue Flower in the Land of Technology"," *New German Critique*, no. 40 (1987).

[53] Marks, *The Skin of the Film : Intercultural Cinema, Embodiment, and the Senses*, 140.

[54] Ibid.

Mimesis, which develops from aura, dissolves the difference between subject and object, so that subjects experience material qualities of objects and vice versa.[55] For example, Jennifer Barker presents Marks's mimetic reciprocity through her analysis of the Steadicam, noting how the camera mimetically takes on the characteristics of the human body. Jennifer Barker further highlights how the corporeal body does likewise with the camera technology. The apparatus "mimics and transcends human styles of movement at the same time."[56] But because this device supersedes its human template in terms of smoothness, Jennifer Barker reminds the reader how "Steadicam operators must train their own bodies to move in ways that are not natural to them, in order to remove the traces of human movement from the image."[57]So just as the Steadicam takes on the characteristics of the human body, so the human body takes on those of the camera, in a symbiotic and mimetic exchange.

As Marks asserts, mimetic and symbolic representations are coexistent, "related in the way that the inside of a glove is related to the outside."[58] This is how she discerns that cinema is a mimetic medium and that its language (like all languages) are rooted in the body.[59] This is an argument that Marks backs up through reference to Jacques Derrida, where she cites his tactile formation of speech, "shaped by the mucous membranes of the mouth, stuck together by saliva and spat out."[60] This same embodied existence is present in handwriting, which as Carrie Noland asserts, is a kinaesthetic process, through the way "writing affords the writer an opportunity to impress the individual shape and

---

[55] Ibid., 141.
[56]Barker, *The Tactile Eye : Touch and the Cinematic Experience*, 115.
[57] Ibid.
[58] Marks, *The Skin of the Film : Intercultural Cinema, Embodiment, and the Senses*, 141.
[59] Ibid.
[60] Ibid., 142.

vitality of the body's motor power onto the contours of the cultural sign."[61] Just as speech and the written word is a corporeal phenomenon, film, as Marks observes, can also be grasped by the body as a whole.[62] This she attributes to a theory of embodied visuality aided by Merleau-Ponty, Sobchack, Shaviro and Bergson in addition to the groundwork on mimesis already discussed.

A mimetic and corporeal response towards the cinema screen can also be analysed in terms of synaesthesia. Turning to Bergson, Marks notes that an image is not merely visual but rather multisensory, in which all the senses are collated together.[63] This is discussed in Sobchack and Merleau-Ponty's writings on synaesthesia. Citing psychoneurologist Richard Cytowic, Sobchack states that the definition of synaesthesia is an "*involuntary experience* in which the stimulation of one sense cause[s] a perception in another."[64] Merleau-Ponty's *Phenomenology of Perception* illustrates synaesthesia through the claims that: "[o]ne sees the hardness and brittleness of glass […] the springiness of steel, the ductility of red-hot steel, the hardness of a plane blade, the softness of shavings."[65] We can also feel through the cross modality of the sight sense, "the weight of a block of cast iron which sinks in the sand, the fluidity of water and the viscosity of syrup."[66] It is this concept of synaesthesia that provides the foundation for Marks to construct her concept of haptic cinema. This, as she defines, is something that appears to the viewer as an object of interaction,

---

[61] C. Noland, *Agency and Embodiment: Performing Gestures/Producing Culture* (Harvard University Press, 2010), 1.
[62] Marks, *The Skin of the Film : Intercultural Cinema, Embodiment, and the Senses*, 145.
[63] Ibid., 146.
[64] Sobchack, *Carnal Thoughts : Embodiment and Moving Image Culture*, 67.
[65] Merleau-Ponty, *Phenomenology of Perception*, 266-67.
[66] Ibid., 267.

rather than illusion, "which calls upon [a] sort of embodied and mimetic intelligence."[67]

Marks employs Sobchack's work (1992), for its recognition that cinema is not illusionary "but an extension of the viewer's embodied existence."[68] The relationship between film and viewer, or technology and body, is fundamentally mimetic,[69] argues Marks, enabling screen and viewer to sensuously enfold into what she calls, a haptic visuality, which composes a sense of feeling and meaning. Haptic visuality permits a viewer to experience a sense of touch with their eyes, usually through the cinematic channel of the close-up.

This reinforcement of content through technological form is what shapes some of Marks's chosen case studies. *Sniff* (1996) for example, a short video artwork by Ming-Yuen S. Ma, depicts the sensuous engagement between tactility, smell and memory as a naked man is presented on a bed, sniffing the sheets in order to remember the scent of the men that he has had sexual intercourse with. The scene is repeated five times with different voiceover narration on each turn. Towards the end of these repeated scenes, which incorporate tactile close-ups, the analogue dubbing begins to break down. This simultaneously alludes to both the decay of videotape and to the breaking down of smell particles over time. As aroma disperses, so it diminishes, taking with it and fading the memories that the olfactory sense once stimulated.[70]

In Marks's *Touch: Sensuous Theory and Multisensory Media*, she refers to smell as the ability to activate encoded memories, channeling into what Deleuze calls the recollection-image from his *Cinema* books. Within these texts Deleuze

---

[67] Marks, *The Skin of the Film : Intercultural Cinema, Embodiment, and the Senses*, 190.
[68] Ibid., 149.
[69] Ibid.
[70] Ibid., 172.

develops the concept of the recollection-image (recognisable in film as a flashback) out of his larger overarching concept of the movement-image: the subtitle of *Cinema 1*. As David Martin-Jones succinctly explains in his paper, 'Remembering the Body: Deleuze's Recollection-Image, and the Spectacle of Physical Memory in *Yip Man/Ip Man* (2008)', "movement-images are chunks of space-time, actualised blocks of time in which virtual temporal possibilities are made actual through action."[71] Martin-Jones' explanation of the movement-image resonates with my use of Ihde's definition of the body as a solid and virtual entity, which is touched on in the Introduction and deployed throughout the chapters. Martin-Jones goes on to explain that the movement-image in cinema breaks down into three nodes consisting of: perception images, affection images and action images. Perception-images account for what is seen in film such as a POV from a character's perspective. Affection-images are the affect of perception-images, such as a character's facial expression following said perception-image, while their physical response (an amalgamation of perception and affect) is what shapes the action-image.[72]

As Martin-Jones asserts, "the recollection-image appears in the interval between perception and action [...and] is best understood as a flashback in which an event in the past is recalled because it 'matches' an event in the present."[73] He follows up, noting that it is a "truth-affirming device, an image of recognition from the past that informs the present, and facilitates its continuation."[74] It is in this vein that Marks surmises that smell as well as the

---

[71] David Martin-Jones, "Remembering the Body: Deleuze's Recollection-Image, and the Spectacle of Physical Memory in Yip Man/Ip Man (2008)," *Journal of Chinese Cinemas* 8, no. 2 (2014).
[72] Ibid.
[73] Ibid.
[74] Ibid.

remaining four senses, activate memories encoded in a recollection-image, which in doing so, gives such images the ability to generate narrative.[75] This as she notes is why "strictly speaking, an orange peel or our lover's shirt can be considered a kind of movie. Smelling it, we create a story."[76] This *story* that Marks is referring to however is based on personal memory through sensuous stimulation. In contrast, my grasp of narrative in the subsequent chapters will be more traditional, in line with the plot of fictional events in each respective film, artwork or game. But like Marks, this understanding of narrative will be informed through a sensuous engagement with the text by a particular body and technology relationship. This gives shape to my term hap-tech narration underpinned by Marks's haptic cinema, which by further contrast considers the negative connotations of sensuousness, compared with Marks's appreciation towards *sensualness* as a thing of beauty.

Sobchack's Cinesthetic Subject

The amalgamation of the senses is the focus of Sobchack's later work on affect in *Carnal Thoughts*. Here she analyses the interdependency of film that objectively touches viewers through affect, and at the same time, gives a viewer the ability to touch. She coins this filmic encounter as "the *cinesthetic subject*,"[77] a concept that I adopt to help illustrate the amalgamation between a viewer's body and screen body. The cinesthetic subject is a hybridised term that describes cinema as an experience involving both "*synaesthesia* and *coenaesthesia*."[78] The

---

[75] Laura U. Marks, *Touch : Sensuous Theory and Multisensory Media* (Minneapolis: University of Minnesota Press, 2002), 123.
[76] Ibid.
[77] Sobchack, *Carnal Thoughts : Embodiment and Moving Image Culture*, 67.
[78] Ibid.

former, as described above, indicates an amalgamation of the senses, whereby one will cue a perception in another, such as the *loudness* of a bright-coloured suit. Coenaesthesia, in contrast, is a term that refers to the holistic potential and perception of one's sensorial being as a whole,[79] thus denoting an awareness of one's own body.

Sobchack asserts that cinema, as essentially an audible and visual experience, does not mean that viewers divorce their other senses of taste, touch and smell when entering the cinema auditorium. Instead, the combination of synaesthesia and coenaesthesia, work together to make the cinesthetic subject, stimulating all five bodily senses under the cinematic umbrella senses of sight and sound, triggering affect in the spectator. Sobchack illustrates her concept of the cinesthetic subject through her analysis of the opening scenes of Jane Campion's *The Piano* (1993), which as she describes, is an example that portrays the ambiguous relationship between vision and touch.[80]

The film opens with a close-up of fingers (figures 6 and 7), producing a feeling in Sobchack's own hands before her brain has the chance to identify what she is seeing. The blurry pink shapes produce a feeling before producing a thought, which Sobchack describes accordingly.

> Despite my "almost blindness," the "unrecognizable blur," and resistance of the image to my eyes, *my fingers knew what I was looking at*—and this *before* the objective reverse shot that followed to put those fingers in their

[79] Ibid., 68.
[80] Ibid., 62.

proper place (that is, to put them where they could be seen objectively rather than subjectively "looked through"). What I was seeing was, in fact, from the beginning, *not* an unrecognizable image, however blurred and indeterminate in my vision, however much my eyes could not "make it out." […] [M]y fingers *comprehended* that image, grasped it with a nearly imperceptible tinge of attention and anticipation and, offscreen, "felt themselves" as a potentiality in the subjective and fleshy situation figured onscreen.[81]

As Sobchack claims, her bodily understanding of the onscreen fingers comes by way of her own anatomised fingers that are "subjectively 'here' (on her body) as well as objectively 'there' (onscreen)."[82]
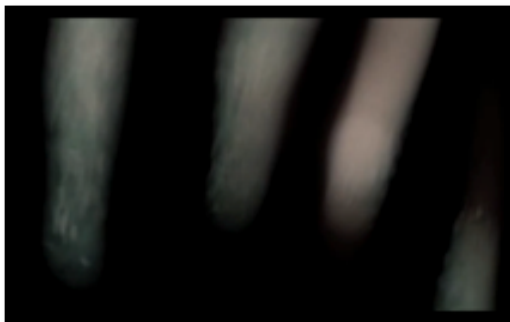
Figure 6: *The Piano*   **Figure 7: *The Piano***

This is a concept that resonates with Jennifer Barker when she similarly describes (by way of Merleau-Ponty) that in order to comprehend a film space when watching a movie, one must live in two places at once, their own space and

---

[81] Ibid., 63.
[82] Ibid.

the space of the film. Sobchack offers clarity to this idea by way of Elena del Río's paper, 'The Body as Foundation of the Screen',[83] arguing how screen images become translated and absorbed into bodily responses from the spectator.[84] Thus "body and image no longer function as discrete units, but as surfaces in contact, engaged in a constant activity of reciprocal re-alignment and inflection."[85] Sobchack refers to this process as a commingling of flesh and consciousness between the human and technological sensorium,[86] an idea that is reverberated in Väliaho's writing on affect. In his work, Väliaho proclaims that in cinematic affect, the technological object gets confused with the body, a concept that he attrubutes to Ernst Kapp's concept of organ projection (mentioned in the Introduction), in which technological tools are considered an imitation or copy of a human body model. Using this idea, Väliaho proposes that affect from the cinematic screen can be considered in terms of an *Umwelt*

Umwelt, a term coined by Jakob von Uexküll, is used to describe an environment of assorted organisms who conform to affective behaviour within their surroundings through perceptual sensory data. According to Uexküll, who makes this claim through a study of animal behaviour, the *Umwelt* is "the world as it appears to the animals themselves."[87] As Väliaho clarifies, attributes of the external world are produced by "perceptual or receptor cues, which unite the perceptual or receptor signs of the sensory system specific to a living being."[88] According to Väliaho the *Umwelt* is a closed-circuit, species-specific form of

---

[83] Elena Del Rio, "The Body as Foundation of the Screen: Allegories of Technology in Atom Egoyan's Speaknig Parts," *Camera Obscura* 13, no. 2 38 (1996).
[84] Sobchack, *Carnal Thoughts : Embodiment and Moving Image Culture*, 65.
[85] Ibid.
[86] Ibid., 67.
[87] Jakob Von Uexküll, "A Stroll through the Worlds of Animals and Men: A Picture Book of Invisible Worlds," *Semiotica* 89, no. 4 (1992): 319.
[88] Väliaho, *Mapping the Moving Image : Gesture, Thought and Cinema Circa 1900*, 103.

engagement between subject and world. For instance the tick, as Väliaho notes, comprises of three receptor and effector cues that respond to the smell of a mammal's skin, the tactility of its fur and the warmth from its blood.[89] This, according to Väliaho and Uexküll, is the full extent of the tick's perception in her search for blood. As Väliaho states, "the organism does not simply adapt to its environment but, essentially, *is* only in relation to its *Umwelt*, and it becomes aware of itself—capable of acting and behaving—only with respect to its *Umwelt.*"[90]

Aligning this concept with cinema, Väliaho surmises that similar sensorimotor circuits between the image and the body can be seen in terms of an *Umwelt.* The cinema like the *Umwelt*, he argues, is a systematic closed whole, defining our – 'species-being' through certain affects and actions that the viewer recognises and is capable of. "Through this kind of organ projection […] the moving image turns into an *Umwelt* which we become aware of."[91] And such awareness in cinema produces certain viewer responses: anticipation, desire, passion, catharsis and an awareness of the body such as Sobchack's experiential awareness of her fingers from cinematic cues. Thus the cinematic image, like the *Umwelt*, "turns into a circuit of perception cues (perceptions and affections) and effector cues (actions),"[92] stimulating the viewer towards something they inherently recognise as their own.

Väliaho's writings on the *Umwelt* and organ projections reflects Sobchack's, who similarly concludes (by way of Del Rio) that, "technology

---

[89] Ibid., 104.
[90] Ibid.
[91] Ibid.
[92] Ibid.

springs from the very human condition of embodiment"[93] and "is always […] incorporated and lived by the human beings who create and engage it within a structure of meaning and metaphors."[94] This is what enables the viewer to recognise their own movements within the film's body, and through the cinesthetic subject, sense the cross-modality of senses that the cinematic apparatus has to offer.

So far this chapter has considered through a range of theorists, how the technology of cinema has a body and how it engages with a viewer's body. I have established this primarily through mimesis, the cinesthetic subject and the *Umwelt.* Now I want to consider the formation of narrative through the language of the cinema.

Cinematic Narrative

David Bordwell's, *Narration in the Fiction Film* is a solid foundation to begin such a discussion on narrative cinema. However, as will become clear, his work is somewhat limited and does not include any in-depth discussion on the sensual stimulation of a viewer's body, primarily because he considers cinematic narration to be predicated through cognitive cues rather than corporeal ones.

As he states early on, his theory does not address affective aspects of film spectatorship.[95] This is not because he believes affect or emotion to be irrelevant from cinematic storytelling, but rather, he purposely relaxes discussion on emotional and affective aspects, in order to focus more fully on the viewing

---

[93]Sobchack, *Carnal Thoughts : Embodiment and Moving Image Culture*, 137.
[94] Ibid.
[95] Bordwell, *Narration in the Fiction Film*, 30.

aspects of story construction.[96] For Bordwell, "sensory stimuli alone cannot determine a percept, since they are incomplete and ambiguous."[97] Instead Bordwell argues that the spectator constructs narrative by a balance of perceptual and cognitive onscreen clues, which viewers actively follow and deduce.

The active viewer works to some extent like Uexküll's *Umwelt* in as much as a "spectator comes to the film already tuned, prepared to focus energies toward story construction and to apply sets of schemata derived from context and prior experience."[98] Schemata, as Bordwell explains, refers to a collective of hypothesis and inferences that typify everyday cognitive activities, enabling us to sort, remember, react and interact within our habitual world.[99] In other words, schemata can be considered synonymous for the familiarity we have with the world, including its habitus from cultural customs, to songs and literary texts, such as stories and characters from popular fiction in books, films and television. This is in addition to all the non-fictional conventions and customaries that fill our worldly experience, as we know it.

This schemata, as Bordwell argues, is how the viewer becomes cognitively invested and active within a film. Similar to Uexküll's *Umwelt*, the human organism, according to Bordwell, "is tuned to pick up data from [their] environment."[100] When watching a fictional film, such data is then employed by the active viewer to follow the story, understand the characters and dialogue, and make inferences about the plot and where it will go. As Bordwell states,

---

[96] Ibid.
[97] Ibid., 31.
[98] Ibid., 34.
[99] Ibid., 31.
[100] Ibid.

[i]n watching a representational film, we draw on schemata derived from our transactions with the everyday world, with other artworks and other films. On the basis of these schemata, we make assumptions, erect expectations, and confirm or disconfirm hypotheses. Everything from recognizing objects and understanding dialogue to comprehending the film's overall story utilizes previous knowledge.[101]

Familiarity between film narrative and viewer, such as the expectancy of good triumphing over evil in family-friendly adventure films, or quick-draw gunfights in the western genre, are examples of the type of inferences that viewers might make when watching a narrative film. Thus the classic narrative film is a process of mental activity, a notion supported by Edward Branigan who describes it as "a dialectical process between narrator and reader *through which* is realized a narrative."[102] This mental activity also resonates with Roland Barthes's, 'The Death of the Author,'[103] an essay that stresses the importance of (active) readers to draw their own conclusions separate from its literary creator, in order to liberate a text from interpretative dictatorship.

Film narrative, as Bordwell surmises, is a mimetic and diegetic experience that builds upon modes of representation established by the ancient philosophy of Aristotle and Plato. Aristotle (according to Bordwell) foundered the mimetic

---

[101] Ibid., 32-33.

[102] E. Branigan, *Point of View in the Cinema: A Theory of Narration and Subjectivity in Classical Film* (De Gruyter, 1984), 39.

[103] Roland Barthes, "The Death of the Author," *Contributions in Philosophy* 83 (2001).

tradition of narrative,[104] which is "the presentation of a spectacle: a showing."[105] As Bordwell also points out, Plato advanced the fundamental conception of narrative as an oral practice or telling.[106] From this understanding Plato describes narrative as forking into two distinct types of storytelling: diegesis (*haplē diēgēsis*), "in which the poet himself is the speaker and does not even attempt to suggest to us that anyone but himself is speaking,"[107] and imitative narrative (*mimēsis*) in which a poet speaks through characters "as if [they] were someone else."[108] Film, as Bordwell asserts, fundamentally falls into the latter category of imitative narration (mimetic). This is because, as S.B. Chatman has pointed out, "Bordwell allows for film a 'narration' but not a narrator."[109] Bordwell's filmic narration, as Chatman recapitulates, lies in the visual and mental work of the spectator, who actively constructs film narration by making sense of the onscreen imagery.[110]

Bordwell's use of mimesis above, and his conceptualisation of the active spectator, differs from the corporeal connotations that are attached to Marks, Jennifer Barker and Sobchack's hypotheses of film as a mimetic medium. However, Bordwell does briefly enter this analytical territory through recognition that film creates a perspectival eye for an invisible observer. With reference to filmmaker V. I. Pudovkin, Bordwell notes how "the camera lens should represent the eyes of an implicit observer taking in the action."[111] Furthermore, the quickness in tempo of editing patterns is likened to the

---

[104] Bordwell, *Narration in the Fiction Film*, 4.
[105] Ibid., 3.
[106] Ibid., 16.
[107] Ibid.
[108] Ibid.
[109] S.B. Chatman, *Coming to Terms: The Rhetoric of Narrative in Fiction and Film* (Cornell University Press, 1990).
[110] Ibid.
[111] Bordwell, *Narration in the Fiction Film*, 9.

viewer's mounting excitement, while the cut, as Bordwell claims, *mimics* the psychological process of shifting attention,[112] reminiscent of Münsterberg's *Photoplay*.

The fundamental difference between the sensual theorists discussed earlier and Bordwell is that Bordwell puts priority upon vision and cognition as the central means for a viewer to construct and interpret a narrative. As Tom Gunning asserts, Bordwell's active viewer is established through constructivist psychology through the way viewers actively and mentally construct meaning from their understanding of the world around them.[113] Bordwell's emphasis upon the brain and limited sensory stimuli (condensed mainly to vision) are the tools he uses to interpret narrative construction. This is something that has been challenged by other film scholars, and something that this work also attempts to challenge in its proceeding chapters, where an understanding of narrative is considered through the material relationship formed between the technology of production and reception, and the human body.

One of these challenges can be seen in Thomas Elsaesser and Malte Hagener's book, *Film Theory: An Introduction Through the Senses*, which considers how cinema, as an epistemological tool, should not demarcate cognitive mind from the body. As they state in their work,

> it is no longer feasible to deal with mind and body in separation; in the cinema, neither the body (and sensation) dominates the mind nor the mind (cognition)

---

[112] Ibid.

[113] T. Gunning, *D.W. Griffith and the Origins of American Narrative Film: The Early Years at Biograph* (University of Illinois Press, 1994), 23.

negates physical presence, but rather a body—brain or

brain—body, a neuronal web unites consciousness and

body into a single, indivisible whole.[114]

This is qualified with reference to both Deleuze and Annette Michelson. Michelson for example considers *Stanley Kubrick's 2001: A Space Odyssey* (1968) as a reinvention of bodies within space through its use of imagery depicting zero gravity. She argues, scenes that portray floating bodies highlight how "the cinema can suspend the philosophical opposition between body and mind, by making us question our normal assumptions of (pictorial) space as geometric and anthropocentric."[115] Through the cinematic language of editing, Michelson argues that Kubrick's *weightless mise-en-scène* (figures 8 and 9) empowers spectators to re-think the spatial relationship of 'front', 'behind', 'above' and 'below,'[116] as the director "extends the physical sensation of weightlessness to spectators' bodies."[117]

---

[114] T. Elsaesser and M. Hagener, *Film Theory: An Introduction through the Senses* (Taylor & Francis, 2009), 163.
[115] Ibid., 162.
[116] Ibid.
[117] Ibid.

Figure 8: *2001: A Space Odyssey*   **Figure 9:** *2001: A Space Odyssey*

Michelson, as Elsaesser and Hagener point out, draws this conclusion through application of developmental psychologist Jean Piaget. Piaget, who argues that children learn to locate themselves in space through a connection between mind and body, is adapted by Michelson to consider the essence of cinema. Film, as Elsaesser and Hagener reiterate, is a medium that conjoins subjective corporeality and consciousness. "Seeing films, in general, one gains an intimation of the link between the development of sensory-motor knowledge to that of intelligence itself."[118] Michelson notes that the difference between inner coordination (what we see) and intensities of response is what marks the difference between things that are seen and things that are felt, "between situations visually observed and those senses haptically, between a narrative emblem and a radically formal embodiment of spatial logic."[119]

As Elsaesser and Hagener argue, this dichotomy between what is seen and felt, or the difference between cognition and sensation, or groundedness

---

[118] Ibid.
[119] Ibid.

versus weightlessness is what characterises, for Michelson, the very subplot of Kubrick's *2001*. Following this line of enquiry, Elsaesser and Hagener state that Kubrick's film can be viewed "as if we were perceiving the world through a completely different mental disposition, but one that has a physical dimension, so that the spectator partakes in the fundamental dynamics of motion."[120] Consequentially, as Elsaesser and Hagener assert, *2001* combines looking and feeling as a way to appreciate what the film is about, and teaches its viewer how to simultaneously feel and interpret the film's subject matter.

This is an analytical tactic more fully developed by Ian Garwood in his book, *The Sense of Film Narration*. Within this work Garwood unites an embodied and cognitive appreciation of narrative cinema by arguing how "a film's sensuous qualities can be intimately connected to its storytelling processes."[121] Garwood examines the tactility of the image and film stock, the position of camera angles and other uses of film language to investigate how cinematic sensuality is enfolded within a film's story. In his analysis of Alejandro González Iñárritu's *Amores Perros* (2000), Garwood scrutinises how the tactile appearance and feel of character el Chivo, (Emilio Echevarría) a professional assassin and bedraggled vagrant, is used to haptically induce an actual and mental sense of touch. Within the film's story el Chivo is motivated by an abstract sense of touch to reestablish contact with his estranged daughter,[122] which is haptically relayed by a physical sense of touch that the camerawork and *mise-en-scène* puts into practice. Furthermore, el Chivo's role as an assassin requires the character (in the diegesis of the film) to command "extraordinary physical presence within his

---

[120] Ibid.
[121] Ian Garwood, *The Sense of Film Narration*, Edinburgh Studies in Film (Edinburgh: Edinburgh University Press, 2013), 3.
[122] Ibid., 57.

environment."[123] As Garwood observes, such physicality is translated to the viewer by way of el Chivo's sensual features of tactility.

Garwood considers the weather-beaten look of the character's face, marked with deep wrinkles that he describes as being "replete with textured qualities that appeal to a sense of touch."[124] He further highlights how the character's bushy, silver beard and straggly hair is shot in certain scenes, where it is picked out by the natural light,[125] to again evoke a sense of touch between organism and environment. The tactile look of el Chivo's face and crumpled clothes is further qualified by his surroundings. Garwood points out the details of the vagrant's cluttered home, layered with different textures of crumpled bed sheets, peeling wallpaper and stacked pillows, which change in shape and visual feel through different pools of light that illuminate the space. A photograph el Chivo carries of his daughter is, as Garwood notes, equally textured and crumpled like the character. The picture denotes the repeatability of how often it has been handled and the sense of lost contact between father and daughter. Such attention to sensuous detail is how Garwood explains that the spectator *feels* the narrative as a phenomenological experience.[126]

Like Garwood's analysis, my subsequent chapter on film (addressed through the technology of the camera) considers the construction of story through the entwinement of cognitive and corporeal modes of understanding. There I consider how the spectator's body and film's body merge through haptic affect, where I argue, in contrast to Marks, how such sensation is more adverse than alluring. This to some extent falls in line with Shaviro's *The Cinematic Body*,

---

[123] Ibid., 46.
[124] Ibid.
[125] Ibid., 58.
[126] Ibid., 61.

which considers in one particular chapter (dedicated to the visceral films of David Cronenberg) the spectatorial fear and abjectness of onscreen bodies. Although most of my case studies, which are examples of first person perspective films, do not share the same stomach churning hallmarks that underpin the auteurism of Cronenberg's early work, they do share a sense of discomfort through the relationship of body and camera technology that is reverberated within the film's story. To some degree, this can be considered through Torben Grodal's consideration of the film body, highlighted once more in Elsaesser and Hagener's work.

Elsaesser and Hagener discuss Grodal's understanding of a film body that is based upon a three-level model of the Self, borrowed from neuroscientist Antonio Damasio. In this model of selfhood, Damasio "couples the activities of the mind with the functioning of the body"[127] in three distinct levels. Level one is the bodily functions of the self in a comatose state, such as breathing or blood circulation that works automatically beyond our conscious awareness. The second level is the "embodied core consciousness which react to impulses from the environment and exists only in the present."[128] The third is what Damasio calls an autobiographical self, which is the concept of self in a narrated form where identity is produced through a combination of past memories or experiences (trauma, joyfulness, excitement, boredom) and future projections (plans and hopes).[129]

According to Elsaesser and Hagener, "Grodal posits that art cinema marks a break, rupture or blockage between core consciousness and autobiographical

---

[127] Elsaesser and Hagener, *Film Theory: An Introduction through the Senses*, 164.
[128] Ibid.
[129] Ibid.

self."[130] Grodal considers this through Lars von Trier's film: *Breaking the Waves* (1996), in which protagonist Bess McNeill (Emily Watson), loses the ability to connect physically and core-consciously with her husband, after he is left paralysed following a work accident. In the diegesis of the film, Bess's husband is left unable to perform sexually but tries to connect with his wife spiritually by encouraging her to have meaningless sexual relations (on a core conscious level) with different men, so that she can recount the experience to him. The film is therefore defined through a blockage between autobiographical and core conscious modes of human experience.

In classical cinema, Elsaesser and Hagener assert that the film "stays in the present of the core consciousness"[131] while the art film and post-classical film "revolves around the discrepancy between fleeting present and eternal values, between body and mind […] to deflect, block or repress affect and action, or to correlate them and terminate one in favor of the other."[132] In postclassical cinema, this rupture between body and mind is overcome by casting the latter as something that is pathologically impaired, which Elsaesser and Hagener recognise in titles such as *Fight Club* (David Fincher, 1999), *Memento* (Christopher Nolan, 2000), or *The Sixth Sense* (M. Night Shyamalan, 1999). This is a concept that I also touch on in Chapter 1, where I consider the core-consciousness of subjective and 'technologically bodied' films through the camera eyes of narratively impaired pathological characters, predominantly in the form of victims and killers. For now I end this section with a summary of what I have covered.

---

[130] Ibid.
[131] Ibid.
[132] Ibid.

- I have introduced some of the main phenomenological thinkers of cinema to consider how certain technologies of the cinematic apparatus shares a mimetic kinship with the human body.

- I have used this kinship to consider how spectators sensuously feel a film through Marks's concept of haptic cinema. I have also considered how the aesthetics of cinema enables its spectators to experience a range of feelings through synaesthesia, explained through Sobchack's cinesthetic subject.

- I have introduced Bordwell's concept of the active spectator to highlight how cinematic viewers make meaning cognitively.

- Using Garwood, Elsaesser, Hagener and Grodal I have considered how such active and cognitive interpretation of narrative cannot be separated from the body. Thus the technology of cinema puts narrative and corporeality into a model of interrelation. This is something that I will consider in greater detail in Chapter 1 through the technology of the camera.

Part 2: Interactive Art

In other forms of media outside of cinema, the moving image has been linked with touch in different ways. To understand this in a postphenomenological manner, I now consider the way a body's sense of touch is conceptualised in interactive art. The interactive art experience is predicated on a co-composition between user and artist. In contrast to cinema, where the medium's haptic qualities make up one specific field of study, touch in interactive art is viewed as something that is expected. This is primarily owed to the logic that touch is what characterises this particular medium *as* interactive.

Erkki Huhtamo has characterised interactive art as being "intimately linked with touching."[133] Huhtamo describes this medium as one that is activated by a user, transforming a passive onlooker to active agent through physical bodily action.[134] Without such corporeal interaction, involving more than just eye movement, interactive artworks remain "unrealized *potential."* [135] By physically touching works, either through button pressing, touchscreen interfaces, stepping on pressure pads or being technologically sensed by motion, heat or sound sensors, interactive artworks, according to Huhtamo, reach their full potential.

Art is constantly in a state of flux, consistently changing in parallel with cultural climate, attitude and technology. In the preface to the book *Future Cinema: The Cinematic Imaginary after Film*, Peter Weibel considers how moving image art and interactive art became established from significant transformations in classical cinema. Weibel notes that classical cinema was transformed by three important phases: the Expanded Cinema movement in the

---

[133] Erkki Huhtamo, *Twin–Touch–Test–Redux: Media Archaeological Approach to Art, Interactivity, and Tactility* (na, 2007).
[134] Ibid.
[135] Ibid.

1960s, the video revolution of the 1970s and the digital apparatus of the 1980s and 90s, inaugurating digital interactivity and virtuality.[136]

Expanded cinema, as Weibel later explains, developed from avant-garde films, which were variously termed as 'art' or 'experimental' pictures.[137] Such films were becoming established after the Second World War, rising to public cognisance by the 1960s,[138] where the beginning of this new movement was markedly different from its historical predecessor, with smaller audiences, fewer artists and an absence in theatres, distributors or media presence.[139]

As Weibel notes,

> [t]his awareness of film as new art medium led to a complete deconstruction of classical cinema. The apparatus of classical cinema from the camera to the projector, from the screen to the celluloid, was radically transformed, annihilated and expanded.[140]

Such deconstruction, transformation and expansion of cinema took many guises, from experimentation with the materials of cinema, to multiple screen exhibits to experiments with narrative. For example, cinematic material experimentation consisted of artists tampering with celluloid rather than exposing it. Artists like Dieter Roth chose to perforate film with a hole-punch before projecting the effect

---

[136] Peter Weibel et al., *Future Cinema : The Cinematic Imaginary after Film*, Electronic Culture--History, Theory, Practice. (Karlsruhe: ZKM Centre for Art and Media, 2003), 16.
[137] Ibid., 110.
[138] Ibid.
[139] Ibid.
[140] Ibid., 110-11.

to an audience.[141] Other artists made similar spectacles in distinct ways: Harry Smith would paint the celluloid, Weibel would cover it in fingerprints[142] (figure 10) and Stan Brakhage would do likewise with dead moths,[143] to produce creative cinematic effects (figure 11).

Figure 10: *Fingerprint*

Figure 11: *Mothlight*

Experiments with cinematic projection was also something that captured the imagination of artists, with films being projected upon different surfaces, such as running water (Robert Whitman, *Shower*, 1964) or indeed upon the bodies of the spectators themselves. This is notable in Stan VanDerBeek's *Movie Drome* (1965), which made use of a multitude of projectors, illuminating the audience with a collage of film, still photography and coloured light, overlapping and immersing an audience in a sea of imagery projections. This idea was later regenerated in Jeffrey Shaw's *MovieMovie* (1967), in which cinematic imagery was projected upon the surface of a giant inflatable dome as well as the active bodies of participants who eventually jumped into this plastic construct,

---

[141] Ibid., 111.
[142] Peter Weibel, *Fingerprint*, 1967.
[143] Stan Brakhage, *Mothlight*, 1963.

becoming part of the cinematic experience and spectacle[144] (figures 12 and 13). As Shaw asserts, "the intention of this work was to transform the conventional flat cinema projection screen into a three-dimensional kinetic and architectonic space of visualization."[145]

Figure 12: *MovieMovie*

Figure 13: *MovieMovie*

Works like these, as well as other more conventional cinematic installations that make use of multiple screens, such as Julian Rosefeldt's *American Night* (2009)[146] (figure 14) are examples of what Weibel refers to as narrative experiments.

---

[144] Jeffrey Shaw et al., *Jeffrey Shaw : A User's Manual, from Expanded Cinema to Virtual Reality = Jeffrey Shaw : Eine Gebrauchsanweisung, Vom Expanded Cinema Zur Virtuellen RealitäT* (Ostfildern: Cantz, 1997).
[145] Ibid., 72.
[146] This is an abstract old-West style drama depicting different events and characters happening simultaneously on five separate screens.

Figure 14: *American Night*

As Weibel states, the expansion of a single screen to numerous screens or from the extension of single to multiple projections, marked not just a development in visual experience, but also towards a new approach in narrative, where "multiple screens broke up the linearity of traditional narration."[147] As Weibel argues, the introduction of multi-screen cinema and art, afforded spectators new experiences.

> For the first time, the subjective response to the world was not pressed into a constructed, falsely objective style of narration but was instead formally presented in the same diffuse and fragmentary way in which it was experienced.[148]

As Weibel further notes, artists through the medium of multi-vision experimentation, developed new forms of storytelling that would deny linearity and chronology. In these experimental works, Weibel comments that "classical

---

[147] Weibel et al., *Future Cinema : The Cinematic Imaginary after Film*, 117.
[148] Ibid.

parameters of narration, fall victim to a multiple perspective projected onto multiple screens."[149] According to Weibel, this opens narrative up to a rhizomatic communication structure in Deleuze's sense of the term. [150] Such experimentation with multiple screens, as Weibel further notes, inaugurated "the beginning of immersive environments, virtual worlds and interactive relations between spectator and image."[151] This became particularly prevalent in the 1970s with closed-circuit video installations that enabled the spectator to see him or herself upon an artwork's monitor through video capture.[152]

This of course has been enriched by the development of digital apparatuses and computer generated imagery from the late 70s-90s and onwards. Shaw's early virtual projection works (1979) for example, were experiments with computer-generated stereo imagery, allowing a user to handle a technology in a certain way to produce an optical effect. [153] As the sophistication of digital technology developed, so did the immersiveness of Shaw's artworks: *The Narrative Landscape* (1985), in which a user with a joystick controls imagery upon a floor space. *The Legible City* (1988), where a user rides a stationary bicycle to traverse the digital streets of a virtual city projected upon a screen. And *Place – A User's Manual* (1995), a work that combines "panoramic

---

[149] M. Rieser et al., *The New Screen Media: Cinema/Art/Narrative* (British Film Institute, 2002), 50.

[150] Deleuze and Félix Guattari's concept of the Rhizome from *A Thousand Plateaus* considers multiple branches of non-hierarchical entry and exit points in meaning and interpretation. The rhizome is characterised by ceaseless connections without beginning or end. This is discussed in ibid.

[151] Weibel et al., *Future Cinema : The Cinematic Imaginary after Film*, 117.

[152] Ibid.

[153] Shaw et al., *Jeffrey Shaw : A User's Manual, from Expanded Cinema to Virtual Reality = Jeffrey Shaw : Eine Gebrauchsanweisung, Vom Expanded Cinema Zur Virtuellen RealitäT*, 100.

painting, photography and cinematography in the vector of simulation and virtual reality."[154]

In reference to Shaw's collection of artworks, and interactive art and narrative more generally, Anne-Marie Duguet has described how the artist puts a user physically in touch with a technology and a revised narrative context. In 'From Expanded Cinema to Virtual Reality', Duguet describes how Shaw's range of artworks is about "'[e]mbodying' the work and 'being in touch' with the image"[155] in a literal and non-metaphorical sense. In *MovieMovie* for example, (mentioned above) the artwork overruled cinema's fundamental convention of passive spectatorship in which the distanced viewer is physically separated from the image, and confined to a film's narrative timeframe. Instead *MovieMovie* replaced distanced viewing with physical active viewing through performance and interactivity.

The experiment was meant to expand the viewer from a passive observer to an active participant by enabling each person involved to alter the visuality of projected imagery through touch. Participants manipulated the inflatable screen structure with their active bodies, feeling and tactilely exploring the surface of the plastic dome-come-screen. By stretching, squeezing and changing the shapes of the plastic layers, active participants could manipulate and become part of the imagery, changing them from spectators to flesh screens as projectors shone upon their bodies to make them part of the spectacle. This, as Duguet claims, is an instance of how Shaw's work involves the audience as the protagonist in an event.[156]

---

[154] Ibid., 142.
[155] Ibid., 31.
[156] Ibid., 29.

Throughout all of Shaw's varied artworks, this concept remains at the fore. From video installations like *Heavens Gate* (1986) to digital interactive installations such as the aforementioned *The Legible City*, which I discuss in detail in Chapter 2, Duguet asserts how affects are produced by a system of relationships between body, image and space that produces a coalescence of real and virtuality. [157] This is a view shared by Anna Munster, whose book, *Materializing New Media : Embodiment in Information Aesthetics*, considers how virtual environments (like those involved in digital art) "unfolds […] the production of a new kind of embodiment."[158] Munster, who considers the impact of digital culture as part of a 'baroque event,'[159] argues that such baroque articulation is conceived through the "*differential* relations between embodiment and technics."[160] The nature of these differential relations, as Munster asserts, situates "body and machine, sensation and concept, nature and artifice in ongoing relations of discordance and concordance with each other." [161] In Munster's view, the experience of a digital baroque "produces a pulsing field of aesthetic forces."[162] These forces, which she notes, populate the hegemonic understanding of digital culture, comprise of binary pairs in the form of: real and hyperreal, physicality and virtuality, which "can be seen to impinge upon each other rather than be mutually exclusive."[163] As Munster affirms, digital spaces operate through an unfolding of these binary pairs, which bleed into one another, as is the case in the environments of interactive artworks.

---

[157] Ibid., 45.
[158] Anna Munster, *Materializing New Media : Embodiment in Information Aesthetics*, Interfaces : Studies in Visual Culture (Hanover, N.H.: Dartmouth College Press, 2006), 108.
[159] Ibid., 5.
[160] Ibid.
[161] Ibid.
[162] Ibid.
[163] Ibid.

Munster's concept of 'unfolding' originates from Deleuze's work: *The Fold: Leibniz and the Baroque,* which considers matter (particularly the human subject) in terms of form and process.[164] In this work Deleuze adopts Gottfried Wilhelm Leibniz's concept of a two-floored baroque house, used as a model for human subjectivity (figure 15), as a way to consider the fold. In Leibniz's metaphorical model of human subjectivity the lower room with windows to the outside world represent the five senses, which carries information upstairs to the windowless room of the mind. Deleuze uses this model to demonstrate how mind and body *fold* into, and act upon one another.[165]

closed private room, decorated with a 'drapery diversified by folds'

common rooms, with 'several small openings:' the five senses

The Baroque House (an allegory)
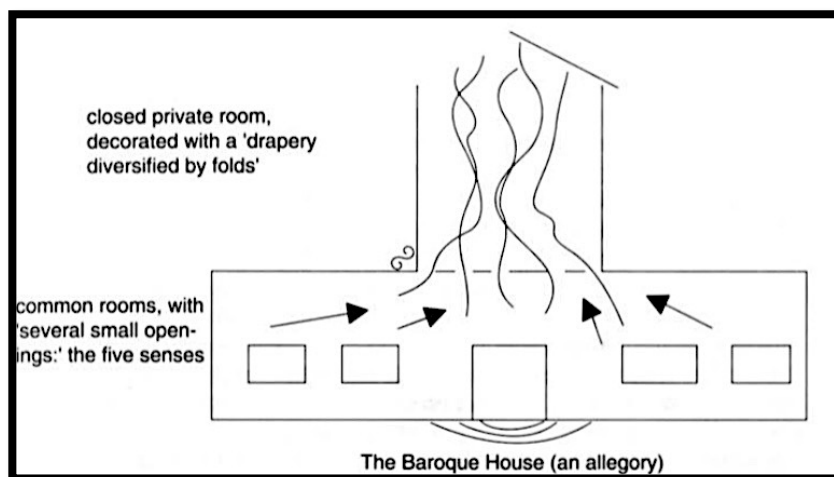
Figure 15: Diagram of the Baroque House from *The Fold: Leibniz and the Baroque*

As Deleuze describes:

> [f]or Leibniz, the two floors are and will remain inseparable; they are really distinct and yet inseparable by

164 Ibid., 7.

165 Gilles Deleuze, *The Fold : Leibniz and the Baroque*, [Rev. ed., Continuum Impacts (London ; New York: Continuum, 2006), 100.

dint of a presence of the upper in the lower. The upper

floor is folded over the lower floor. One is not acting upon

the other, but one belongs to the other, in a sense of

double belonging. [...] Each soul is inseparable from a body

that belongs to it, and is present to it through projection.

Every body is inseparable from the souls that belong to it,

and that are present to it by requisition.[166]

Deleuze's concept of folding goes beyond individual subjectivity and branches

out into how humans fold within their world as well as with other humans and

species. This, as Deleuze illustrates, can be considered visually when we think

about the paper-folding art of origami.[167] In the art of origami folds will

rearrange a sheet of paper, changing its surface, direction and volume into a new

restructured form. Similar to this origami example, Munster considers how

digital environments fold the body of a user, symbiotically changing a user's

corporeality as the user dynamically changes the aesthetical output from a

digital device, such as the bicycle peddling in Shaw's *The Legible City*. It is

through Munster's use of Deleuze that embodiment is folded into virtuality and

corporeality into technology. As Munster states, "virtual spaces are [...] governed

by [...] two vectors of convergent enfolding and divergent unfolding,"[168] which

within these technological spaces, "compose new kinds of spaces and new

---

[166] Ibid., 119.
[167] Ibid., 6.
[168] Munster, *Materializing New Media : Embodiment in Information Aesthetics*, 102.

abstractions of the embodied self."[169] This is a concept that Mark B. N. Hansen has considered in relation to virtual reality.

In *New Philosophy for New Media*, Hansen considers how the interactivity of a subject's body interfaces with a VR (virtual reality) environment to construct a sense of space and self that enfolds the body with technology and the real with the virtual. Within his work, Hansen reflects upon the phenomenology of VR and how the experience differentiates from that of cinema. Hansen refers to Henri Bergson's *Matter and Memory*, in particular, Bergson's theory that perception is a process of selection, and states that such a theory, although valid for cinema and photography, must be updated within the context of VR technology.[170]

Bergson's theory posits that perception, by its very nature, is a process of selection.[171] Humans, as sensing beings, experience a myriad of perceptions and sensory experiences from moment-to-moment. Focusing upon one of these experiences requires the experiencer to single a perception out from this blurry myriad. Thus, a process of selection is the first step towards Bergson's hypothesis of perception. The second step is how this selection automatically creates a spatial distance between observer and object. When for example, a viewer watches a film or looks at a photograph, the moving or still image needs to be distant from the viewer in order to be observable, as being too close to the screen or picture restricts the view.

As Hansen postulates, Bergson's theory is unsuitable for some modes of new media technology, particularly VR, "where there is literally no 'there'

[169] Ibid., 103.
[170] Mark B. N. Hansen, *New Philosophy for a New Media* (Cambridge, Mass.: MIT Press, 2004), 9-10.
[171] H. Bergson, N.M. Paul, and W.S. Palmer, *Matter and Memory* (Dover Publications, 2004), 31.

there."[172] VR tests Bergson's theory, because "rather than selecting preexistent *images*, the body now operates by filtering *information* directly and, through this process, [*creates*] images."[173] This is carried out through the perceptual exchange of experience, where anchorage in the physical space of an actual world, is folded into the virtual experience of a non-dimensional '*dataspace*.'[174] As Hansen asserts, experience within a VR dataspace is not something that can be understood through perspectival vision, and is instead something that "can *only* take place in the body."[175] Usually this is made possible through the donning of wearable technologies such as a head mounted display (HMD), and data gloves, which help to immerse a user within a digital context.[176] This wearable equipment enfolds movement with sight, which Hansen explains through the post-Bergson philosophy of Raymond Ruyer's notion of an 'absolute survey.'

Ruyer's absolute surface or survey is a first person intuition that subjects experience through their bodies as moving, breathing dynamic beings. Mary Beth Mader has described Ruyer's absolute survey as "a surface that surveys itself without being of a different dimension than that which it surveys."[177] In describing Ruyer's term, Mader further explains that the absolute survey is a mode of reality that pertains to *visual sensation* as opposed to perception. Mader notes that perception, in contrast, is a physic-physiological event[178] that is

---

[172] Hansen, *New Philosophy for a New Media*, 162.
[173] Ibid., 10.
[174] Ibid., 162.
[175] Ibid.
[176] Developments in this field of digital art, such as Dennis Del Favero's iCinema, which I consider later in this chapter and in Chapter 2, achieve such immersion without the need of these wearable technologies.
[177] M.B. Mader, *Sleights of Reason: Norm, Bisexuality, Development* (State University of New York Press, 2012), 24.
[178] Ibid.

characterised by spatial separation, which falls in line with Bergson's theory of perceptual distance.

> As opposed to visual sensation, the rule that governs perception is that for an observer fully to perceive within any given dimension, that observer must occupy a dimension beyond the dimension observed. An observer must occupy a third dimension in order to perceive both dimensions of a two-dimensional object.[179]

As Mader notes, a one-dimensional being will not perceive a line as a line but rather, just as a point. Therefore perception as a physic-physiological event, "always requires an observer situated in the *n + 1* dimension to see at once all the constitutive points of a being of *n* dimensions."[180]

Contrary to this, an absolute survey utilises a different mode of reality that is *not* of a different dimension. Instead "the nature of the absolute surface of visual sensation is to attend to one's own visual experience,"[181] and "grasp the entire visual field in a single instantaneous take."[182] This field of visual sensation includes the full range of intrinsic and reflexive bodily intuition that a subject experiences through non-visual perceptive awareness. In other words, absolute survey pertains to the affective nature of the body as a dynamic form of self. When for example, I move around a space, I experience a kinaesthetic sense of weight, height and movement as well as an accompanying feeling, such as energy

---

[179] Ibid.
[180] Ibid.
[181] Ibid., 25.
[182] Hansen, *New Philosophy for a New Media*, 174.

or fatigue that I grasp automatically. When walking along a busy train platform during rush hour for example, I do not visually plan my path from an *n + 1* dimension of space, but rather I intuitively move into the spatial gaps through a subjective sense of absolute survey. Moreover, as I move into these spaces, so my body creates a space for myself to occupy. In Chapter 2 I build upon these observations of the body, space and engagement in virtual environments through interactive art case studies, where I discuss how the human body is used to orchestrate fictional events in interactive spaces.

Hansen, who describes the absolute survey, as "a nondimensional grasping of a perceptual field as an integral whole or 'absolute surface,'"[183] applies Ruyer's concept to VR. Because the digital topography of a VR environment is a dimensionless space, Bergson's perception becomes an ineffectual tool. Instead, absolute survey is applied, because, as Hansen states, it promotes: "a nongeometric and nonextended 'giving' of space that is nothing other than a production of space in the body, or better, a bodily spacing."[184] Unlike cinema where the object is there upon the screen, a VR environment prioritises affect (sensation in the body) over perception,[185] due to the fact that the action takes place in what Hansen calls, a "frameless vision [or] absolute frame,"[186] where the user becomes integrated with the technology. The VR image does not exist in a physical static location (like the cinema screen); instead the digital imagery is composed through the mergence of the user's real body connected and enfolded into the VR's virtual dataspace. As Hansen posits, "the dynamic coupling of body and image (or intensive space) *is* the defining *aesthetic*

---

[183] Ibid., 162.
[184] Ibid.
[185] Ibid., 167.
[186] Ibid., 170.

feature of VR."[187] In Chapter 2 I consider this in more depth through detailed analysis of Dennis Del Favero's immersive artwork *Scenario*, which takes place in a virtual environment and uses the body to create fictional events.

Just as VR impels body and technology to enfold, Hansen argues that this medium also accentuates a convergence between corporeality and cognition, which he calls *'body-brain' simulation*. Similar to the cinema section above, discussing the union of body and mind in film, Hansen draws a similar conclusion with VR technology by way of a different route. Hansen's method makes use of the absolute survey, combined with a contemporary neuroscientific claim, that the process of perception is not representational by nature. According to neuroscientist, Damasio (introduced in Part 1: Cinematic Phenomenology), perception has nothing to do with the correspondence between an internal image and an outside object. As he states, "there is no such thing as a *pure* perception of an object within a sensory channel, for instance, vision."[188] Instead, he claims that the brain can be thought of as a self-affecting and self-activating system.

Damasio illustrates this with the example that when we observe something, "the records we hold of the objects and events that we once perceived include the motor adjustments we made to obtain the perception in the first place and also include the emotional reactions we had then."[189] Put differently, activity within the brain simulates patterns of the external world. When we observe the environment, the brain activates itself to create a simulation that emulates that environment, formulating what Damasio calls a

---

[187] Ibid., 166.
[188] A.R. Damasio, *The Feeling of What Happens: Body, Emotion and the Making of Consciousness* (Vintage, 2000), 147.
[189] Ibid., 147-48.

"movie-in-the-brain."[190] As he states: "images in the consciousness […] flow like shadows along with the images of the object for which they are providing an unwitting, unsolicited comment."[191]

Damasio stipulates that his *movie-in-the-brain* metaphor involves no external spectator but only the conscious observer involved. Hansen picks up on this, claiming that the very nature of VR activates a movie-in-the-brain technique, which involves no external spectator and coincides *exactly* with the ongoing brain activity of the intuitive internal subject.[192] As Hansen states, "VR resituates the neural activity of the brain (simulation) within its richly embodied context and exposes just how deeply intertwined with the body cognition actually is."[193] This is because, as Hansen further asserts, the functionality of a VR interface is to "fold the transpatial dimension of consciousness back onto the physico-empirical mode, except that here the latter denotes the location of consciousness not in the external world but *within the space of the body*."[194] To put this plainly, a user within a VR environment simultaneously responds to and creates digital topography through body-brain activity. Physical movement within a VR world shifts and realigns the visual planes of what the user can see. At the same time, what the user can see (in most likelihood) will prompt the physical movements or directions that they take. Thus "the living being transforms the medium at the same time as the medium transforms the living being."[195]

---

[190] Ibid., 11.
[191] Ibid., 171.
[192] Hansen, *New Philosophy for a New Media*, 188.
[193] Ibid., 192-93.
[194] Ibid., 176.
[195] Ibid., 186.

This is how, as Ryszard Kluszczyński notes, a recipient enters into a co-emergence with a technological artefact, whereupon interactivity gives structure to an artwork's content, and is co-created by the user's engagement. [196] Outside of the VR environment, numerous interactive artworks appeal to a user in this fashion. In Susan Kozel's book, *Closer: Performance, Technologies, Phenomenology*, for example, the author (who is trained in dance and versed in philosophy) considers the phenomenological implications of motion sensing from her role in Paul Sermon's artwork, *Telematic Dreaming* (1992). This installation, consisting of two double beds in different locations (juxtaposed with monitors) is designed to give the impression of two physically separated bodies virtually inhabiting the same physical bed space (figure 16). The bed in the installation space is dimly lit while the one that Kozel lies in is within a blue screen environment. Telepresence is achieved in the installation by cameras, which are located above each bed, recording and transmitting the physical movement of each participant, giving the onscreen impression (by way of the monitors) that the physically distant real-life bodies are virtually sharing the same intimate space.[197] From the gallery visitor's perspective, this is enriched in the darkened space through a projector (next to the camera) that projects Kozel's image straight onto the top of the bed.[198]

[196] O. Grau, *Mediaarthistories* (MIT Press, 2007), 221.
[197] S. Kozel, *Closer: Performance, Technologies, Phenomenology* (MIT Press, 2007), 92.
[198] Leonardo 'Telematic Dreaming by Paul Sermon' at
http://www.leonardo.info/gallery/gallery332/sermon.html (accessed 05 August 2016)

Figure 16: *Telematic Dreaming*

Speaking of this experience personally, Kozel, like Hansen, deliberates upon the strong connection between body and cognition through an interactive and technological space. As Kozel notes, the experience concerned her in an emotional way, as she discloses her initial fear of how sharing an intimate space with strangers was a risk of desensitisation from real-life relationships of intimacy.[199] As Kozel notes, "this concern in itself is an indication of the strong physicality of the piece, of the powerful link between the body on the screen and the bundle of emotions, thoughts and movement that make up [the] material body."[200] As Kozel observes, the technological artwork, far from diminishing the corporeal or emotional sense of subjectivity, instead bought it to the forefront.[201] Kozel contemplates how the artwork made her aware of her own body through the coded behaviour that we are familiar with in our everyday lifeworld. She notes for example the fear and vulnerability she felt when seeing a virtual

---

[199] Kozel, *Closer: Performance, Technologies, Phenomenology*, 94.
[200] Ibid.
[201] Ibid.

recipient with a knife;[202] the pain she felt when virtually elbowed in the stomach[203] and the physical and emotional detachment she endured when cybersexually assaulted.[204] In this latter instance Kozel claims that she felt very little, but later surmises how this response is illustrative of a real life attack in which victims try to remove themself from trauma by separating the mind from the body.[205]

Consequentially, Kozel concludes that the majority of positive experiences within *Telematic Dreaming* channeled into a mimetic engagement of intimacy that was "undeniably real,"[206] through the blurriness and enfoldment of reality and virtuality. Incorporating Marshall McLuhan with VR researcher Frederick Brooks, Kozel further claims that such digital interactivity can be considered an extension of the body through the concept of intelligence amplification (IA). In contrast to Artificial Intelligence (AI) which ventures to replace the human mind with machines, Kozel states that IA "aims to build systems that amplify the human mind by providing it with computer-based auxiliaries to do the things that it has trouble doing (like enormous sums), thereby freeing it to scale new heights at more creative tasks."[207] This concept of technology's ability to extend the human body and mind into virtual realms of interactivity is what I explore via Ihde through my subsequent chapters, exploring first person experiences of synaesthetic touch from cinema with actual experiences of touch in interactive art and gaming.

---

[202] Ibid., 96.
[203] Ibid., 97.
[204] Ibid., 98.
[205] Ibid.
[206] Ibid.
[207] Ibid., 99.

The concept of a body virtually transcending into interactive gallery space is something that Timothy Barker has devoted much attention to through the philosophy of Alfred North Whitehead. In his book *Time and the Digital: Connecting Technology, Aesthetics, and a Process Philosophy of Time*, and his paper, 'Towards a Process Philosophy for Digital Aesthetics', Barker adopts Whitehead's concept of *prehension* as a way to consider interactive digital aesthetics. Barker does this in terms of their *process* as an encounter, as opposed to the anthropocentric conscious of the human user. As Barker explains, *prehension* is the term Whitehead employs to consider the becoming of the present moment, which "takes form as the past transfers information to the present."[208]

As Barker notes, this is the essence of *process*, and as he further asserts, interactive media art "is marked by process."[209] Barker's work thus considers interactivity through a commingling of actants in Bruno Latour's sense of Actor-network theory,[210] while stressing the Whiteheadian claim that experience is not passive but instead, comes to creation through active involvement.[211] As Barker notes, "[f]or Whitehead there do not exist things, but only things in the making. The entire world of materiality is merely an outcome of process."[212] Barker applies this idea *of things-in-the-making* to interactive art, a notion that Kozel also recognises when she refers to the virtuality of *Telematic Dreaming* as a

---

[208] Tim Barker, "Toward a Process Philosophy for Digital Aesthetics" (paper presented at the 15th International Symposium on Electronic Art(ISEA), Belfast, UK, 2009).
[209] Ibid.
[210] Actor Network Theory (ANT), developed by Bruno Latour, Michel Callon and John Law, considers objects as part of social networks. It assumes that many relations are both material and semiotic.
[211] Barker, "Toward a Process Philosophy for Digital Aesthetics."
[212] Ibid.

'verb-space' that is constantly shifting through the dynamic movement of the bodies involved.[213]

For Deleuze, as Barker states, such a shift from virtuality to actuality indicates, once again, the concept of process, in which a potential situation (virtual) enters into actual existence.[214] Barker demonstrates both Deleuze and Whitehead's concept of process through a particular case study of Dennis Del Favero's artwork *Pentimento* (2002). This installation is a computer-based interactive video that takes place in an octagonal room. Segments of story are projected onto four walls of this room, presenting a news report that details the discovery of a dead body, the suspects (a brother and sister) who blame one another, and the heinous sexual abuse they endured from their father (the victim).

A user in the middle of this room is detected through motion sensing cameras, which trigger different parts of the projected story through the user's movements in the installation space. Consequentially "a nexus [is] formed between blocks of narrative and the interactive activities of a user [...] which is continually in the process of creation."[215] As Barker highlights, the artwork is conceived by a transitional feeling that restricts a user from making sense of the narrative events while simultaneously enabling the user to grasp the emotional intensity of the piece. *Pentimento*, which is about trauma "is not a representation of trauma but is rather a *process* that sets the conditions for trauma to be felt."[216] The segments of story, which are mixed fragments of the past, are stitched

---

[213] Kozel, *Closer: Performance, Technologies, Phenomenology*, 97.
[214] Barker, "Toward a Process Philosophy for Digital Aesthetics."
[215] Timothy Scott Barker, *Time and the Digital : Connecting Technology, Aesthetics, and a Process Philosophy of Time*, Interfaces, Studies in Visual Culture (Hanover, N.H.: Dartmouth College Press, 2012), 156.
[216] Ibid., 155.

together in the process of an unfolding present, generated by interaction between the body of the user and technologies of the motions sensors and computer database.

Interactive Narrative

Pentimento hybridises different segments of film to illustrate contrasting points of view from each character. As the user moves within the space and is sensed by the motion detectors, so a story collage is formed, made up of narrative fragments from each of these characters, collectively synthesised. The user's body, as Barker asserts, is therefore "actively involved in reassembling the narrative 'blocks'"[217] through their corporeal immersion within the installation space. Thus narrative through the aesthetics and sound of this artwork are not simply restricted to the screen (as is the case in cinema) but rather the construction of meaningful content is formed as a nexus between narrative blocks and the interactivity of a moving body.[218] This is how bodies can construct narrative through the process of movement. *Pentimento* and other interactive narrative artworks like it, capitalise on a user's presence and physical movement to "trigger […] a narrative, which is continually in the process of creation."[219]

Neil C. M. Brown, Barker and Del Favero, have addressed this very idea of narrative construction through their paper 'Performing Digital Aesthetics: The Framework for a Theory of the Formation of Interactive Narratives', where they outline a framework of specific types of narrative that emerge through the coalescence of a body within a digital space. In the authors' own words:

---

[217] Ibid.
[218] Ibid., 156.
[219] Ibid.

interactive narrative, as a process of episodic interactive events, is a processual encounter in which the user, rather than simply a 'reader' of a textual narrative, is an active participant in the communication system that is central to the coherent, meaningful and aesthetic use of this information in digital settings.[220]

The paper then identifies discrete modalities of interactive narrative by adopting a Deleuzian approach that considers the simultaneity of events as processes and enfoldments of real and virtuality.

One mode is what the authors refer to as a Polychronic Narrative, which is a specific branch of digital interactive narration that enables users to "navigate [their] own path through pre-scripted events."[221] It is a space in which digital characters and users can communicate with one another. 'Polychronic narration' is the term that narratologist, David Herman, uses to describe a narrative that capitalises on the indefiniteness and delinearity of a sequence of events.[222] This does not mean that it is a complete absence of a narrative sequence but is rather an unstable one that enables the user to construct a unique path of their own through a narrative experience. This is something that I consider in Chapter 2 through Toni Dove's *Artificial Changelings* (1998).

---

[220] Neil CM Brown, Timothy S Barker, and Dennis Del Favero, "Performing Digital Aesthetics: The Framework for a Theory of the Formation of Interactive Narratives," *Leonardo* 44, no. 3 (2011): 213.
[221] Ibid., 214.
[222] David Herman, "Limits of Order: Toward a Theory of Polychronic Narration," *Narrative* 6, no. 1 (1998): 75.

A second mode that Brown, Barker and Del Favero consider in their paper is that of Transcriptive Narrative, which pertains to a way in which a user constructs a story from a pool of possible narrative events. Using an interactive installation called *T_Visionarium* (2003-2008),[223] the authors explain the user's role as an aesthetic editor. The artwork takes place within a cylindrical 360-degree projection system called an Advanced Visualization and Interaction Environment (AVIE). Within this space a swarm of miscellaneous video clips are projected upon the immersive circular screen. The user within the middle of this space (and in control of a handheld interface) digitally sutures these clips together, composing the bits of media information into a narrative structure. The narrative is transcriptive as the authors assert, "in the sense that the user enacts her agency by reassembling the video clips"[224] into new combinations of story. As the authors state:

> [i]n a transcriptive model, the narrative has yet to be told. The user *constructs*—or perhaps better termed *performs*—the narrative as they impute meaning arising from the consequences of their experience of aesthetically rich multi-modal information and call upon their reaction in deciding what to do next.[225]

---

223 Dennis Del Favero, Jeffrey Shaw, Neil C. M. Brown, Peter Weibel and Matt McGinity.
224 Brown, Barker, and Del Favero, "Performing Digital Aesthetics: The Framework for a Theory of the Formation of Interactive Narratives," 215.
225 Ibid., 216.

In contrast to polychronic narrative in which "the basis for narrative choices is constrained within the options provided,"[226] transcriptive narrative enables a plethora of choice for a user who is simultaneously cast in the intertwined roles of cinematic viewer and editor.[227]

Shared traits of both transcriptive and polychronic narrative can be seen in a third mode of digital narration that Brown, Barker and Del Favero call Co-Evolutionary Narrative. In this mode "narrative *evolves* or *emerges* based on a relationship formed between a human user and a digital agent able to respond autonomously."[228] This relationship relies upon an unscripted set of outcomes, which are considered through Del Favero's artificial intelligent (AI), computer graphic artwork, *Scenario* (2011). I will refrain from saying too much about this here, as this artwork along with an interview with Del Favero constitutes a large section of Chapter 2. It is however an artwork that requires a user to become physically immersed and active within the installation space of an AVIE to construct different narrative opportunities and outcomes. For now, I close this section with a summary of the main points that this interactive art installment has covered.

- I have considered how interactive art was born out of avant-garde and expanded cinema.
- I have discussed the main differences between interactive art and cinema, which come down to the physicality of a user doing

[226] Ibid., 212.

[227] Neil Brown et al., "Interactive Narrative as a Multi-Temporal Agency," *representations* 84 (2000).

[228] Brown, Barker, and Del Favero, "Performing Digital Aesthetics: The Framework for a Theory of the Formation of Interactive Narratives," 217.

something to activate an artwork, whereupon the body serves as an interface with a technology to produce meaning.

- I have explained how interactive art is predicated on an enfoldment of virtuality and actuality through Munster's work, and how in a VR environment this constitutes Body-Brain activity through Hansen's.

- I have discussed interactive art in terms of processes through Barker and considered in his writings (along with Brown and Del Favero's) different types of narrative categories.

- I have introduced some of the numerous technologies of interactive art in terms of motion sensing and the AVIE. These will be discussed more in Chapter 2 along with other technologies that can be used to interface with a human body to create new types of interactive narrative experiencing.

With these points in mind, I now turn my attention to the medium of computer gaming, where the relationship between body and technology can be seen to be enmeshed even further.

Part 3: Computer Gaming

Computer gaming, like interactive art, relies on establishing a relationship between a technological system and the body of the user, so that meaning may be constructed through their interaction. Such practices and meanings have now of course developed and become ubiquitous. Shaviro's book *Connected, Or What it Means to Live in the Network Society*, for instance, recognises web surfing as a physical and tactile practice, which stipulates a certain posture of the body as we keep in eye level of a screen, with fingers running across a keyboard and manipulation of the cursor through mouse movement. In this way, Shaviro notes how "the hand becomes an extension of the eye."[229] Hansen has similarly mirrored this claim in relation to interactive art, by noting how some artworks employ "a transductive coupling of vision and touch."[230] Like interactive art, computer games, as Jon Dovey and Helen W. Kennedy argue, exist only as objects of contemplation through the medium's agential interaction. In other words, games (like interactive art and unlike cinema) can only reach a player's intimate mental, physical and emotional states, through the active engagement of gameplay.[231]

Dovey and Kennedy's book *Game Cultures: Computer Games as New Media* posits that the human body is vital to this engagement, which they argue through Marie-Laure Ryan's *Narrative as Virtual Reality: Immersion and Interactivity,* which focuses on game immersion and interactivity through Merleau-Ponty's

---

[229] S. Shaviro, *Connected, or, What It Means to Live in the Network Society* (University of Minnesota Press, 2003), 6.

[230] Mark B. N. Hansen, *Bodies in Code : Interfaces with Digital Media* (New York: Routledge, 2006), 81.

[231] Jon Dovey and Helen W. Kennedy, *Game Cultures : Computer Games as New Media*, Issues in Cultural and Media Studies (Maidenhead ; New York, NY: Open University Press, 2006), 106.

assertion that embodiment is the nature of perception.[232] Following this claim, as Ihde does (discussed in the Introduction), Dovey and Kennedy through Ryan and Merleau-Ponty consider how humans are re-embodied through computer gameplay, by gaining "a sense of presence and agency in these virtual spaces through the interface and the avatar."[233] Merleau-Ponty's perception through embodiment in which consciousness and embodiment are interdependent,[234] is the key that is employed by the contemporary theorists, who argue that, "virtual experiences count as embodied affective experiences."[235]

Merleau-Ponty's theory that feelings and perceptions are embodied, is the heart of Dovey and Kennedy's understanding of gameplay experience,[236] which they consider (as Hansen does) through the neurological scientific philosophy of Damasio. According to the authors, Damasio argues that, "emotions are a complex pattern of chemical neural responses produced by certain stimuli which result in a temporary change in the state of the body proper."[237] This leads Dovey and Kennedy to proclaim that there can be no such thing as a disembodied spectator, reader or game player;[238] an argument that this Literature Review has attempted to undertake across each of its three contrasting mediums. As Dovey and Kennedy assert, the denial of Cartesian dualism is essential to the contemplation of computer games; a concept that they qualify through Ted Friedman's paper, 'Civilization and Its Discontents: Simulation, Subjectivity, and Space.' In this work, Friedman considers how it is easy for someone engaged in

---

[232] M.L. Ryan, *Narrative as Virtual Reality: Immersion and Interactivity in Literature and Electronic Media* (Johns Hopkins University Press, 2001), 14.
[233] Dovey and Kennedy, *Game Cultures : Computer Games as New Media*, 106.
[234] Ibid.
[235] Ibid.
[236] Ibid.
[237] Ibid.; A.R. Damasio, *Looking for Spinoza: Joy, Sorrow, and the Feeling Brain* (Vintage, 2004).
[238] Dovey and Kennedy, *Game Cultures : Computer Games as New Media*, 106.

computerised activity to feel as if they have somehow transcended their bodies. Yet muscular aches such as carpal tunnel syndrome, eyestrain and other corporeal sensations, serve to reminds us how "cyberspace remains rooted in physical existence."[239]

On the back of this claim, Dovey and Kennedy remind their reader that computer gaming, aside from being an emotional and affective medium, is also (as Shaviro notes) a highly tactile affair, with busy hands and fingers controlling and responding to onscreen imagery. This notion combined with Camille Utterbeck's hypothesis that the game interface provides "the connective tissue between our bodies and the codes represented in our machines,"[240] enables Dovey and Kennedy to consider computer games as a continuous loop of cybernetic feedback between a body and a technology, distinguishable from other types of texts such as books or films, owed to the computer game's interdependency upon a user.[241] As the duo state:

> [i]n the lived enactment of gameplay there is no player separate to the interface and game world; there is a fusion of the two into a cyborgian subjectivity – composed of wires, machines, code and flesh. For the duration of the gameplay 'a new physiological entity is thus constructed from this network of organic and technological parts',

[239] Ted Friedman, "Civilization and Its Discontents: Simulation, Subjectivity, and Space," (2005).
[240] Camille Utterback, "Unusual Positions–Embodied Interaction with Symbolic Spaces," *First person: New media as story, performance, and game* (2004): 218.
[241] Dovey and Kennedy, *Game Cultures : Computer Games as New Media*, 109.

which although temporary is a meaningful embodied experience.[242]

This concept of cyborgian subjectivity derives from Donna Haraway's philosophy of the cyborg, which she describes as a "cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction."[243] Haraway's understanding of the cyborg stipulates that human beings *are* and continue to develop *as* cyborgian entities. As she states: "by the late twentieth century, our time, a mythic time we are all chimeras, theorized and fabricated hybrids of machine and organism. In short we are cyborgs. The cyborg is our ontology."[244]

Computer games in particular accentuate the potential emergence of a cyborg culture through the evident feedback that exists between user and machine. Fundamentally this is the process of real movement from the player controlling a virtual entity in the form of an avatar. As Dovey and Kennedy note, the game relies upon this relationship, without it the avatar will not move,[245] thus the lifeblood of the game is in the organic body that plays it. The circuitry between player and game is recognised by Dovey and Kennedy as cybernetic. Computer gameplay experience as a cybernetic relationship is an idea that has been popularised by Espen Aarseth's book *Cybertext: Perspectives on Ergodic Literature.* Aarseth describes cybertext as a form of ergodic literature, a term that denotes interactivity between a user and a form of electronic literature such

---

[242] Ibid.
[243] Donna Haraway, "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late 20th Century," in *The International Handbook of Virtual Learning Environments* (Springer, 2006).
[244] Ibid.
[245] Dovey and Kennedy, *Game Cultures : Computer Games as New Media*, 109.

as a hypertext, where a story will fork into different options that a user actively chooses by performing an action, such as clicking on a link.

The activity of the user is embedded in the ergodic terminology, which Aarseth explains by noting how the word derives from the Greek words *ergon* meaning 'work' and *hodos*, translated as 'path.'[246] In other words, an ergodic reader, according to Aarseth, traverses a path through active nontrivial effort,[247] which involves the user/reader making decisions through physical engagement. This can take the form of button pushing, touchscreen swiping, or any other tactile control that creates different actions or outcomes within the textual environment of an ergodic literature. The fundamental trait of ergodic texts is how they alter the triad of relationships in traditional media, such as books or film. In these conventional texts a three-tier relationship is established between: author/sender, text/message, and reader/receiver. Cybertexts however, shifts the focus from this traditional threesome to "the cybernetic intercourse between the various part(icipant)s in the textual machine."[248] Meaning is thus made in the cyborg circuitry between body and technology.

Martti Lahti's paper, 'As We Become Machines: Corporealized Pleasures in Video Games,' considers this circuitry through Anne Balsamo's book, *Technologies of the Gendered Body: Reading Cyborg Women*, which argues how the body and the technology of videogames become fused, whereby: "machines assume organic functions and the body is materially redesigned through the

---

[246] Espen J. Aarseth, *Cybertext : Perspectives on Ergodic Literature* (Baltimore, Md.: Johns Hopkins University Press, 1997), 1.
[247] Ibid.
[248] Ibid., 22.

application of newly developed technologies."[249] Building on this idea, Lahti argues that in games, a natural body is replaced and extended by a technologically enhanced other. Accordingly, Lahti proclaims that games produce a "symptomatic site of a confusion or transgression of boundaries between the body and technology that characterizes contemporary culture."[250] This is in line with Scott Bukatman's book *Terminal Identity: The Virtual Subject in Postmodern Science Fiction*, which similarly articulates how video games "represent the most complete symbiosis generally available between human and computer—a fusion of spaces, goals, options and perspectives."[251] Using these theorists, along with others including Sherry Turkle and Friedman (mentioned above), Lahti considers how video games have been driven by the desire to "erase the boundary separating the player from the game world and to play up tactile involvement."[252]

Lahti asserts that the importance of gaming "is based on the centrality of the body"[253] in two distinct contentions. First he argues that aesthetical developments from 2D to 3D graphics, whereupon the screen becomes more identifiable with the player's point-of-view,[254] succeeds in evoking a sense of "limitless space opening behind the screen."[255] This enables the player to feel as if they are present within a virtual world, inhabiting it and immersed by it. This immersion is helped along by visual prostheses that assist in linking the player to

---

[249] A.M. Balsamo, *Technologies of the Gendered Body: Reading Cyborg Women* (Duke University Press, 1996), 2-3.

[250] Martti Lahti, "As We Become Machines: Corporealized Pleasures in Video Games," *The video game theory reader* (2003): 158.

[251] Scott Bukatman, *Terminal Identity: The Virtual Subject in Postmodern Science Fiction* (Duke University Press, 1993), 196-97.

[252] Lahti, "As We Become Machines: Corporealized Pleasures in Video Games," 159.

[253] Ibid., 164.

[254] Ibid., 160.

[255] Ibid., 161.

visceral sensations within the game, such as health meters, pained grunts or a blurry screen when under attack.[256] In the case of first person shooters (FPS), weapons in hand depicted at the bottom of the screen further afford the player a visual sense of inhabiting a game world. Sensory apparatuses such as rumble packs, steering wheels, Wii remotes or other haptic devices, further support this sensory melding between real and virtual space. As Lahti discerns, "this delirium of virtual mobility, sensory feedback, and the incorporation of the player into a larger system thus [ties] the body into a cybernetic loop with the computer, where its affective thrills can spill over into the player's space."[257] The screen becomes a technologised form of vision that extends the player's body into its virtual realm, composing a hybridity between body and technology that is "resonant with the cyborg."[258]

The second contention that Lahti makes is how video games simultaneously appeal to players through the representation of onscreen avatars. As he notes, the ability for a player to change or influence their look by way of the surrogate body of the avatar, stands as a "second order of interactivity"[259] providing an ideological framework for the first.[260] The ability to change our digital appearance is what Lahti recognises as games "[commodifying] our cyborg desires."[261] For Lahti, avatar modification is akin to being "lured into a supermarket of bodies and body parts from which the player's representative, her virtual self, can be created and customized."[262] These

---

[256] Ibid.
[257] Ibid., 163.
[258] Ibid., 164.
[259] Ibid., 165.
[260] Ibid.
[261] Ibid., 166.
[262] Ibid.

upgraded avatarial bodies serve an aesthetical purpose as well as fulfill adaptable task-orientated objectives, enabling the avatar (and user) to perform new tasks. Night vision for example in game franchises such as *Splinter Cell* (2002-13, Ubisoft) or *Batman: Arkham* (2009-present, Warner Bros. Interactive Entertainment), permit players to achieve stealthy attacks or obtain vital information in order to reach the next level, where new gadgets and equipment await to be unlocked as rewards for gameplay progress. In Chapter 3 I take a similar approach, arguing that such mastery of an avatarial body and virtual game space, pushes fictional events forward. My approach contributes to the existing literature within this field by incorporating Ihde's postphenomenological ideas to uncover new things about the relationship between the body and technology of computer gaming, and how meaning emerges from this relationship.

Through the entwinement of avatar and user body we can see how computer gaming marks a different and perhaps, closer and more intimate type of relationship between a body and a technology in comparison with the other media considered so far. Gaming, as will become apparent, draws a user into a closer technological relationship by putting players into continuous interaction with a controller for long periods of time.[263] Computer gaming by its very nature usually incorporates continuous tactility with a controller, designed specifically for users to learn and practice precise button-sequencing algorithms. These algorithms are intuitively incorporated by the body, practiced by the fingers and thumbs, hitting buttons in coded patterns, which are seemingly emancipated

---

[263] What will also become apparent by Chapter 3 is how computer gaming uses more of Ihde's human-technology relationships in comparison with cinema or interactive art.

from mental thought. For example, when playing a fast paced action game, I do not have time to *think* about the logistics of the controls. Instead, I feel as if I perform such actions instinctively. Concepts such as these are addressed in Andreas Gregersen and Torben Grodal's computer game paper, 'Embodiment and Interface.'

Within this work Gregersen and Grodal contemplate the intuition of the body's reaction to game playing through two different brains systems that use visual information differently. The dorsal and the ventral system, according to Gregersen and Grodal, is what neuroscientists recognise as two distinct types of vision that a proprioceptive self experiences under different circumstances.[264] The dorsal, as they explain, delivers a "'vision for action' and operates outside consciousness, while the ventral system deals with 'vision for perception.'"[265] A vision for perception (ventral) is what Gregersen and Grodal explain as "a more traditional perceptive system delivering consciously-accessible perceptual information."[266] This takes the form of someone consciously planning his or her actions, such as seeing a ball and planning their response (kicking it, picking it up etc.) A vision for action (dorsal) is what "*sub-consciously* [emphasis mine] controls the ongoing visual guidance of the actual [bodily] movement."[267] Consequentially, as Gregersen and Grodal state: "'vision of action' feeds directly into the motor system"[268] of an active body performing a gesture. Thus body and mind in game playing (like cinema and interactive art) is unequivocally linked.

---

[264] Andreas Lindegaard Gregersen and Torben Kragh Grodal, "Embodiment and Interface," in *Video Game Theory Reader 2* (Routledge, 2008), 73-74.
[265] Ibid., 74.
[266] Ibid.
[267] Ibid.
[268] Ibid.

Gregersen and Grodal accentuate this throughout their paper, highlighting that embodiment can be considered in two ways: a physical, biological entity, and "our mindful experiences of the world due to our embodiment."[269] The authors use the term '*embodied mind*', stating that, "the embodied mind is what the organism does."[270] They then apply this concept to the realm of video gaming to argue how games rewire the embodied mind through a specific type of body-mapping that converges a player's physical actions to a digital body in a virtual space.[271] For Gregersen and Grodal, who use the philosophy of Shaun Gallagher, embodiment breaks down into two distinct aspects between ownership of body, and ownership of action: *agency*. Usually (as the authors note) these two aspects are fused, operating pre-reflexively as we experience our sense of self as an instigating agent interwoven with the feeling that our body is our own.[272] There are however certain exceptions to this bond; falling downstairs for example precipitates a sense of body ownership that is devoid of agency in the sense that we feel ourselves fall and have no control over it. In other negative situations of helplessness we may feel "an acute sense of body ownership and still have a distinct non-agentive feel, particularly if we believe that we lack the ability to influence states around us."[273]

Gregersen and Grodal use this line of thought to argue that embodiment cannot be reduced to a physical entity alone and instead, needs to be considered through a wider domain, particularly when we consider, as Noland does, how

---

[269] Ibid., 65.
[270] Ibid., 66.
[271] Ibid.
[272] Ibid.
[273] Ibid.

lived experience equips us to understand how another moving body feels.[274]

Noland (by way of Susan Leigh Foster's analysis on kinaesthesia) argues that kinaesthesia is a two-pronged concept that means, "not only the feeling of moving which the person experiences in the body in the act of moving but also the sensations experienced while 'imagining moving,' or while 'watching another move.'"[275] The bodily tension we may feel as we watch a runner finishing a race is, as Noland asserts, a kinaesthetic "intimacy with the other that is sustained by an intimacy with the self." [276] Gregersen and Grodal incorporate this understanding of embodiment to consider how intimacy with computer games similarly affects the intimacy of embodied self.

The authors consider this through Gallagher's distinction of the body as a *body image* and a *body schema*. As Gallagher states,

> [a] body image consists of a system of perceptions, attitudes and beliefs pertaining to one's own body. In contrast, a body schema is a system of sensory-motor capacities that function without awareness or necessity of perceptual monitoring.[277]

Put differently, a body image pertains to a perception or belief about the body (such as knowing that I can raise my arm), while the body schema is the ability to perform such an action. Falling in line with Barker's concept of processes

---

[274] Noland, *Agency and Embodiment: Performing Gestures/Producing Culture*, 14.
[275] Ibid.
[276] Ibid.
[277] Shaun Gallagher, *How the Body Shapes the Mind* (Oxford ; New York: Clarendon Press, 2005), 24.

discussed in the previous interactive art section, Gallagher, according to Gregersen and Grodal, assert that agency is formed through the *process* of a body image transforming into body schema. This is evident when they note how "a primary cause of agency experiences seems to be processes tied to the actual intention to perform an action."[278] Moreover, they surmise through Gallagher's study of neurology "that a sense of agency has a tendency to increase body ownership." [279] Consequentially, videogame interaction through this logic extends embodiment through its agential manipulation of an avatar, a key point of distinction between gaming and interactive art.[280] The avatar, as will be discussed in Chapter 3 resides somewhere between Gallagher's two poles of schema and image,[281] which in gaming come together as "a fusion of player's intentions, perceptions and actions."[282]

Using Gallagher's body image and schema to consider the phenomenological implications of gaming, Gregersen and Grodal consider how a user embodies a computer game. Just as discussed in the Introduction, with Ihde's concept of embodiment (stemming from Heidegger and Merleau-Ponty) understood as tools, clothes, canes or vehicles taken into a user's experiencing, extending them, Gregersen and Grodal argue that the tools of computer gaming similarly become "integrated parts of our embodied activity."[283] This, as they contend, can be understood by neuroscientific research that argues, on one level,

---

[278] Gregersen and Grodal, "Embodiment and Interface," 67.
[279] Ibid.
[280] This is not to say that digital interactive art installations refrain from using avatars. *Scenario,* which will be illustrated in Chapter 2, is a case in point. The distinction I am working with is that while only some interactive artworks make use of avatars, the majority of computer games, in contrast, consistently incorporate avatarial bodies. This is still the case even if these avatars are aesthetically non-human, such as cars in racing game genres.
[281] Gregersen and Grodal, "Embodiment and Interface," 67.
[282] Ibid.
[283] Ibid., 68.

that the body schema has flexibility to incorporate tools and other objects, including those that are represented virtually, such as avatars.[284] On a second level (enfolded in the first) is the understanding (illustrated through Noland) that observation of other agents (including virtual) performing bodily actions, "activate parts of one's own motor system,"[285] which is usually explained through the activation of mirror neurons.[286] This as the authors contend highlights how "perception and action is intricately linked."[287]

Their view is shared by Gordon Calleja, who's book *In-Game: From Immersion to Incorporation* argues the case that a player *incorporates* a game world on two levels simultaneously. As Calleja states:

> [o]n the first level, the virtual environment is incorporated into the player's mind as part of her immediate surroundings, within which she can navigate and interact. Second, the player is incorporated (in the sense of embodiment) in a single, systemically upheld location in the virtual environment at any single point in time.[288]

Calleja's use of incorporation, retained in the word's traditional sense,[289] means an assimilation of mind and embodiment in equal measure. The term relates to a synthesis of kinesthetic movement within a habitable space and precludes

---

[284] Ibid.

[285] Ibid.

[286] Mirror Neurons are neurons that both fire when an animal performs an action and when the animal observes another performing the same action. The neuron therefore mirrors the behaviour of the other as though the animal were experiencing the act for himself or herself.

[287] Gregersen and Grodal, "Embodiment and Interface," 68.

[288] Gordon Calleja, *In-Game : From Immersion to Incorporation* (Cambridge, Mass.: MIT Press, 2011), E-book location 2889.

[289] Ibid., E-book location 2897.

application to non-ergodic media such as films or books.[290] This is because incorporation in Calleja's sense "requires that a medium must specifically acknowledge the player's presence and agency within the virtual world."[291]

For Calleja, incorporation is a multi-faceted term that denotes the simultaneous incorporation of a virtual space through a virtual avatar. Aside from a synthesis of kinaesthetic movement within a spatial environment, such as the avatar traversing their world, incorporation also involves other agents: aesthetic effects, ludic rules and objectives, as well as the narrative of the game,[292] which as Calleja argues, the player incorporates 'alterbiographically.'[293] Fundamentally, Calleja's concept of incorporation, which can also encompass incorporated activity in the same physical space of the player's real world, such as support from onlookers, or radio voice commands from spatially distant online-players, is an assemblage of agents that work together to put the player into the world of the game, while putting the world of the game into the player. In Chapter 3 I draw upon Calleja's concept of incorporation and the neural interlink of perception and action. There I consider how the avatarial body creates a space that emphasises the human body as a parallel entity of virtual and solidness, rationalised through Ihde's postphenomenology.

---

[290] Ibid., E-book location 2940.
[291] Ibid.
[292] Ibid., E-book location 2899.
[293] I will return to and explain this term later in his chapter and in Chapter 3.

Game Narrative

Game narrative has been considered something of an oxymoron during the medium's infancy, with ludic and narratological theorists debating over what discipline games should come under. Jesper Juul's work, 'A Clash Between Games and Narrative: A Thesis on Computer Games and Interactive Fiction' was one of the most outspoken contributions towards this debate, with Juul asserting how "the computer game is simply not a narrative medium."[294] Juul's view falls in line with the ludic views of Aarseth, Markku Eskelinen, Gonzalo Frasca and many others, who argue that games should come under a ludic discipline of their own, rather than a narratological one, owed to differences between each medium.

One of the major differences, as Juul observes, is that games cannot be narratives due to a conflict in temporality. Narrative as Juul contends, "has a basic trait of being about something *past.*"[295] Following Christian Metz, Juul proclaims that such pastness can be subdivided into a double temporal sequence of "the time of the thing told and the time of the narrative (the time of the signifier and the time of the signified)."[296] Fundamentally this is the concept of the fabula and the syuzhet, or the events of the story and the discourse in how they are relayed such as a narrator focalising events to an audience, thereby interweaving two temporalities at once: their own and the time of the story that is being recounted. Games, as Juul asserts, do not work this way, instead, "the computer game does not share this temporal split between the time of the narrated, of the narrator and of the reading. In the computer game, these three

---

[294] Jesper Juul, "A Clash between Game and Narrative: A Thesis on Computer Games and Interactive Fiction," *University of Copenhagen* (1999).
[295] Ibid.
[296] Christian Metz quoted in: G. Genette and J.E. Lewin, *Narrative Discourse: An Essay in Method* (Cornell University Press, 1983), 33.

times are imploded to a single *now*."[297] This can also be the case for certain interactive art installations.[298]

Theorists who believe that game and stories share essential traits have contested views like these in the past. Janet Murray for example has famously asserted how "gaming and storytelling have always overlapped."[299] This is based on a fundamental anthropocentric essence at the core of each. For Murray, games and stories are similar because each is founded upon the theme of *contest* between a protagonist and antagonist.[300] As Murray contends, the notion of contest is inherently human from cradle to grave, present within our everyday lives from work and recreation to "parenting to courtship to war."[301] Games as Murray notes, enacts this core experience while stories, in contrast, dramatise and narrate it.[302] Moreover, "storytelling [as Murray notes] is a core human activity, one we take into every medium of expression, from the oral formulaic to the digital multimedia."[303]

These points are raised in a different games paper written by Grodal, titled 'Stories for Eye, Ear and Muscles.' Within this work, Grodal argues that gaming is a story medium that deals primarily with "simulations of real-life activities"[304] about the embodied brain (discussed earlier). Grodal makes this

---

[297] Juul, "A Clash between Game and Narrative: A Thesis on Computer Games and Interactive Fiction."

[298] In Chapter 2 this will be evident in Blast Theory's *A Machine to See With*. Toni Dove's artwork, *Artificial Changelings*, however is a bit more ambiguous as it plays with two timelines simultaneously. Some computer games have also taken this approach, in particular *The Silent Age* (House on Fire, 2012-14), a point and click adventure that consistently jumps to and from two different temporal settings.

[299] Janet Murray, "First Person-from Game Story to Cyber Drama.[Ed.] Noah Wardrip-Fruin and Pat Harrigan," (Cambridge: The MIT Press, 2004), 9.

[300] Ibid., 2.

[301] Ibid.

[302] Ibid.

[303] Ibid., 3.

[304] Torben Grodal, "Stories for Eye, Ear, and Muscles," *The video game theory reader* (2003): 129.

argument by criticising researchers who have compared games with literary

works, such as Brenda Laurel, whose book[305] considers computers and gaming in

terms of theatre. Grodal challenges this approach by considering games as

modes of real-life experiences that are anchored in sensory practices of seeing,

hearing and doing, analogous to real-world interaction.[306] Grodal even questions

Laurel's use of Aristotelian elements to compare computer with theatre in terms

of: action, character, thought, language, melody and spectacle by arguing that

this is a "list of human capabilities that are neither exhaustive nor exclusive to

theater."[307] To avoid the literary complications and '*traps*' that ludologists and

narratologists have fallen into in the past, Grodal defines his understanding of

story in the following way.

> A story is a sequence of events focused by one (a few)
>
> living being(s); the events are based on simulations of
>
> experiences in which there is a constant interaction of
>
> perceptions, emotions, cognitions and actions. An
>
> example: Harry sees the dragon coming, he is upset, thinks
>
> that he needs to grasp his sword, he does that, and he kills
>
> the dragon. The experience of stories is based on central
>
> embodied mental mechanisms.[308]

Grodal (similar to Murray) asserts that stories provide the framework for

cognition and motor action within our day-to-day lives. Shopping at the

---

[305] Brenda Laurel, *Computers as Theatre* (Addison-Wesley, 2013).
[306] Grodal, "Stories for Eye, Ear, and Muscles," 130.
[307] Ibid., 137.
[308] Ibid., 130.

supermarket for example, is what Grodal recognises as a series of micro stories: a desire to buy goods, knowledge of what one needs, the layout of the store etc., which come together to orient us in space and guide our motor actions.[309] Like Hansen and Barker, Grodal refers to stories as activations for body-brain processes of the human subject.[310]

These body-brain processes, according to Grodal, organise human motivations that exist in a nested hierarchy of high-order goals that presuppose lower goals.[311] Supermarket shopping for example is a low-order goal necessary for the higher-order goal of hosting a dinner party that night. Life, as Grodal observes, which is made up of these hierarchies, is reflected in games, in which a superior motivation is presented, such as defeating an evil oppressor.[312] This will provide the motivation for the player to fulfill a series of lower-order processes such as training missions and defeating level after level of lower-order henchman before finally meeting the higher evil boss.

In his book, *Moving Pictures: A New Theory of Film Genres, Feelings, and Cognition*, Grodal considers how cinematic narration works in terms of a flow process in four steps. Step 1 consists of basic perceptions, while step 2 involves an emotive memory-matching of the object(s) perceived.[313] The emotions that the viewer feels are then cognitively processed in step 3, which Grodal calls a construction of narrative.[314] Step 3 is a "cognitive-emotional appraisal"[315] of the image perceived. If that image for example is a snake, Grodal illustrates that this

---

[309] Ibid.
[310] Ibid.
[311] Ibid., 131.
[312] Ibid.
[313] T. Grodal and T.K. Grodal, *Moving Pictures: A New Theory of Film Genres, Feelings, and Cognition* (Clarendon Press, 1999), 59.
[314] Grodal notes that processing can also stop at step 2 if the film or scene is abstract, but usually in most narrative films step 2 will immediately lead to step 3. Ibid., 60.
[315] Ibid.

will contextualise the image into a hypothetical narrative scenario of possible lethal danger. This response will lead to step 4, which in cinema is a reaction, vicariously lived through onscreen characters and protagonists. In contrast, gaming follows the same four steps but vicarious reaction is replaced at step 4 with real-motor action, which according to Grodal brings body and story closer together compared to that of cinema. As Grodal states:

> [g]ames […] are even closer to our core consciousness, because not only are we able to see and feel, we are even able to act upon what we see in light of our concerns, our (inter)active motor capabilities allows us to so shoot at what frightens us or approach what activates our curiosity. Thus, video games and some types of virtual reality are the supreme media for the full simulation of our basic first person "story" experience because they allow "the full experiential flow" by linking perceptions, cognitions, and emotions with first-person actions.[316]

Like Murray, Grodal asserts that basic story mechanisms as portrayed in his four stages of narrative flow are inherently human, existing for several million years, predating language.[317] Narrative, in Grodal's understanding is therefore emancipated from its 'literary retelling status' as something rooted in *pastness* as Juul claims it to be. Even adopting this idea, which is Gerald Prince's

---

[316] Grodal, "Stories for Eye, Ear, and Muscles," 132.
[317] Ibid., 133.

rigid concept of narrative as something that can only be conveyed by a narrator to a narratee in written or oral contexts,[318] becomes problematical for Grodal in terms of temporality. Excluding the contested issues Prince's claim raises for theatre and film narrative,[319] Grodal asserts that, "[e]ven if folktales are told in the past tense, the listener will take that past point in time as the focus of 'presentness' and construct an open future."[320] Video games, as Grodal follows up, "more easily affords story development that focuses on a 'now' with an undecided future that has to be constructed by the actions of the hero."[321]

This now-ness of computer gameplay experience is what Calleja refers to as alterbiographical experientiality, which pertains to the micro levels, or 'emanant narrative' that works with pre-scripted bits of story within the game.[322] Emanant narrative, (which Calleja later changes to alterbiographical narrative in his book) accounts for the moment-to-moment actions in gameplay that lead to pre-scripted moments, such as cut-scenes, or in some games, can even create new moments or cut-scenes on the fly. *Middle Earth: Shadow of Mordor* (2014, Monolith Productions) for example, is a title that uses a specific game mechanic designed to remember the player's moment-to-moment actions in combat, so that adversaries will specifically taunt, fear or carry personal vendetta's against the player based on the performance and decisions that they make. In this sense, the alterbiographical skills or misfires of tactility, practiced on a gamepad, contributes and co-creates the fictionality of the game experience. In order to

---

[318] David Herman, *Basic Elements of Narrative* (Chichester, U.K. ; Malden, MA: Wiley-Blackwell, 2009), 65.
[319] This is addressed in Marie-Laure Ryan, *Avatars of Story*, Electronic Mediations (Minneapolis: University of Minnesota Press, 2006).
[320] Grodal, "Stories for Eye, Ear, and Muscles," 137.
[321] Ibid., 138.
[322] Gordon Calleja and Rued Langgaardsvej, "Experiential Narrative in Game Environments" (paper presented at the DiGRA International Conference Proceedings. Digital Games Research Association, 2009).

advance such fictionality, cognitive and motor skills must be repeated and practiced until mastered.

Grodal believes this mastery to be emulative of reality. "In everyday life […] we repeat the same actions over and over in order to gain mastery."[323] Corporeally, we continue such mastery through computer games, which is similar because of the learning and controlling we perform by repetitive rehearsal.[324] Repetition as he further asserts is predicated on the sequence of "*unfamiliarity* and c*hallenge*, then *mastery*, and finally *automation*."[325] This will be adapted in Chapter 3 where I incorporate Grodal's concepts to a type of game body mastery (which I call somaster fiction) that enables the player to traverse their virtual spaces and construct fictional experiences. For now I end this chapter with the points that this game section has considered.

- I have analysed gaming as a closer relationship between a body and a technology through the continuous cybernetic feedback loop, which Lahti calls cyborgian.

- Using Gregersen, Grodal and Gallagher, I have considered how virtual worlds and avatarial bodies extend the players into realms of virtuality.

- I have introduced the ludology vs. narratology debate and highlighted how Murray, Grodal and Calleja align game narrative with anthropocentric understanding.

- Using Grodal's model of narrative flow I have highlighted his argument that game agency brings a player closer to a story than cinema or interactive art.

---

[323] Grodal, "Stories for Eye, Ear, and Muscles," 148.
[324] Ibid.
[325] Ibid.

Across each section of cinema, interactive art and computer gaming, I have identified phenomenological relationships consisting of flows, processes and enfoldments between real and virtual, body and brain, and gesture and narrative. I have also identified a trajectory that moves from physical immobility in cinema to high levels of interactivity in computer gaming. As this body and technology relationship shifts, so too does a user's experience of narrative. The following chapters will analyse how this narrativity changes through such body and technology fluctuation of these contrasting media, where I compare the physical immobility of the seated cinema spectator, embodied through the cinematic apparatus of the camera, with the active mobility of the interactive art user and game player. Using the concepts, theorists and media that this Literature Review has covered, I now devote a chapter to each of the three media formats discussed. There I apply what I have learnt through the postphenomenology of Ihde, notably his human-technology relationships presented in the Introduction. Through Ihde's framework, together with the material covered in this Literature Review, the next three chapters will consider the composition and changeability of narrative through different types of body-technology relationships.

Chapter 1: Camera

"All this filming is unhealthy." These are the words that are uttered to Mark Lewis (Karlheinz Böhm), the protagonist of Michael Powell's *Peeping Tom* (1960), which tells the story of a cinematic focus puller by day and voyeuristic serial killer by night. His murderous methodology takes place through the technology of a movie camera that is affixed to a tripod containing a concealed lethal spike. Filming his subjects, Lewis uses the spike to pierce each victim's throat whilst capturing their terror on camera. This is how the film begins, with Lewis approaching a prostitute (Brenda Bruce) with the hidden camera buried within his duffle coat. As Lewis nears the woman, the *mise-en-scène* jumps into the technological gaze of the subjective camera's eye. From here the camera eye becomes the dominant vision as we follow the woman to her home and up the stairs to her bedroom where she proceeds to undress (figures 17 and 18).

Figure 17: The concealed camera

Figure 18: The voyeuristic gaze

As she unzips her skirt the camera looks away, revealing the silhouetted hand of Lewis across the lens as he releases the spike. The focus swivels back onto the woman, whose mood quickly changes to unbridled fear as she recoils from the approaching camera, screaming directly into its crosshair lens.

In this chapter I consider the techniques as well as the technology of the movie camera apparatus, in particular the aesthetics of the technology in use where it is applied to represent or stand in for a diegetic character body. Scenes like the example above or first person point-of-view (POV) films such as Robert Montgomery's *Lady in the Lake* (1947) or Ilya Naishuller's more recent *Hardcore Henry* (2015) strategically use the camera to serve as a 'surrogate body' for the cinema spectator. I adopt the term 'surrogate' from David Bordwell's paper, 'Camera Movement and Cinematic Space', which considers camera movement as "a persuasive surrogate for our subjective movement through an objective space."[1] A surrogate, as Bordwell states, is "a basis for the orthodox comparison between the camera and the human body."[2]

Applying Bordwell's notion, this chapter will explore such surrogate bodies and their roles in cinematic narration through Don Ihde's postphenomenological philosophy of technology. Using Ihde, this chapter investigates how the viewing body of the spectator is extended into the fictional setting of the film world by the mediating camera. It focuses upon the successes and pitfalls of the subjective aesthetic and concludes that the surrogate film body is an unseen vessel that simultaneously extends and limits the corporeal sensations of the viewer, which as Ihde identifies, is a key concept of postphenomenology. Incorporating Ihde I explore case studies that use subjective shots, which ask spectators to occupy the position of the camera – *feel* its movements – which in doing so, creates a limited and disjunctive sense of being a body in the world. The spectator, in terms of Ihde's human-technology

---

[1] David Bordwell, "Camera Movement and Cinematic Space," *Ciné-Tracks– A Journal of Film, Communications, Culture and Politics* 1, no. 2 (1977): 23.
[2] Ibid., 20.

relationships (outlined in the Introduction) thus experiences a sense of embodiment *through* the camera, balanced by a hermeneutic relationship *of* the screen. Consequentially, subjective viewers are extended into and cordoned off from the diegetic world, which contributes to a perception of unease. This sense of unease, as I rationalise, is the basis as to why these subjective shots (in terms of narrative) are used to present vision through some sort of corrupted surrogate body character. Like the *Peeping Tom* example, many instances of the subjective shot are used to portray an experience through a type of killer body vessel. Equally, there are many instances of POV camerawork that denotes vulnerability from the perspective of a victim character body; in this chapter I explore both.

As I will argue through Ihde, subjective camerawork is a sensation that is at both times natural and artificial, human and synthetic, and is congruent with a particular type of dehumanised character within a film's story. This is because the surrogate vessel, the unseen body that the viewer inhabits (presented through subjective camerawork) is a friction between that which is natural clashing with that which is technological. Consequentially this human-machine hybrid is often denoted through discomfort, distress, or some form of cyborg sight. The term I use for this brand of sight and negative body experience within a fictional setting, primarily through killer or victim characters, is 'hap-tech narration'. Using this term (which as I later explain derives from Laura Marks's haptic cinema) this chapter considers the negative connotations of a subjective camera body, originating from the application of Ihde's postphenomenological framework.

I begin this chapter with a discussion of Ihde's ideology that considers how a technology can extend a human user. From there I localise this concept to the apparatus of the film camera, which continues and builds upon a line of enquiry initiated by Vivian Sobchack. Expanding upon her preliminary discussions of how a movie camera fails to convey natural movement, I argue that such malfunction can in practice enhance the viewer's role of occupying a corrupted character's skin and offer a sense of feeling through a body that is diegetically stilted. As I will demonstrate, this is optimally achieved in such fictions where the character body surrogate is, by some means, physically or morally damaged, inept or cybernetically modified within the film's narrative.

Accordingly, the majority of case studies and examples within this chapter are categorised into the lawless killer body and weakened victim body, both of which are prone to crossover. These will be established by tracing the origins of the subjective narrative film back to 1947, where two important films inaugurated the use of the first person camera body, at least within Hollywood cinema: Montgomery's *Lady in the Lake* and Delmer Daves's *Dark Passage*. Using these titles along with other secondary subjective films, I discuss the construction of the hap-tech *mise-en-scène* through the evolving technology of the camera. Through this structure I focus upon other case studies that include: Franck Khalfoun's *Maniac* (2012), Julian Schabel's *Le scaphandre et le papillon* (*The Diving Bell and Butterfly*, 2007), Pierre-Paul Renders' *Thomas est amoureux* (*Thomas in Love*, 2000) and Gaspar Noé's *Enter the Void* (2009). Finally I conclude, by application of Ihde, that the medium is the narrative (in a McLuhanesque sense) through the way subjective camerawork contributes

towards a physically or morally reprehensible surrogate body vessel. To elucidate this idea, I return to *Peeping Tom.*

As I mentioned above, Lewis's concealed camera is shown hidden within his duffel coat at waist level, yet when we adopt the proceeding camera gaze upon the prostitute (signified by the crosshair), she stares straight into the camera lens at eye level. If the arrangement of this shot is for the viewer to adopt the gaze of the camera exclusively, rather than the cameraman, then the *mise-en-scène* should be at an upward 45-degree angle from Lewis's waist. Instead, the camera eye (confirmed by the crosshair) is in line with the woman's corresponding eye (figure 19), yet she does not acknowledge the camera, which, as far as the spectator is concerned, remains hidden within the coat. As Edward Branigan notes, "in a POV shot the specific angle of view is importantly tied to the attention and awareness of a specific character and thus the angle must be captured and held in working memory by the spectator."[3] Therefore the question is raised as to whose perspective the viewer is adopting, camera or Lewis?

Figure 19: The concealed camera at eye level

---

[3] E. Branigan, *Narrative Comprehension and Film* (Taylor & Francis, 2013), 157.

The discordance between these two perspectives seems too obvious to be a continuity error, so instead can be considered a deliberate nuance that emphasises the narrative aspects of the film through the postphenomenology of the camera technology. The character of Lewis and the first person camerawork that mediates this opening sequence are both awkward and uncomfortable. The camerawork simultaneously extends and limits the viewer into this troubled surrogate vessel that clashes somewhere between human body and technological artifice. This friction serves as a way to consider the character of Lewis, the uneasy protagonist that the viewer is tethered to.

For Lewis the death of his victims are a necessary means in order to harvest the emotion of fear, which he then preserves on camera. In the diegesis of the film we learn that the external fear of others is what motivates Lewis to commit his crimes. During an intimate scene between Lewis and Helen Stephens (Anna Massey), a neighbour he becomes close to, he explains how his father was a biologist and author on the subject of fear and the nervous system and used his son as a guinea pig for his research. Consequentially Lewis grew up being subjected to both fear and the camera in a mitigated version to what Lewis now inflicts upon his victims. We learn how his father would frighten his son, documenting the results on camera. We see, as Helen does, home movies of a crying child, woken in the night by the biologist, terrifying his son while recording his response. We begin to sympathise with Lewis in the knowledge that he never appreciated a moment's privacy whilst growing up. His corrupted killer appetite from behind the lens thus stems from childhood victimisation in front of it, which is evident in the ambiguity of the body/camera dichotomy of the film's opening.

As the hidden camera's view from beneath the duffel coat is at the wrong angle, combined with the prostitute's initial unperturbed expression as she gazes straight back into the lens, I propose that the viewer at this moment is not looking through the actual camera that Lewis is carrying but instead, is rather looking through the eyes of a victimised/killer protagonist who over time has become distorted with technological vision. The invasion of the camera into Lewis's childhood takes its toll upon the adult Lewis, ebbing away his organic selfhood, which leaves him emotionally fragmented and cyborg-like through his reliance on the camera crutch to feel alive. His warped technological sight is what drives the film's story. The viewers engage in these events from the perspective of the warped protagonist, which is emphasised in these explicit subjective moments of hap-tech narration.

Lewis's discomfort and social awkwardness is shared through the subjective camera's restriction of space and demarcating frame, while the crosshair lens denotes his killer instinct as it searches for a target. At the same time, the viewer is extended into the film to feel Lewis's experiences by occupying his body and acquiring a presence within the diegetic space, whereby other characters will acknowledge us. However, the viewer is of course powerless to exercise agency and becomes trapped in a body, a prison they cannot control but only observe from. Negative sensations of the camera, where it limits what a body can do, give way to negative character traits through the entwinement of moral deficiency, reprehensible killer and vulnerable victim. Through hap-tech narration the viewer experiences the negative and restrictive aspects of film, body and touch which can be understood by means of Ihde's concept of postphenomenology.

Ihde's Technological Extension of the Body

In *Embodied Technics*, Ihde comments that embodiment is experiential and "begins with first person experience."[4] This is what instigated my initial comparison in the subjective camera's role as a first person, story-telling device, which (following Ihde's logic) can be used to extend a cinema spectator into the obscure body of a diegetic screen character, like the way the viewer is visually transplanted into *Peeping Tom's* killer body protagonist. Ihde's philosophy of technology (similar to McLuhan's) takes an anthropocentric view that considers how apparatuses extend the human body in a manner similar to Maurice Merleau-Ponty's consideration of a blind man's cane (presented in the Introduction). In Merleau-Ponty's example, a deficiency in sight is balanced with an extension of touch, where the cane enters a symbiotic relationship with the body of the user. Ihde refers to this as an embodiment relationship and uses this term to consider a plethora of instrument-mediated perceptions that shape our everyday lifeworld. His postphenomenological take on embodiment relationships fundamentally proposes that a human's experiences are mediated *through* a technological artefact, which can be as simple as a piece of chalk.

In *Technics and Praxis*, Ihde uses this basic model to discuss how a piece of chalk, like Merleau-Ponty's blind man's cane, affords the user a particular technological experience. As Ihde states:

> I experience the blackboard [...] through the chalk I *feel* the
>
> smoothness or the roughness of the board *at the end of the*

---

[4] Don Ihde, *Embodied Technics* (Automatic Press Publishing, 2010), 41.

chalk. [...] If I begin to be descriptively rigorous, I find I

must say that what I feel is felt locally at the end of the

chalk, or better, at the chalk-blackboard junction. The

'terminus' of my intentional extension into the world is on

the blackboard, and I have discovered (contrary to

empiricism) that touch is also a distance sense.[5]

This chapter carries out a more vigorous continuation of an idea broached by

Sobchack, which is a substitution of the chalk for the movie camera.[6] In the

Peeping Tom example the viewer experiences the diegetic world of the film

through the unease of the confusing camerawork to present the awkward body

vessel of the killer protagonist. In Sobchack's seminal work, *The Address of the*

Eye, the author uses Ihde's embodiment relationship to consider the first person

camera movement of *Lady in the Lake.*

Using this model, Sobchack argues that Montgomery's film is

fundamentally flawed for failing to translate natural fluent movement. In

contrast I will be arguing that the film fails because it does not incorporate its

unnatural movement into its diegesis, which prevents hap-tech narration from

taking place. Using Ihde's example of experiencing the board *through* the chalk,

Sobchack argues that a filmmaker (and at a later time spectator) experiences the

terminus[7] of the film through the camera.[8] Such ideas have been expressed by

---

[5] *Technics and Praxis*, Boston Studies in the Philosophy of Science (Dordrecht, Holland ; Boston: D. Reidel Pub. Co., 1979), 7.
[6] Vivian Carol Sobchack, *The Address of the Eye : A Phenomenology of Film Experience* (Princeton, N.J.: Princeton University Press, 1992), 175.
[7] This is a word that Ihde uses to consider a noesis-noema relationship, this will be explained below on page 120.
[8] Arguably also through the projector, though the scope of this chapter focuses upon the former.

film director James Cameron who has frequently deployed subjectivity throughout his films, particularly through the robotic sight of the cyborg in *The Terminator* (1984) (figure 20). As Cameron states, "any way in which you can make a film more of a subjective experience for the audience member, the more impact it's going to have."[9] Cameron qualifies this idea through the use of subjective shots in Kathryn Bigelow's *Strange Days* (1995), which he co-produced, asserting that these moments within the film correctly convey a "sensorially complete reality."[10]

Figure 20: Robotic sight in *The Terminator*

Returning to Ihde's lexicon, his use of 'terminus,' as Sobchack clarifies, is not an end-point but rather a phenomenological term denoting "the lived location of a realized and realizing noesis-noema relation."[11] To explain further, this terminology needs to be unpacked. The concepts of noesis and noema are established in Edmund Husserl's *Ideas: General Introduction to Pure*

---

[9] J. Cameron and B. Dunham, *James Cameron: Interviews* (University Press of Mississippi, 2012), 17.
[10] Ibid., 103.
[11] Sobchack, *The Address of the Eye : A Phenomenology of Film Experience*, 176.

Phenomenology, where he uses them to describe the correlated elements of an intentional act. For Husserl, "intentionality is the directional shape of experience" [12] which breaks down into the correlates of that which is experienced; the *noema*, and the mode of experiencing; the *noesis*. In the case of the chalk and blackboard example, the noesis is the chalk (the mode of experiencing) and the blackboard the noema (that which is experienced). In *Peeping Tom* or any subjective first person film the noesis is the camera that allows the viewer to experience the noema of a visually absent surrogate character body in a film world. Thus the noesis of the camera (in the opening of Powell's film) is what enables the viewer to experience the noema of the prostitute.

Ihde, who utilises Husserl's model of noesis and noema for his brand of postphenomenology, stipulates that noema cannot exist without noesis and that an experiencer in the form of a human 'I' must always be included in the correlational process. For Ihde this is set out thus:

(I) Noesis → Noema

(Experiencer) Experiencing → Experienced[13]

To put this plainly, the noesis, or mode of experiencing has direct bearing on that which is being experienced (the noema), which affords the human 'I' (the experiencer) access to different types of experiences. To illustrate, Ihde gives an

---

[12] Don Ihde, *Experimental Phenomenology : Multistabilities*, 2nd ed. (Albany: State University of New York Press, 2012), 24.
[13] Ibid., 26.

account of the blackboard example once more but this time switches the chalk for a dental probe. This instrument, consisting of a fine pick, when traced over the board affords a different type of experience from that of the chalk. The experience of the board's hardness is still apparent but the pick also reveals with distinct clarity data about the board that the chalk could not, such as pockmarks or cracks upon the board's surface.[14] Thus the noema of the board is different in accordance with the alternative mode of noesis. Accordingly, this chapter will look at how the noema of a narrative film experience changes through the noesis of different cameras and techniques of subjective camerawork, where such technologies extend the viewer into a surrogate body vessel.

My specific interest in subjectivity through a POV filmography resides in the filmmakers' endeavour to pass the camera off as a body. The successes and pitfalls of this aesthetic as it oscillates between extending viewers into the film world while also closing them off from it by technological 'noise' (as illustrated in *Peeping Tom*) is what hap-tech narration represents. For the camera to work well as a body the subjective aesthetic needs to be embodied by the viewer. An embodied technology in Ihde's lexicon means mediation of the senses *through* a technology, such as the touch of the blackboard *through* the chalk or probe. In such instances a technology fuses with the human body and extends them beyond their natural limitations. Eyeglasses and pens for example are common everyday tools that users embody to see and communicate through. For embodiment to work, the tool that the human is embodying and experiencing through (noesis) must become what Ihde calls 'transparent,' disappearing so to speak, so that the user can access the focal point of noema.

---

[14] *Technics and Praxis*, 9.

Ihde's concept of embodiment relations and transparency has also been discussed by Andy Clark. Like Ihde, Clark uses the term transparency to consider how a technology can become incorporated with an organic host, enabling new opportunities and methods of acting and thinking upon a world. As Clark highlights, the term transparency originates from Martin Heidegger's hypothesis of 'transparent equipment,'[15] a term meaning to see through such equipment to a particular job at hand. A pen for example (as Clark notes) is not the focus of a writer's attention,[16] but is rather a biological dovetailing technology[17] that the user acts through and is extended by. However if the pen should run out of ink, an awareness of the technology is perceptibly bought to light.[18] Clark argues that transparency is something that is intuitively honed in both body and mind and forms his understanding of transparent tools from the work of cognitive scientist Donald Norman, who differentiates between transparent and opaque technologies.

Transparent technologies is what Clark recognises as 'human-centred' while opaque pertains to a 'technology-centred' product. Clark stresses that the difference between the two is that a transparent technology is something that is "well fitted to, and integrated with, our own lives, biological capacities, and projects as to become […] almost invisible in use."[19] In contrast an opaque technology "is one that keeps tripping the user up, requires skills and capacities that do not come naturally to the biological organism and thus remains the focus

---

[15] A. Clark, *Supersizing the Mind: Embodiment, Action, and Cognitive Extension* (Oxford University Press, 2010), 10.
[16] *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence* (Oxford University Press, 2004), 38.
[17] Ibid., 28.
[18] This is also Heidegger's concept of 'ready' and 'present-to-hand', which will be discussed in more detail in Chapter 2.
[19] Clark, *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence*, 37.

of attention even during routine problem solving activity."[20] In *Peeping Tom* a sense of opaqueness interrupts transparency in the jarring moment when the woman looks into the camera lens without noticing it, jolting and obscuring the continuity about where the camera is, while raising questions about the type of gaze the spectator is adopting. Like this example, I will be considering how other subjective films oscillate between transparency and opaqueness, which gives shape to hap-tech narration, as the camera simultaneously extends and limits the viewer's corporeal sensorium.

Ihde's concept of embodiment relations involves both transparency and opaqueness through what he calls an *echo focus*,[21] which is a reminder of the technology's presence in the form of a subliminal awareness from the instrument at the body's boundaries.[22] This is what prevents embodied technologies from being fully absorbed or totally transparent. In the case of the blackboard example, this awareness is located as pressure at the juncture of the fingers and chalk (or probe). Similarly movie cameras, as Sobchack identifies, presents an echo focus at the juncture of the eye/viewfinder, whereupon the edges of the frame reminds the viewer of the camera's presence.[23] The diegetic film world, as Sobchack notes, is "experienced through the camera [and] is seen and *felt* at the *end of the lens*."[24] Consequentially, the camera's subjective ability to represent an organic body is diluted by the interruption of a machinelike aura. In some early subjective camera films, the camera's mechanical movements magnify this,

---

[20] Ibid.

[21] Ihde, *Technics and Praxis*, 7.

[22] H. Mialet, *Hawking Incorporated: Stephen Hawking and the Anthropology of the Knowing Subject* (University of Chicago Press, 2012), 235.

[23] Sobchack, *The Address of the Eye : A Phenomenology of Film Experience*, 178.

[24] Ibid., 175.

exacerbating a clash between corporeality and inorganic filming apparatus, which will be discussed in more detail later in the chapter.

However this is not to say that a machinelike aura is completely removed from human subjectivity, which is what helps the subjective camera's transparency as a familiar form of technological otherness. Donna Haraway has cogently argued in *Simians, Cyborgs, and Women: The Reinvention of Nature* how the human comprises of a partial identity in all its guises.[25] Here she considers the human as "a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction."[26] Haraway bases this idea through the innumerable ways that humans are prosthetically augmented, from clothing and tooth crowns to medication and pacemakers. Accordingly she argues that the human being is "constructed and stitched together imperfectly, and is therefore able to join with another."[27] Clark's work similarly engages in such body and mind augmentation. He considers for example, how pervasive portable technologies such as smartphones, tablets and laptops enable humans to upgrade their *mindware.*[28] As Clark states, "[w]hat makes us distinctively human is our capacity to continually restructure and rebuild our own mental circuitry, courtesy of an empowering web of culture, education, technology and artefacts."[29] As such, Clark notes that each technological upgrade extends and transforms the "personal reach, thought and vision"[30] of each living human. Haraway and Clark's description of the human as something that is organic and

---

[25] D.J. Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature* (Taylor & Francis, 2013), 193.
[26] Ibid., 149.
[27] Ibid., 193.
[28] Clark, *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human Intelligence*, 10.
[29] Ibid.
[30] Ibid.

technological is visually portrayed in the *Peeping Tom* opening where an organic body is merged with technological sight.

N. Katherine Hayles's concept of the posthuman argues a similar case, stating that the human body is "the original prosthesis we all learn to manipulate, so that extending or replacing the body with other prostheses becomes a continuation of a process that began before we were born."[31] Like Haraway, Hayles believes the posthuman to be a "collectivity, an 'I' transformed into the 'we' of autonomous agents operating together to make a self."[32] Electronic communication systems capable of extending a user beyond the realm of the real into the virtual, is one such example that makes a human a posthuman collectivity.

In a similar manner, Ihde also argues that humans are fragmented through the way they possess a machinelike ethos. In *Existential Technics* he explains that this process is twofold. First, he affirms, it is because modern societies are, and have been for some time, technologically textured.[33] From the alarm clocks that wake us, the clothing that covers our skin, through to our transport, telecommunications and instantaneous electricity and information, humans are continuously ensconced in technological cocoons. "Wherever we turn, our relations to others, the environment and ourselves are embedded in a technological texture."[34] This is the first half of his reasoning for a human-machine ego.

---

[31] Katherine Hayles, *How We Became Posthuman : Virtual Bodies in Cybernetics, Literature, and Informatics* (Chicago, Ill.: University of Chicago Press, 1999), 3.
[32] Ibid., 6.
[33] Don Ihde, *Existential Technics* (State University of New York Press, 1983), 73.
[34] Ibid.

The other half draws on the philosophies of Heidegger and David Hume. First, Ihde adopts Heidegger's concept of *Daesin,* which is often translated as Being-in-the-World. In *Being and Time*, Heidegger describes Daesin as "a being which is related understandingly in its being toward that being."[35] Heidegger also stresses that, "Daesin is the being which I myself always am."[36] To put this into some context, Daesin means the way a human exists, both in the world and to others, through the way in which they comport their personhood to each respectively. A human at the front of a classroom, writing a lesson plan on a board for example, usually indicates the Daesin of a teacher. This is reinforced through the teacher's relationship to both the students and the tools occupying the teacher's world such as chalk, a board or a pointer. Ihde uses Daesin as a way to stress that being human is inherently linked to a process of self-interpretation. As Ihde states, "humans cannot escape self-interpretation; it is a characteristic of their being."[37]

With this he turns to Hume, identifying within his work how self-interpretation is always gauged on that which is 'Other.' As Ihde explains, otherness, according to Hume, is a template used metaphorically to form and guide conducts of selfhood. Such examples can range from religion to computer gaming, insomuch that a theological person, or a game player will look to that which is 'other', such as a god or an avatar, to gauge their own behaviour. Using Hume, Ihde considers technology as another form of otherness that humans take self-interpretation from. Like Ernst Kapp's *Grundlinien einer Philosophie der Tecknik* (*Philosophy of Technology*), which as Jussi Parikka notes, considered how

---

[35] M. Heidegger, J. Stambaugh, and D.J. Schmidt, *Being and Time* (State University of New York Press, 2010), 53.
[36] Ibid.
[37] Ihde, *Existential Technics*, 66.

"internal human capacities provided the models for media technology,"[38] Ihde considers the connections and similarities between pumps and hearts, levers and the skeletal and muscular system and cameras and eyes.[39] For Ihde, like Kapp, there is a sense that humankind, as creators of machines, forged technologies in their own image only to later model themselves upon their own artefacts, so that in effect "the creator interprets himself through the created."[40] This is how subjective films and scenes like the opening of *Peeping Tom* allow the viewer to recognise the corporeality of a surrogate body through the noesis technology of the camera, which in turn extends and limits the viewer into the noema of the film world.

In Bruce Kawin's *How Movies Work*, the author elaborates on such a comparison between human body and technology by setting out a detailed analogy between the inner workings of the camera and the human eye. As Kawin states, "the camera was designed on the model of the human eye. The eye has a lens, an iris, a dark chamber, and a light-sensitive retina. The pupil is its aperture, the eyelid its shutter."[41] The mechanics of the camera, like the eye, works through a light source entering a camera lens, consisting of a piece of glass curved outwardly on both sides. The lens bends or refracts the light rays as they pass, which then converge at a point behind it. An iris diaphragm is situated behind the lens, made up of slim metal plates that open and close to produce a different sized hole (the aperture). This is designed to act like a human eye's iris by allowing the correct quantity of light to enter into the body of the camera

---

[38] Jussi Parikka, *What Is Media Archaeology?* (Cambridge, UK ; Malden, MA: Polity Press, 2012), 170.

[39] Ihde, *Existential Technics*, 65.

[40] Ibid., 74.

[41] Bruce F. Kawin, *How Movies Work* (Berkeley: University of California Press, 1992), 121.

where an image is produced and captured upon a strip of film coated in a photosensitive emulsion. This similarity between the eye and the camera eye is what enables the spectator to adopt the point-of-view of a diegetic character, thus enabling the cinematic viewer to visually become extended into the film world and occupy a surrogate body vessel like that of *Peeping Tom's* Lewis or any other subjective character.

Points of View of the Subjective Camera

At this stage it is important to clarify the difference between a point-of-view shot (POV) and a subjective shot. In *Point of View in the Cinema*: *A Theory of Narration and Subjectivity in Classical Film*, Branigan distinguishes these terms, claiming that a POV is an approximation of what a character sees from their vantage within the film's diegesis, while a subjective shot is the precise perception of a character, as if the viewer is anchored inside of them. This is what George M. Wilson calls "*directly subjective* narration."[42] For Branigan POV is often conveyed in shot/reverse shot sequencing, in which the camera will switch between two characters in conversation, roughly depicting each character's vantage.

A POV shot is also employed to denote a character or characters looking at something. Consider for example the infamous box scene at the end of David Fincher's *Seven* (1995). In the climactic scenes of the film, a police detective (Morgan Freeman) is seen looking at a box upon the ground of a desert. A shot of the detective, followed by a reverse shot of the box, provides the cinematic syntax that the detective is looking at the box. Once the box is opened, the

---

[42] George M. Wilson, *Narration in Light : Studies in Cinematic Point of View* (Baltimore: Johns Hopkins University Press, 1986), 86.

detective then recoils from the contents. However the viewer is not privy to what the detective can see and can only speculate about what is inside. If this scene were to be re-filmed subjectively, the detective would not be seen at all; instead the shot would depict exactly what was in the box from an angle above it, looking down in a continuous take. As Steven Shaviro explains, discussing the subjective shot:

> [e]vents unfold in real time, in a single take, from a single point of view. These sequences are tactile, or haptic, more than they are visual. The subjective camera doesn't just look at a scene. It moves actively through space. It gets jostled, it stops and starts, it pans and tilts, it lurches forward and back. It follows the rhythms of the whole body, not just that of the eyes. This is a presubjective, affective and not cognitive, regime of vision.[43]

Subjective shots are less frequent than POV shots within a cinematic language and many films abstain from them completely. The point of the subjective shot is to signify a sensation or experience of temporarily being a 'body' or a 'thing' within the diegetic world. Consider for example how the viewer momentarily becomes the onboard-ship-computer HAL in Stanley Kubrick's *2001: A Space Odyssey* (1968), when the *mise-en-scène* surreptitiously spies upon and lip-reads two crew members plotting against it. HAL/the viewer

---

[43] Steven Shaviro, "Regimes of Vision. Kathryn Bigelow," *Strange Days. Polygraph* 13 (2001): 62.

follows the silent conversation through camera motion that moves from side-to-side following the flow of lip movement (figures: 21-23).
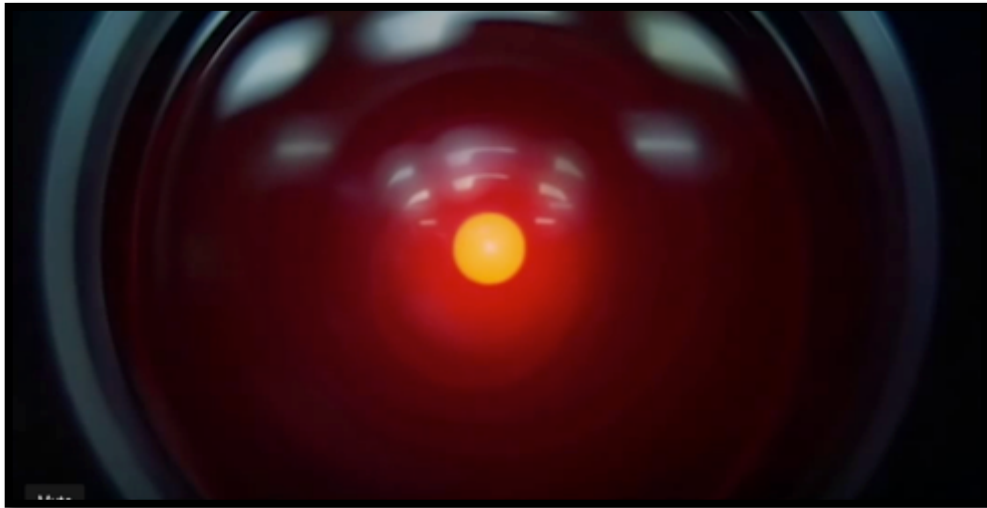
Figure 21: HAL in *2001: A Space Odyssey*
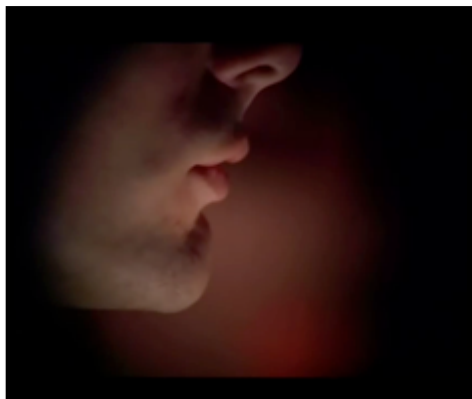
Figure 22: HAL's perspective   **Figure 23: HAL's perspective**
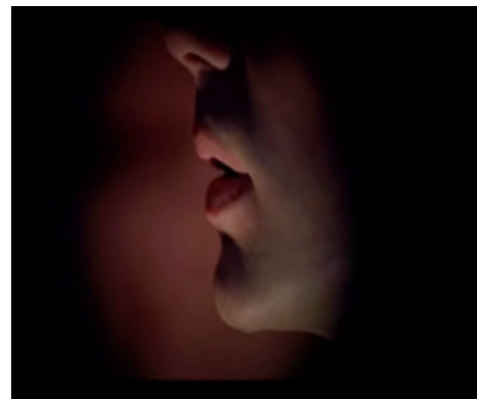
Many film and media theorists have decried the use of the subjective camera in cinema. Julio Moreno for example has rejected lengthy deployment of this aesthetic, such as its use in *Lady in the Lake* where it is practiced for most of the film's runtime. Speaking out against Montgomery's film, Moreno claims that "cinema is too real to represent a fictional subjectivity because the spectator's

eyes is *equivalent* to the camera's *objective* lens."[44] For Moreno, according to Branigan, "the 'nature' and 'essence' of cinema is photography."[45] For this reason, Moreno believes that the pure visual qualities of cinema are not equipped to transcribe the verbal nature of a literary narrative such as first person storytelling.[46] Consequentially Moreno, as claimed by Branigan, believes that the subjective shot is an imitation of literary narrative and is therefore "not being true to the nature of cinema."[47] This is why extensive use of the subjective shot fails for Moreno.

Joseph Brinton has also criticised the use of the subjective shot in cinema, emphasising how the camera technology is inferior to the spectator's eye. For Brinton, the organic eye has greater efficiency through superior movement, resolution, angle of view, and depth of focus.[48] Brinton further argues that the camera eye's inability to measure up to the human template culminates in the way that the subjective camera struggles to convey *how* a character thinks. Although the camera can present what a character is seeing, shifts of attention and the thought process of the subjective character remains concealed. This leads Brinton to reason "that narrative is not defined by specific material forms"[49] such as a camera or a photograph but is instead, as Branigan notes, a cognitive mode of reasoning, "defined through a person's predisposition to make narrative and meaning using whatever is at hand."[50]

According to Branigan, André Gaudreault's concept of cinema synthesises

---

[44] Branigan, *Narrative Comprehension and Film*, 144.
[45] Ibid.
[46] Lady in the Lake is the adaptation of Raymond Chandler's novel *The Lady in the Lake* (1943) written in the style of first person narrative.
[47] Branigan, *Narrative Comprehension and Film*, 144.
[48] Ibid., 145.
[49] Ibid., 146.
[50] Ibid.

Moreno and Brinton's views mutually, arguing that film narration breaks down into two specific components of 'telling' and 'showing.' Telling involves a narrator or focalising character that anchors fictional events in a past tense. Showing, in contrast, "involves a 'monstrator' who places the events of the narrative directly in front of the spectator in *present* time."[51] As Branigan states, "the difference between telling and showing is exactly the opposite between editing and shooting a film."[52] Telling through a narrator involves, voiceover, flashbacks or montage that interrupts the flow of continuous present time. Subjective camerawork, which is filmed as consecutive presence, can instead be considered a showing or monstrator effect that is orchestrated to put a viewer in the picture as much as possible. As Branigan notes, "the monstrator works only during the process of shooting the film. The monstrator delegates powers to the camera to occupy the place of the spectator at the scene of the action which is to be recorded."[53]

As Gaudreault highlights, "the monstrator's actual 'speech act' occurs only during projection of the film at which time the monstrator creates an illusion of presence for the spectator by *quoting* what was recorded in the past, but without acknowledging that it is a quotation."[54] In subjective film, the illusion of presence *through* the camera is what helps to extend the viewer into the filmic world where they seemingly occupy a central role in the film's story. For Gaudreault, as Branigan affirms, cinema is divided into two strict alignments consisting of "monstration, cinematography, presence and present time which is opposed, point for point, to a second alignment among summary, narration, editing,

[51] Ibid.
[52] Ibid., 147.
[53] Ibid., 146.
[54] Ibid.

absence, and non-present (all other) time."[55] Subjective camerawork is therefore an expression of the first alignment, enabling a viewer to inhabit a human or inhuman character or body.

As Branigan indicates in past works, such inhabitation is usually accentuated by adding some form of mental or physical condition to the optical subjectivity,[56] such as drunkenness or sickness. Consider for example the use of a swaying camera in F. W. Murnau's *The Last Laugh* (1924), to indicate intoxication. Or Rouben Mamoulian's *Dr. Jekyll and Mr. Hyde* (1931), which employs a subjective sequence culminating in blurriness and a blackout following the eponymous protagonist, as he drinks a potion transforming him from one character into the other. From these early moments we can begin to see how camera subjectivity is often interwoven with a fictional deficiency of control within the body that gives way to a negative corporeal experience. Outside the fiction of inebriation and poisoning, subjectivity has been pervasively established through an assaultive scopophilic gaze.

This can be seen as early as 1900 in George Albert Smith's *As Seen Through a Telescope*. This short early film depicts a man in a public street, furtively watching a young woman's body, notably her ankle and leg, with presumed sexual interest. When the man looks through the telescope, the spectator is subjectively propelled into this augmented vision to see what the man sees. Moments later, and caught within his act, the voyeur is assaulted by the woman's beau and pushed to the ground. His assault, at some level, is also aimed at the viewer too for adopting his sexually assaultive gaze upon the

[55] Ibid., 148.
[56] *Point of View in the Cinema: A Theory of Narration and Subjectivity in Classical Film*, 80.

unsuspecting woman.

This concept of assaultive gazing has been scrutinised at length by Carol J. Clover, who argues in *Men, Women and Chain Saws: Gender in the Modern Horror Film*, how the subjective camera, particularly within the horror genre is synonymous with a monstrous body that is typified with an anxious male gaze. Clover's line of argument hinges on Laura Mulvey's well-known essay, 'Visual Pleasure and Narrative Cinema.'[57] Through this essay, Mulvey argues that within narrative cinema, it is the male's gaze that drives the story forward while the female form denotes little more than objects of erotica for a male voyeur to look upon. Mulvey's argument, in line with Sigmund Freud's *Three Essays on the Theory of Sexuality*,[58] claims that female objectification in film is an unconscious coping mechanism to alleviate the threat of castration induced by female lack.

According to Mulvey, castration anxiety is overcome in film by shifting the female into an object of desire, connoting what she terms "*to-be-looked-at-ness.*"[59] In contrast narrative power is ascribed to a male figure, which in Hollywood cinema, is traditionally responsible for driving the film's story forward. In contrast, the female (in many mainstream pictures) exists for the male protagonist (and viewer) to look upon with desire, save, punish or kill. In whichever case, it is the apprehension of lack that objectifies the female form, prompting viewers of either gender to follow a film's events from a heterosexual male perspective. Over time, these claims regarding the male gaze have incurred criticism through its limitation, not least by Mulvey herself. In 'Afterthoughts on

---

[57] Laura Mulvey, "Visual Pleasure and Narrative Cinema," in *Visual and Other Pleasures* (Springer, 1989).
[58] Sigmund Freud and James Strachey, *Three Essays on the Theory of Sexuality* (London: Imago, 1949).
[59] Mulvey, "Visual Pleasure and Narrative Cinema."

Visual Pleasure and Narrative Cinema' she returns to her essay, acknowledging how her interest in the image of onscreen women and the 'masculinisation' of the spectator closes off other avenues of enquiry.[60] For Mulvey this is primarily the role of the female spectator, which the Afterthoughts paper goes onto examine.

My specific interest in subjectivity for the most part sets aside questions of gender, which have otherwise been dealt with through film scholars such as Mulvey, Mary Ann Doane, Alison Young, Teresa de Lauretis, Natalie Fullwood and Yvonne Tasker (to name a few). But having said that, I shall return to the idea of gender in the Conclusion of this thesis. Rather than entering into gender analysis within this chapter my work instead focuses on the process of 'becoming a body', a process that involves spectators inhabiting a cinematic subjective body, produced by the technological hardware of the camera. This is where hap-tech comes into play. As previously stated at the beginning of this chapter, hap-tech narration is a term that involves subjective moments in fictional films that are diegetically negative. This is a claim that echoes Alexander R. Galloway's book *Gaming: Essays on Algorithmic Culture*, where the author identifies how the subjective shot "generally signifies some type of negative vision." [61] In his book, Galloway highlights how negative subjectivity "is marginalised and used primarily to affect a sense of alienation, detachment, fear, or violence."[62] Galloway localises his discussion of the subjective camera to a corpus of weapon wielding aesthetics within narrative cinema and argues that

[60] "Afterthoughts on 'Visual Pleasure and Narrative Cinema'inspired by King Vidor's Duel in the Sun (1946)," 29.
[61] Alexander R. Galloway, *Gaming : Essays on Algorithmic Culture*, Electronic Mediations (Minneapolis, Minn. ; London: University of Minnesota Press, 2006), 46.
[62] Ibid., 40.

films such as these can be considered the origins for the well-established first person shooter (FPS) genre in computer gaming.[63]

Such examples can be seen in: Alfred Hitchcock's *Spellbound* (1945), *Topaz* (1969, alternate ending), Martin Scorsese's *Goodfellas* (1990), Oliver Stone's *Natural Born Killers* (1994), Gus Van Sant's *Elephant* (2003), Andrew Niccol's *Lord of War* (2005) and Clint Eastwood's *American Sniper* (2014) to name just a few. Within the subjective moments of these films the viewer is temporarily placed into the body of a character or weapon that is intending to kill.[64] Following Galloway's observation, this highlights how the use of subjective camerawork in film usually portrays a hallmark of weaponry.

Figure 24: *Goodfellas*   **Figure 25:** *Spellbound*

---

[63] Ibid., 39-69.

[64] In the case of *Lord of War* the spectator is placed into the body of a bullet in the opening sequence. This is also the case for *Natural Born Killers* in certain stylised moments of the film. Stone's film however does also place the spectator into the perspective of the killer's body at other moments though.

Figure 26: *American Sniper*   **Figure 27: *Hardcore Henry***

This is something that Paul Virilio explores in detail in his book *War and Cinema: The Logistics of Perception,* where he illustrates how the development of cameras took influence from firearms.

> In 1874 the Frenchman Jules Janssen took inspiration from the multi-chambered Colt (patented in 1832) to invent an astronomical revolving unit that could take a series of photographs. On the basis of this idea, Étienne-Jules Marey then perfected his chronophotographic rifle, which allowed its user to aim at and photograph an object moving through space.[65]

Consequentially, as Virilio goes onto explain, Marey's chronophotographic rifle became "both precursor of the Lumière brothers' camera and direct descendant

---

[65] P. Virilio, *War and Cinema: The Logistics of Perception* (Verso, 1989), 11.

of the Colt revolvers and cylindrical guns."[66] The movie camera is thus a byproduct of the gun, a notion that is affirmed by Friedrich Kittler, who proclaims in *Gramophone, Film, Typewriter*, how "the history of the movie camera […] coincides with the history of automatic weapons [where] the transport of pictures only repeats the transport of bullets."[67] Subjective moments in films such as *The Terminator*, Paul Verhoeven's *Robocop* (1987) and *Hardcore Henry* reinforce this idea. The latter in particular, which is subjective from start to finish, consists mainly of the gaze through a cybernetically modified man who is turned into an augmented killing weapon within the film's diegesis.

Hap-tech narration however, is more than simple identification between subjective camerawork and gun similarity. Instead it can be considered a tool to analyse how such an aesthetic folds back into the story, reflecting a particular type of character body vessel that a viewer inhabits. In Scorsese's *Taxi Driver* (1976) for example, a standout moment of explicit hap-tech narration is reserved for a shot in which Travis Bickle (Robert De Niro) takes up a gun from an arms dealer and aims it out of a window. Although the majority of this film is portrayed from the POV perspective of Bickle as he adjusts to life after honorable discharge from the Vietnam War, it is this moment of gun handling that feels the most distinctive in its subjectivity. As Bickle takes up the weapon and nears the window the *mise-en-scène* jumps into the gaze of what feels to be a smaller, lighter camera perhaps operated by the actor. This lighter camera traces the movement of the outstretched gun, as Bickle's first person gaze pans the street in a downward trajectory from behind the weapon searching for a target (figures

---

[66] Ibid., 68.
[67] Friedrich A. Kittler, *Gramophone, Film, Typewriter*, Writing Science (Stanford, Calif.: Stanford University Press, 1999), 124.

28 and 29). This is a crucial moment within the film because it indicates the change of course the narrative takes, where murder becomes the only option left for the solipsistic character as his life spirals out of control.

Figure 28: Travis aims his weapon **Figure 29: Travis's perspective**

Hap-tech narration thus adheres to a method of analysis broached by Ian Garwood's book in which a film's sensuous attributes bleeds into its fictionality (see Literature Review). Through a series of case studies, Garwood not only unites a sensuous and narrative reading of cinema within the same space but also succeeds in using phenomenology to elucidate elements of story within a narrative film. Sensuous film theorists like Marks has deemed such a task as problematic, noting how one interrupts the other. As she states, the haptic image, which evokes a tactile sense, "forces the viewer to contemplate the image itself, instead of being pulled into narrative."[68] This separation between felt haptic cinema and seen narrative cinema, has been challenged by David Trotter's paper,

---

[68] Marks, *The Skin of the Film : Intercultural Cinema, Embodiment, and the Senses*, 163.

'Towards a Theory of Haptic Narrative.'[69] Garwood's book utilises and continues Trotter's approach in a more complete fashion, by investigating how moments in cinema, that accentuate the senses, "contribute fundamentally to a film's dramatic rhetoric."[70]

One particular example, perhaps appropriate here for its subjectivity, is his analysis of the character Zurg from Disney's *Toy Story 2* (John Lasseter, 1999). Zurg is a caricatured evil robot who naively believes the conceit that he is an overlord rather than a toy. Unlike the other toys in the film who know what they are, Zurg is not privy to the same information and his lack of insight about who or what he is emerges through subjective POV camerawork. As Garwood notes, Zurg's perspective is illustrated through a distorted and constrained type of vision that looks out of a mask-shaped viewfinder[71] (figure 30). Zurg's sight is an impoverished red with a crosshair target, reminiscent of the killer-cyborg vision from James Cameron's *The Terminator* (figure 20), and stands in contrast to the rest of the film's rich *mise-en-scène* and camerawork. As Garwood suggests, Zurg's low-quality sight befits his deficient characterisation of a clichéd villain, a killer who tenaciously tries to bring harm to the film's heroes. Zurg's repeated cry, "destroy Buzz Lightyear" shows that he occupies a deficient type of character body; a body illustrated by and suited towards hap-tech narration.

---

[69] David Trotter, "Lynne Ramsay's Ratcatcher: Towards a Theory of Haptic Narrative," *Paragraph* 31, no. 2 (2008).
[70] Garwood, *The Sense of Film Narration*, 3.
[71] Ibid., 78.

Figure 30: A hap-tech perspective through Zurg in *Toy Story 2*

As I stated near the beginning of this chapter, the subjective killer is one half of what hap-tech narration entails. The other half still relates to a deficient type of body vessel but is portrayed through the notion of a fictional victim. Both of these negative surrogate body vessels fall in line with Maxine Sheets-Johnstone's book, *The Primacy of Movement*. Within this work Johnstone explores how a person's movements can define their character. As she argues, humans "intuitively equate aliveness with movement"[72] and do so from birth where we immediately come into the world kicking and screaming. "This primal animateness, this original kinetic spontaneity that infuses our being and defines our aliveness, is our point of departure for living in the world and making sense of it."[73]

Thus who we are, according to Johnstone, is defined by how we move as we develop a repertoire of "'I cans': I can stretch, I can twist, I can reach, I can

---

[72] M. Sheets-Johnstone, *The Primacy of Movement* (John Benjamins Publishing Company, 2011), 117.
[73] Ibid.

turn over, and so on."[74] As she notes, humans kinetically grow into their bodies and discover themselves through such movement. Following Sheets-Johnstone, hap-tech narration involves a surrogate character's movements (represented by the subjective camera), affording the spectator a feeling of 'aliveness', and sense of being-in-the-world. Access into the film world through the camera, is thus balanced by the screen and camera movement, which limits and constrains corporeal freedom. Inevitably this produces a deviant, corrupt or deficient body vessel, which is the essence of hap-tech narration.

In summary, hap-tech narration is a play on Marks's notion of haptic cinema, which as discussed within the Literature Review, pertains to an idea of spectatorship that involves perceiving with all the senses,[75] in order to "encourage a more embodied and multisensory relationship to the image in films."[76] This is what Marks refers to as a tactile epistemology, which gives meaning to haptic cinema through mimesis. Established from the Greek word *mimeisthai*, meaning to imitate[77] (see Literature Review), Marks discerns that mimesis is an indexical relationship between two things (such as the cinematic image and the viewer) "in which one calls up the presence of the other materially."[78] Therefore, as Marks notes, haptic cinema, through the tactile epistemology of mimesis, is a dynamic and responsive relationship between screen image and viewer, where meaning takes on sensuous significance in the body of the spectator.[79]

Hap-tech narration similarly encourages an embodied and multisensory

---

[74] Ibid.
[75] Marks, *The Skin of the Film : Intercultural Cinema, Embodiment, and the Senses*, 190.
[76] Ibid., 172.
[77] Ibid., 138.
[78] Ibid.
[79] Ibid.

relationship by focusing exclusively on subjective camerawork, which can be considered a type of second technological skin for the viewer, which is characteristically ill fitting, uncomfortable and distressing in narrative films, countering the sensual pleasures of touch that Marks describes in her depictions of the haptic image. This is why the types of character roles that befit this skin are, in terms of narrative disposition, different types of deficient, negative bodies such as killers, victims or socially inept personas. This in part at least, is what differentiates hap-tech narration from haptic cinema. The other way in which hap-tech is distinguishable from Marks's use of haptic is through the exploration of camera technology rather than video, a focus on mainstream narrative cinema in lieu of experimental video art, and the incorporation of a postphenomenological framework developed by Ihde's concept of embodiment relationships.

Through this framework, hap-tech narration focuses on the simultaneous extension and limitation of the viewer into a body through the transparency and echo focus of the camera, and analyses how such experiences reverberate into a film's story. Hap-tech narration is a crucial tool in uniting different elements of cinematic studies together, especially when we consider how Marks's embodied work does not discuss narrative any more than Mulvey's narrative work explores the body. The purpose of hap-tech narration is to encircle bodily affect, technology and story into one, while enabling a new way to consider the diegetic purpose of the subjective shot, a concept that was demonstrated through *Peeping Tom*. In that example I considered how the viewer can feel the strange and inorganic moments of a negative film character, which reinforces the film's story, and can even to some degree afford the viewer a new perspective of (or through)

the subjective-cam character body. This is something that can be tested out in other subjective films. Take Bigelow's *Strange Days* for example, a film that incorporates many moments of subjectivity. During one particular moment of first person camerawork, physical and moral deficiency are interlocked with one another to present a harrowing attack on a character.

This is a moment in which a woman who is being raped is forced to witness her own attack through the eyes of her attacker. She is made to wear a SQUID (Superconducting Quantum Interference Device), which within the diegesis is a technology designed to capture and record subjective experience, right down to the physiological and olfactory sensations as well as the visual and audible. The SQUID takes the form of a metallic skullcap that responds directly to its wearer's cerebral cortex. With the rapist wearing his and forcing one onto his victim, he remotely connects to her device and makes her see and feel the experience from his perspective. Victim and killer gaze are thus melded into one.

Shaviro, writing on this film, has referred to this scene and others like it as an affective moment in Brian Massumi's sense of the term, rather than a cognitive one. Shaviro interprets Massumi's affect as "something that comes before the subject has arrived, or that subsists after the subject has departed, or that happens alongside the subject, affecting it but not being integrated with it."[80] In this sense affect is highlighted as a visceral trait rather than a cognitive one. Cognition, in Shaviro's view, would change affect into an emotion. Through this understanding Shaviro cites the subjective SQUID moments in *Strange Days* (which are plentiful) as affective and seems to suggest, as Marks does, that such

---

[80] D. Jermyn and S. Redmond, *The Cinema of Kathryn Bigelow: Hollywood Transgressor* (Wallflower Press, 2003), 165.

affective moments interrupt the flow of narrative comprehension. He supports this by noting how, "[t]he vividness of what is happening takes precedence over the question of whom it is happening to. It could be anyone – anyone who chooses to play the SQUID recordings back."[81] Consequentially, as Shaviro notes, the SQUID moments scramble subjectivity [82] causing identity to become something of an enigma. However, adopting a hap-tech reading enables us to see how this scrambled subjectivity feeds directly into a story about a murderer whose identity is concealed from protagonist, Lenny Nero (Ralph Fiennes). The murderer in fact turns out to be a close confidant of Nero's, which signals in hindsight how the simultaneous closeness and distancing of the subjective SQUID moments reverberate into the story.

For Shaviro the subjective moments are a signature of anonymity that prevents him from identifying with the character and gets in the way of the story. But by stepping back from this and seeing how distancing can be used beneficially to portray negative character traits or experiences, subjective camerawork can become replenished with narrative value. The viewer has access to experiences or stories through the eyes of a corrupted character so that they (the viewer) may to some extent, see and feel as they do. Accordingly, distancing in film need not be an invalid character trait, and as I will show in the following case studies, provides viewers with a deficient perspective to embody a corrupt character through hap-tech narration, where form mirrors content.

---

[81] Ibid.
[82] Ibid., 166.

The Subjective Films of 1947: Prototypes of Hap-Tech Narration

The year 1947 in Hollywood narrative cinema is important for two, or arguably three, subjective camera films that have gone onto shape a style of filmmaking that can be understood as hap-tech narration. These consist of Montgomery's *Lady in the Lake*, Daves's *Dark Passage* and Anthony Kimmins's *Mine Own Executioner*. Each film deploys sustained use of subjective camerawork, ranging from entirety in Montgomery's, to just over a third in Daves's, to a ten-minute sequence in Kimmins's. The latter two successfully utilise hap-tech narration by giving the subjective camerawork purpose within the story. The first person detective story *Lady in the Lake* however, in which viewers are invited to look through the eyes of detective Phillip Marlowe (Robert Montgomery), as he endeavors to solve the case of a missing woman, conversely flounders in portraying fictional justification as to why the film is shot this way. Philip Kiszely argues that the film's subjectivity was done purely out of novelty. For Kiszely the subjective aesthetic represents an attempt to return dwindling audiences to cinema seats after the threat of television waned big screen popularity. As he argues, *Lady in the Lake's* 'camera eye' technique is a pure example of gimmicky cinema for the industry's survival.[83]

Branigan recognises *Lady in the Lake* as a 'convincing failure'[84] while Christian Metz has noted how the film places viewers at a disadvantage in identifying with the protagonist of Marlowe, [85] whose body the viewer

---

[83] Philip Kiszely, *Hollywood through Private Eyes : The Screen Adaptation of the "Hard-Boiled" Private Detective Novel in the Studio Era*, Stage and Screen Studies, (Oxford ; New York: P. Lang, 2006), 210.

[84] Branigan, *Narrative Comprehension and Film*, 142.

[85] Christian Metz, "Current Problems of Film Theory: Jean Mitry's L'esthetique Et Psychologie Du Cinema, Vol. Ii," *Movies and Methods. Ed. Bill Nichols* 1 (1971): 47.

supposedly inhabits. As Metz states, "in order to be able to interiorise a person's *look,* one has to know the person."[86] This is Metz's reasoning, as well as Shaviro's and Albert Laffay's, for deeming the film a failure. Laffay states that by "pursuing an impossible perceptual assimilation, the film (*The Lady in the Lake*) in fact inhibits symbolic identification."[87] Sobchack also takes issue with the film's inability to assimilate a viewer into the diegetic world, which is based upon the movement of the camera. Sobchack argues that the film suffers from "*inauthenticity* as a lived-body."[88] She expresses that the film "is *curtailed* and c*onstrained* by bodily existence rather than enabled by it"[89] and describes how the feel of the Marlowe body is akin to Merleau-Ponty's analysis of his patient Johann Schneider who suffered from a form of corporeal impairment that made it difficult for him to move.[90]

This is particularly noticeable in an early scene when the detective first enters a doorway into an office. The camera, in perhaps an overstating and pedantic way, makes too much of an effort in looking down upon the handle, waiting for a hand to appear into frame and opening it, before returning to its original upward position, ready to cross the threshold (figures 31 and 32).

---

[86] Ibid.

[87] Ibid.

[88] Sobchack, *The Address of the Eye : A Phenomenology of Film Experience*, 232.

[89] Ibid., 245.

[90] According to Merleau-Ponty, Schneider, a casualty from the First World War, suffered a form of body-blindness, a "large-scale deficiency of knowledge gained by visual means"(Merleau-Ponty 2002: 133). This left it difficult for him to perform spontaneous movements. If asked to do something, such as point towards his leg, he would have to concentrate on the body part in question and carry out preparatory movements, involving the whole of his body to achieve this simple maneuver. Schneider would have to give his body, as Sobchack notes, "abstract orders to carry out various physical tasks because he could not spontaneously or 'operatively' live his body as his own" (Sobchack 1992: 246). This is how Sobchack concludes that Marlowe's body is similar to Schneider's, like the patient the camerawork also enters a convoluted and overthought system of movement.

This sequence feels robotic and flattens out real-life experience in which we complete these gestures without ever spotlighting them in the manner that Montgomery does. By accentuating these minor movements to accommodate the size of the large and unwieldy camera rig, an experience is presented to the viewer in the form of a damaged body like Schneider's. Yet because this is not harmonised within the film's story (something that I will return to at the end of this chapter) this oblique sense of defective motion seems out of place. Put differently, Sobchack takes issue with the camera's inability to be transparent and extend a viewer into the diegetic world, arguing that the cumbersome camera-rig of 1947, fails to translate natural fluent movement. The issue I take with this, in contrast to Sobchack's, is how the film predominantly fails to utilise hap-tech narration by addressing its unnatural gesticulation and making it part of the story.

The camera used for *Lady in the Lake*, according to the AFI catalogue of feature film, was a Bell & Howell Eyemo camera, which was standard equipment

for all Hollywood studios during their infancy.[91] Developed in 1925, the Eyemo camera was a small compact piece of equipment, a professional version of the company's former 16mm amateur camera, the Filmo. The Filmo was a lightweight field camera used by many television news reporters for its ease of operation and sturdiness.[92] Its alloy body could encase two 100 to 120ft spools of film (one for supply feed and for take-up).[93] Although similar in operation and designed on the Filmo, where it earned the nickname "Filmo's big brother,"[94] the Eyemo utilised more expensive 35mm film stock, which was richer and less grainy than 16mm stock.[95] With a sharper image combined with the convenience and durability of the Filmo's design, the Eyemo soon became standard equipment within all Hollywood studios.[96] But in light of this, we might query why such a lightweight, rugged mobile camera fails in Montgomery's film to convey natural movement.

One answer is precisely because of the Eyemo's compactness. In its lightest form the internal reel of film (100ft) when filming at 24 frames per second, had a runtime lasting a little over one minute. In order for Montgomery to achieve the aesthetic of being within a subjective body for the duration of the film, a larger magazine holding 400ft of film needed to be attached to the top of the Eyemo.[97] This enabled each of the film's longer scenes to last approximately eight minutes

---

[91] H.M.R. Souto, *The Technique of the Motion Picture Camera* (Communication Arts Books, 1969), 101.

[92] H.M. Raimondo-Souto, *Motion Picture Photography: A History, 1891-1960* (McFarland, 2006), 57.

[93] Souto, *The Technique of the Motion Picture Camera*, 119.(The take-up spool pulls the film along so unexposed film can be placed behind the shutter.)

[94] Ibid., 120.

[95] Raimondo-Souto, *Motion Picture Photography: A History, 1891-1960*, 57.

[96] K. Malkiewicz and M.D. Mullen, *Cinematography: Third Edition* (Touchstone, 2009), 61.

[97] AFI Catalogue of Feature Film, 'Lady in the Lake' at http://www.afi.com/members/catalog/DetailView.aspx?s=&Movie=24847 (accessed 10 January 14)

for a continuous take, which hitherto was the longest on record.[98] The extra
weight attached to the top of the camera in turn had to be compensated with
support underneath in the form of a tripod attached to a unique camera truck or
dolly. As Herb A. Lightman highlights in his article 'Revolution with a Camera,'
"John Arnold, A.S.C., head of M-G-M's camera department, devised a contraption
with wheels on both ends and [a] steering apparatus like a hook and ladder"[99] to
represent the body of Marlowe walking.

A camera structure like this, compounded with the cameraman wearing
onerous rigs fitted with special harnesses,[100] contributes to an unwieldy
technological setup. The over laden cameramen, described as looking like "a
citizen of Mars"[101] from the technological garb, makes Marlowe's body for the
duration of the film feel inhuman. These onerous rigs were designed to pass
through doors and move with fluidity, giving the illusion of natural movement
free of cuts or edits. The effect however is *too* fluid, and instead mechanically
drowns out any organic continuity of an actual body, intensified by contrived
camera setups and breakaway sets.[102] As Noël Burch stresses in his book, *Life to
Those Shadows*, the film's "pedantic, camera movements tended towards a
denaturalisation, a mechanisation of the process."[103] The machinery of the
Eyemo apparatus in its intent to extend the viewer into the detective's body,
simultaneously suppresses this corporeal conceit. If the negativity of this
mechanical suppression (its unnatural echo focus, so to speak) were

---

[98] Herb A. Lightman, 'Revolution with a Camera' in *Collier's Weekly*, November 9th 1946, 105.
[99] Ibid.
[100] Ibid., 22.
[101] Ibid.
[102] Mark Hope-Jones, 'Moments in Time' in *Vision ARRI* 12/06 issue 3, 40
[103] Noël Burch and Ben Brewster, Life to Those Shadows, (Berkeley: University of California Press,, 1990). 251.

acknowledged and camouflaged within the film's diegesis, hap-tech narration could prevail.

Figure 33: Images on the set of _Lady in the Lake_ (left) and images from the film (right)

This is the method that _Dark Passage_ adopts, which was released after Montgomery's film. In addition to superior camera technology in the form of a 35mm Arriflex,[104] which superseded the capability of the Eyemo, Daves's film also employs a more strategic use of hap-tech narration. This is deployed through a corrupted and detrimental body vessel in the form of Vincent Parry

---

[104] Norris Pope, _Chronicle of a Camera : The Arriflex 35 in North America, 1945-1972_ (Jackson: University Press of Mississippi, 2013), 17.

(Humphrey Bogart), an escaped convict from San Quentin Prison serving time for the alleged murder of his wife. Both the fictional justification of subjective use combined with the improved camera technology (which I will describe presently) instantiates a more convincing body vessel for the viewer.

The film begins with Parry's breakout, portrayed with an establishing shot of a truck leaving the prison before closing in on the image of a metal barrel. Fingers surreptitiously splay out onto the brim of this barrel, denoting the concealment of someone inside. The barrel then begins to shunt back and forth, eventually spilling off the truck and rolling downhill into an adjacent field. As the barrel gyrates we suddenly adopt a subjective view from inside the tube looking out upon a spinning world (figures 34 and 35). When it finally rests Parry exits the drum but the *mise-en-scène* holds its position for a few seconds from inside the barrel, watching as the convict strips his prison garb (figure 36).

Figure 34: *Dark Passage*   **Figure 35: *Dark Passage***
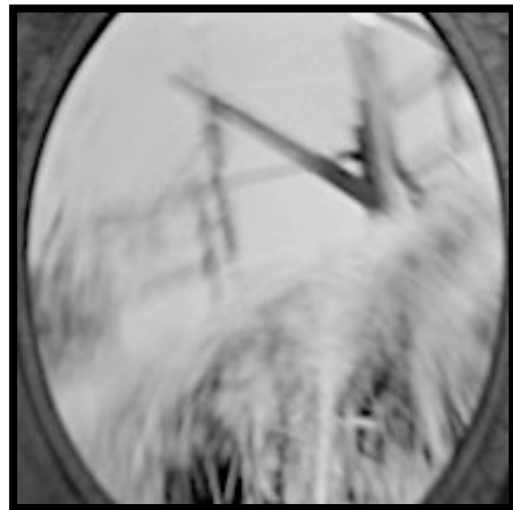
Figure 36: Exiting the barrel   **Figure 37: Parry's perspective**

From here the viewer jumps into Parry's perspective as he makes his way through the bucolic foliage, alert with rapid camera movement to the nearing sound of police sirens (figure 37). The improved camera technology of the Arriflex enabled such sequencing to be possible because it could be used more vigorously. A German camera developed by August Arnold and Robert Richter in the mid 1930s, the Arriflex revolutionised the filmmaking practice in significant ways in both German and North American contexts.[105]

This was fundamentally owed to its unique prism reflex viewfinder that enabled the photographer to see exactly what was being shot. Film cameras before this, including the Eyemo, had viewfinders either to the side or above the taking lens. As a result of this, the viewfinder could not produce a perspective exactly the same as the lens. This was what was known as the parallax error, which meant displacement of the apparent position of an object in the optical centre of the viewfinder and that of the taking lens. This was usually overcome, as Leo Enticknap states, by "skewing the angle of the viewfinder lens slightly – in

---

[105] Ibid.

order for the former to give a reasonably accurate view of what the latter will record."[106] However, as he also notes, slight errors could still occur, particularly when filming close subjects, such as hands, which are often included in subjective films and could potentially make movement erroneous, as highlighted with the Marlowe/Schneider comparison.

"The closer the subject is to the camera, the more greatly amplified the difference in angle between the rangefinder and taking lens will be."[107] The Arriflex's reflex viewfinder solved this issue with a system of mirrors that "eliminated parallax problems, making it the first 35mm portable camera to offer a level of functionality like that of a full-scale studio camera."[108] The shutter, which was redesigned to a butterfly design, was angled at 45 degrees to the film gate and aperture. The front surface of this shutter was mirrored so that when it was closed it would reflect entering light from the lens off to a right angle. The image would then be displayed on a focusing screen "whose distance from the lens, via the mirrored shutter, was exactly the same as the film aperture."[109] A second mirror or prism fixed above the focusing screen then sent the image upon this screen to the optic of the viewfinder. "Thus, the image in the viewfinder was identical to that on the film, as they shared the light from the lens on an alternating basis."[110] Consequentially, this allowed the photographer to see whether or not a subject was in focus, eliminating guesswork and permitting a more fluid filming experience.

[106] Leo Enticknap, *Moving Image Technology : From Zoetrope to Digital* (London: Wallflower, 2005), 38.
[107] Ibid., 37.
[108] Ibid., 38.
[109] P. Wheeler, *Practical Cinematography* (Lulu.com, 2014), ebook 4-7.
[110] Ibid.
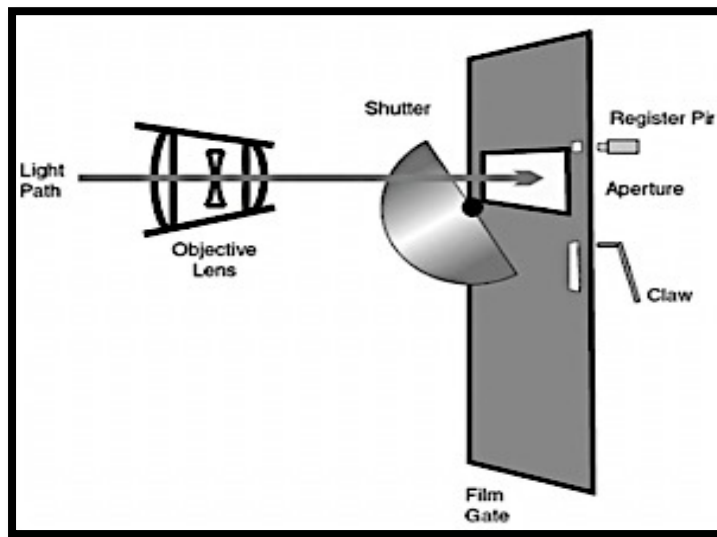
Figure 38: Standard viewfinder
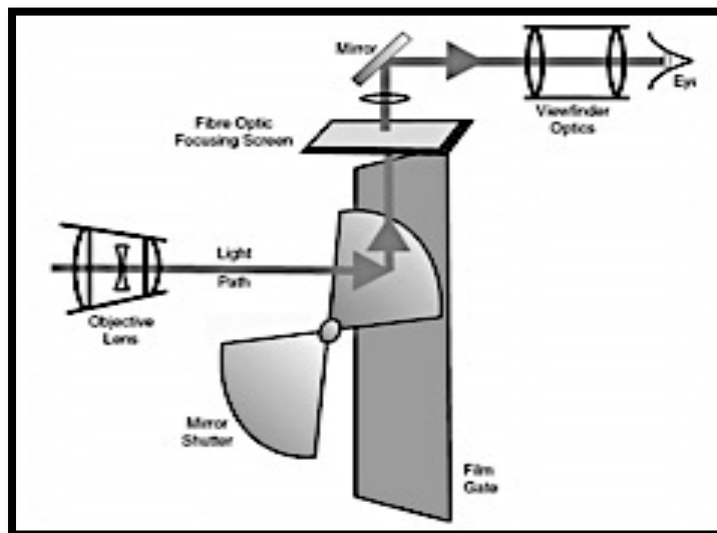
Figure 39: Prism reflex viewfinder

Like *Lady in the Lake*, *Dark Passage* contains many moments during the subjective shots where the viewer sees a close-up of Parry's hands. During his initial escape they are portrayed reaching out to climb over a fence (figure 37), then moments later, hailing down a car. As Norris Pope highlights in *Chronicle of a Camera: The Arriflex 35 in North America, 1945-1972*, the Arriflex had

"unbeleiveable sharpness for great depth of focus."[111] This permitted an insert shot in the foreground, such as a waving hand, to be as clear as the background for up to 50ft away. This, combined with the prism viewfinder, made the camera a significant technology in transcribing an authentic experience from within the escaped convict's body. This was further achieved by way of the Arriflex's incorporation with a smaller and more mobile body-harness, (in comparison with Montgomery's) which allowed the cameraman to operate with ease whilst moving about.[112]

As a result movement feels freer and more authentic denoted by the imagery through Parry as he runs, scales a fence, flags down and enters a car in what appears to be for the most part, one continuous take. The viewer is extended into the film. However there does remain an echo focus through an awareness of the camera apparatus, and in keeping with the alternative side of hap-tech narration, the technology does end up limiting corporeality together with extending it. Daves highlights some of the problems the Arriflex had in passing itself off as a real lived-body in a logbook he kept about his film.

> Actually, a man walking sways as he steps from one foot to
> another and, to a certain degree, rises and falls with each
> step. However, our eyes have a 180-degree angle whereas
> the lens angle is restricted. To date we have used the
> 35mm lens as being the nearest to normal eye quality. It is
> obvious that the more restricted the field, the more

---

[111] Pope, *Chronicle of a Camera : The Arriflex 35 in North America, 1945-1972*, 19.
[112] Mark Hope-Jones, 'Moments in Time', 40.

noticeable the vibrations will be so the 50mm and on up

would only serve to increase our handicap on walking

shots – conversely the widest angle lenses that more

nearly approximate the width of angles as seen by the eyes

suffer from distortional qualities and movement so that

the outer perimeter of the aperture seems to fold in when

the camera is in motion.[113]

As Daves illustrates, whichever option he was to choose in presenting natural movement, would inevitably be filtered by the intrusion of technological noise. As a result, the viewer experiences an impaired sense of physical identity. But through deployment of hap-tech narration this can become beneficial to the film's story, as the camera body's impairments become mapped onto an impaired type of character.

In accordance with Sheets-Johnstone's work, mentioned earlier, which argues how personhood is predicated on movement, we can see how Parry's impaired technological camera/body movement constitutes his impaired fictional characteristics. Within the film's diegesis, Parry is a convict, a condemned man on the run, escaping a life sentence following the crime of uxoricide. This idea of Parry as a form of condemned body is something that may put us in mind of Michel Foucault's writings on the body of the condemned from his work *Discipline and Punish: The Birth of the Prison*. Within this text, which charts the history and evolvement of the modern prison penal system, Foucault stresses how punishment and the human body are inextricably bound. He

---

[113] Pope, *Chronicle of a Camera : The Arriflex 35 in North America, 1945-1972*, 19.

highlights how the penal system as a political technology acts upon the body in order to assert its power, which began with public displays of torture through to "punishment of a less immediately physical kind."[114] Public executions ceased and with that the body of the condemned disappeared from view. As Foucault states, "a few decades saw the disappearance of the tortured, dismembered, amputated body, [...] exposed alive or dead to public view. The body as the major target of penal repression disappeared."[115] In this sense a comparison can be made with the subjective camera character, whose body is also absent from view, reminiscent of the absent anatomy of Foucault's condemned body.

Just as the character vessel of Parry is a condemned body, he is additionally revealed as a victim body too. This shift from corruption to victim is disclosed after Parry's escape when he is helped by a woman, Irene Jansen (Lauren Bacall), who divulges to Parry/the viewer how she knows he was framed. With her help and belief in his innocence, Parry is portrayed in a new fictional light as a casualty of justice. This victim body culminates in a later sequence in which Parry undergoes facial reconstructive surgery with black-market practitioner, Dr. Walter Coley (Houseley Stevenson). This sequence is particularly disconcerting and emphasises Parry's new established role as vulnerable victim. As Coley administers us/Parry with an anesthetic he begins to callously toy with us about botched facelifts and innuendo as to why he was dismissed from professional practice (figures 40 and 41).

---

[114] Michel Foucault, *Discipline and Punish : The Birth of the Prison*, 2nd Vintage Books ed. (New York: Vintage Books, 1995), 8.
[115] Ibid.

Figure 40: Dr. Coley taunting his victim

Figure 41: Coley blinding his victim

The drug in Parry leaves him/the viewer physically weak and in a state of vulnerability, denoted by a blackout as Coley places a flannel over Parry's eyes, blinding the viewer's sight as the Doctor readies himself to shave us in preparation for the surgery. This darkness cues a paranoid psychedelic dream from Parry (figure 42) in which Coley's laughing face repeatedly chants, "ever seen a botched plastic job?"

Figure 42: Dr. Coley in Parry's nightmare

The dream sequence is reminiscent of Kimmins's film *Mine Own Executioner*, released the same year, where a combination of hypnosis and drugs are used on

a schizophrenic patient to help him recall repressed memories from his time as a prisoner of war. Within a ten-minute sequence, Adam Lucian (Kieron Moore) is portrayed through subjective camerawork as an air force pilot shot from the sky, captured behind enemy lines, carried to a prison and eventually tortured. This is until he finally turns the tables on his captors by becoming a killer (again portrayed subjectively), before making his escape.

Lucian's killer instinct and vulnerability is lucidly indicated through subjective camerawork. When the hypnosis and drugs wear off, his memories are lost along with the hap-tech first person imagery. Similarly, as Parry's nightmare, operation and victimisation concludes, so too does the subjectivity. The surgery in a way amputates us (the viewer) from the body vessel of Parry, who is no longer a condemned felon or a vulnerable botched surgery victim but is rather unveiled as the iconic and heroic figure of Bogart. This confident, leading man persona, with a face to match his righteous and innocent character, ejects the spectator from his body where we now watch him in a more conventional cinematic language, rather than through him. Hap-tech narration has served its purpose, Parry is no longer presented in a negative light as killer or victim, and the remainder of the film is presented from a fictional position of strength, as Parry settles scores with those that wronged him in a diplomatic and virtuous way.

While *Lady in the Lake* has gained notoriety for being particularly defective as a camera-body experience, *Dark Passage* by contrast has been much better received. This I believe is owed not only to the heightened technology of the camera but also because of the way such camerawork is employed through hap-tech narration. Victim body camerawork is present in Montgomery's film

during a few distinct moments but are too few and far between to be considered a hap-tech film. Additionally, the body vessel of Marlowe is a tough, confident, hardboiled persona working within the law. This is in contrast to the weakened victim body or lawless killer body, the criteria of hap-tech narration. In this way *Dark Passage*, and the body vessel of Parry can be considered the forge to which a majority of other subjective camera films and television programmes over time have emulated. I now qualify this by turning my attention towards two concise subjective filmographies that portray hap-tech narration through the surrogate bodies of the killer and victim character.

The Hap-Tech Body of the Killer

The role of a killer body, subjectively portrayed through first person camerawork has been depicted in a vast selection of films across all genres.[116] Of all the films mentioned below, Franck Khalfoun's *Maniac* (2012), a remake of William Lustig's 1980 horror slasher film of the same name, provides the best example of hap-tech narration because of both the form and content of the film, which at its crux explores the relationship between artificial and human bodies. *Maniac* is subjective from start to finish and to my knowledge, no other film featuring this perspective from the killer's eyes keeps this conceit going as long as Khalfoun does, which is why I have selected it to represent this corpus of killer

---

[116] Such titles include: Alfred Hitchcock's *Psycho* (1960), Steven Spielberg's *Duel* (1971), *Jaws* (1975), Dario Argento's *Il Gatto A Nove Code* (*The Cat o'Nine Tails*, 1971), *Profondo rosso* (*Deep Red*, 1975), John Carpenter's *Halloween* (1978), Irvin Kershner's *Eyes of Laura Mars* (1978), Sean S. Cunningham's *Friday the 13th* (1980), James Cameron's *The Terminator* (1984), John McTiernan's *Predator* (1987), Stanley Kubrick's *Full Metal Jacket* (1987), Jonathan Demme's *The Silence of the Lambs* (1991), Rémy Belvaux's *Man Bites Dog* (1992), Alex Proyas' *The Crow* (1994), Luc Besson's *Léon: The Professional* (1994), David Lynch's *Lost Highway* (1997), Sam Mendes' *Road to Perdition* (2002), Michael Haneke's *Caché* (*Hidden*, 2005), Jonathan Glazer's *Under the Skin* (2013) and Dan Gilroy's *Nightcrawler* (2014), to name just a few.

body films.[117] *Maniac* tells the story of Frank Zito (Elijah Wood), a mentally disturbed man who collects and restores mannequins as both a job and a form of warped pleasure. Zito believes the mannequins to possess some form of life and helps to nurture this by murdering and scalping women. Returning the scalps to his workshop, Zito then arranges the hair from his victims upon each mannequin's head to breathe life into his collection of inanimate bodies.

The remake's use of subjective shots throughout its duration is perhaps influenced by the original's opening shot, in which Zito (Joe Spinell) looks through a beach telescope (figure 43) at an unsuspecting couple before approaching and murdering them both. As Zito Looks through the telescope, the viewer takes on his point-of-view, denoted by a binocular shot which blacks out the screen's edges, leaving a horizontal figure eight *mise-en-scène* (figure 44).

Figure 43: The beach telescope

Figure 44: Looking through the lens

---

[117] Another more recent film, in the form of Naishuller's *Hardcore Henry*, mentioned at the start of this chapter, also adopts subjective camerawork from start to finish through the technology of a GoPro camera. But unlike Zito the eponymous Henry is not so much killer than programmed action hero with augmented capabilities, rather like a computer game character. He is synthetic and a victim so does have a place in hap-tech narration but for the sake of keeping within the parameters of a strict killer anthology, I will refrain from discussing this work further here.

The viewer hears Zito's grunts of excitement as he preys upon the pair of lovers before approaching and killing each of them. In Khalfoun's remake the viewer is tethered to the camera in the film's entirety as the viewer/Zito selects targets through online dating websites, stalks women in public spaces and covertly watches them through private windows and slatted blinds. Unlike *Lady in the Lake*, which also adopts subjectivity from start to finish, Khalfoun's *Maniac,* adopting hap-tech narration, utilises the uncomfortableness of the film's subjective camerawork to purport the unease of existing within Zito's skin.

A hap-tech narrative is produced in *Maniac* as the use of subjective camerawork (human and machine) feeds into a story about the clash between an organic body's conflict with a synthetic artifice. The use of technology in the film's production matches the onscreen story. Within the diegesis of *Maniac*, Zito perceives himself as a form of mannequin doll, which is explicitly indicated in two moments within the film. The first is during a dream sequence in which Zito studies his naked form within the mirror. As the camera moves down over his pelvis a smooth plastic gloss replaces his genitals, temporally leaving him in a state somewhere between human and non-human. Later in the film, as he lies dying in his workshop after being stabbed with a metallic skeletal rod from a mannequin's hand, Zito visualises his collection of hair-covered mannequin victims coming alive and ripping away his skin. As they strip away flesh, organs and intestines, what is left underneath is a mannequin model of Zito, portraying his inhuman inner self (figures 45 and 46). The viewer witnesses this from a privileged third person perspective, outside of Zito's body looking down. This is a trait established earlier in the film when Zito carries out a murder and is able to momentarily and euphorically escape the boundaries of his own skin and

witness himself from above.

Figure 45: Zito's death

Figure 46: Zito's mannequin

Zito's synthetic self-perception is elucidated within the film's camerawork, which does not feel anchored by the gravity of a real body but instead has a type of weightlessness about it. Speaking about his role in the film, Wood has commented that, "what [the film's camerawork] lacks [...] from some POV films [...] is that sense of kinetic movement in lieu of a more graceful style."[118] In a sense his description is almost reminiscent of the mannequin dolls that the Zito character identifies with throughout the film: graceful yet kinetically defunct. This fictional contention is emphasised through the technology of *Maniac*, which is shot digitally on a Red Epic brand camera,[119] giving the subjectivity an all too clean gloss that appears more vivid than what the natural eye would see. Following D.N Rodowick's thoughts on digital film as a replacement to celluloid, the digital sight through Zito's character (and the Red Epic camera) can be considered a loss of an indexical transference of reality.

---

[118] Elijah Wood, Maniac Interview at https://www.youtube.com/watch?v=v-U1trIqLh0 (accessed 11 July 2016)

[119] Shot on What, 'Maniac', https://shotonwhat.com/maniac-2012 (accessed 11 July 2016)

Rodowick argues that the inauguration of digital cinema has bought with it a change in which "physical reality gives way to the composition of 'elastic' reality."[120] This is because "profilmic space has been pulled into the universe of numbers."[121] He elaborates, stating that "[d]igital processes are increasingly used actually to efface and in some cases entirely to rewrite the actor's body. Film 'actors' have become Frankenstein hybrids: part human, part synthetic."[122] Although Rodowick here is referring in particular to postproduction special effects, such as morphing bodies in sci-fi fantasy films, his concepts still resonate with that of the off-screen body of Zito. The digital camera-body gives the screen world a particular aesthetic sheen that falls between real and artifice, which within the story is exactly what Zito struggles to differentiate between. Every kill Zito makes removes him further from humanity until all that is left is a lifeless model.

Like *Lady in the Lake*, reflections are used frequently to allow the viewer to see 'their' body, however this only serves to widen the uncanny space between viewer and character, as we do not recognise ourselves looking back. In the first use of this tactic, Zito is seen lying in the bedroom of his first victim, gazing up at a mirrored ceiling as the unsuspecting woman performs fellatio upon him. Zito reacts by strangling the woman to death before shouting and blaming his actions upon another presence within him. It is here that Zito is first revealed as a multifaceted character that is perhaps addressing us, the viewer, as the other presence lurking within his being. This notion of multiple personality is emphasised later in the film when Zito approaches a shop window displaying

---

[120] D. N. Rodowick, *The Virtual Life of Film* (Cambridge, Mass.: Harvard University Press, 2007), 170.
[121] Ibid.
[122] Ibid., 6.

several monitors. An unseen CCTV camera explodes his image across the entirety of these screens, stressing his multiple and synthetic sense of self (figure 47).

Figure 47: Exploded subjectivity in *Maniac*

It is through these allusions to split personality and paranoia that Zito's killer instinct is balanced by a victim persona, similar to Lewis in *Peeping Tom* or subjective Parry from *Dark Passage.* Zito frequently experiences severe headaches, which are extended to the viewer through wavy askew camera angles, blurry frame edges and a piercing high pitch frequency sound. All of this works together to paint Zito as someone who is suffering both physically and mentally. His pain serves as a way to explain and offset some of his actions as a killer through hap-tech narration, where victim and killer are merged into one.

The Hap-Tech Body of the Victim

Similar to the killer body, the subjective use of a hap-tech victim body can be seen in a wide scope of cinematic film titles.[123] An example of this is Gaspar Noé's *Enter the Void,* which portrays the journey from physical assault to death in the first half hour of the film's runtime. Set in Tokyo and seen through the eyes of a young protagonist drug-dealer named Oscar (Nathaniel Brown), the film makes use of strict subjective camerawork by way of an Arricam Lite (LT) developed by Arri in 2000. The LT in comparison with Arri's other studio model (ST) is a small lightweight camera that can be mounted on the photographer's shoulder, which in Noé's film is used to convey the sense of inhabiting Oscar's body. Its technological sophistication and compactness, along with the cinematography techniques employed by Benoît Debie (director of photography), keeps a steady *mise-en-scène*, while also affording the viewer to experience the palpable dynamic asymmetry of natural movement. This can be felt vicariously in the numerous moments that Oscar traverses up and down the stairs of tower block buildings, where the camera successfully translates the sensation of each ascending or descending step.

The compactness of the camera makes the movement look natural and familiar, which is reinforced through continuous action. None of Oscar's maneuvers feel contrived and instead seemingly appear in real-time, which is at its most profound during a ten-minute walk from his high-rise apartment to a

---

[123] These include: Edwin S. Porter's *The Great Train Robbery* (1903), Abel Gance's *Napoléon* (1927), Carl Theodor Dreyer's *Vampyr* (1932), Abraham Polonsky's *Force of Evil* (1948), David Lean's *Oliver Twist* (1948), Samuel Fuller's *The Naked Kiss* (1964), Stanley Kubrick's *A Clockwork Orange* (1971), Rob Reiner's *Misery* (1990), Quentin Tarantino's *Reservoir Dogs* (1992), James Cameron's *True Lies* (1994), Robert Rodriguez's *From Dusk Till Dawn* (1996), Takashi Miike's *Ôdishon* (*Audition*, 1999), Rian Johnson's *Brick* (2005), Gaspar Noé's *Enter the Void* (2009) and Adam Wingard's directional segment from *V/H/S/2* (2013), amongst many others.

bar in town to meet a client. During this sequence Oscar walks with a friend, Victor (Olly Alexander) who is engaged in conversation with him/the viewer the whole time. The camera authentically swivels from Victor, to pavement, to city buildings in what feels like a sincere representation of human experience. Because of the freedom of the camera, perched upon the photographer's shoulder, shots, afforded from Debie's cinematography, render a full range of bodily motion from the upper torso. The Arri is free to look round slowly or with haste whilst moving, permitting an altogether more natural feel. And because of the camera's freedom there is no need for it to focus upon a single character, so Oscar will occasionally glance at Victor then away from him as they walk and talk, in what feels like the conventional way that two friends would interact.

The authenticity of Oscar's corporeal vessel is also detailed with continuous intermittent blackouts to represent blinking. This detail however is somewhat jarring as it is not in synchronisation with the viewer's own blinking eyes and therefore becomes noticeable. Human perception for the most part does not notice its own blinking habits, so to be visually aware of this onscreen feels strange. Such artifice again impairs the human body vessel, ushering in preliminary moments of uncomfortableness. These minor moments of corporeal discomfort foreshadow a major one when Oscar/the viewer reach their destination and quickly learns that their rendezvous is a trap in the form of a drug sting. After frantically rushing to a bathroom stall in attempt to flush the narcotics away, a frenzy of shouting can be heard instructing us to unlock the door. In a state of panic, Oscar/the viewer disposes of the drugs and attempts to steady their self. During this composure, a bullet comes through the door and into our chest as we slump to our knees studying the blood on our hands (figure

48). The *mise-en-scène* then rises from our body ghostlike to become an incorporeal spirit that spends the remainder of the film drifting across the neon colours of the city and the people that inhabit it, like an apparitional vapour.

Figure 48: Oscar's shot victim body

During the conversational scene between Oscar and Victor en route to the bar, they discuss the Bardo Thodol (*Tibetan Book of the Dead*), which is a Buddhist work about the afterlife. Oscar and Victor's interpretation of this work is what the film then endeavors to explore, but only once the earthly body of Oscar is dispensed with. Accordingly, the subjective camera through hap-tech narration turns Oscar into a victim.

Further application of victimisation and death through camerawork has become a ubiquitous trope to the found footage genre, in which the camera plays a diegetic role. In particular, this was marked by *The Blair Witch Project* (Eduardo Sánchez and Daniel Myrick, 1999), which received considerable attention during the time of its release for innovativeness, but in actuality

follows a format set by other films that predate it.[124] A decade prior to *The Blair Witch Project*, the handheld camtechnique can be seen in Patrick Sheane Duncan's subjective Vietnam War film, *84C MoPic* (1989). Duncan's film is presented as a pseudo-doc found footage film, existing under the pretext of an American Platoon documenting their movements in enemy territory for the purposes of a training video.

As Michael Bibby has noted, "the film ironically 'humanizes' the cinematic perspective by associating it with a body in the story."[125] For Bibby, the irony lays in the way that the film "mechanizes [the] body by subordinating it to the act of transmitting and recording."[126] The cameraman, according to Bibby, lacks an identity, emphasised in the moments that other soldiers refer to him only as 'MoPic,' the slang term for motion picture. As Bibby stresses, "[i]t is not until the cameraman himself is shot during a firefight at the end of the movie that we see the body behind the camera, and then the screen quickly goes blank because the life of the image is so nearly coterminous with the life of the body."[127]

The entwinement of death, the camera and the photograph is a well-established area of research that has been robustly scrutinised in the past through: André Bazin's 'The Ontology of the Photographic Image,' Roland Barthes's *Camera Lucida: Reflections on Photography*, Raymond Bellour's 'The Pensive Spectator: Disparate Processes Used in Viewing Cinema and Photography' and Laura Mulvey's *Death 24x a Second: Stillness and the Moving Image*, amongst others. There are different variations within each but the main

---

[124] Ruggero Deodato's *Cannibal Holocaust* (1980) is one of the earliest examples to use the found footage format.
[125] Michael Bibby, *The Vietnam War and Postmodernity* (Amherst, Mass.: University of Massachusetts Press, 2000), 36.
[126] Ibid.
[127] Ibid., 36-37.

premise is fundamentally that cameras and photographic stillness is reciprocal with the concept of death. This is because the essence of photography is the arrested passage of time and the enfolding of the past into the present. In *Camera Lucida*, Barthes refers to photographers as "agents of death"[128] who with fingers on triggers possess the technological ability to extract duration. "Death is the *eidos* of [a] Photograph,"[129] according to Barthes. Bellour draws similar conclusion in terms of temporality. In 'The Pensive Spectator' he asserts that, "[o]n one side there is movement, the present, presence: on the other, immobility, the past, a certain absence."[130] Thus, still photography within film and the 'pastness' it represents brushes the spectator with death by subtracting them from the fiction of the film.[131]

Mulvey has elaborated on these works, highlighting that time is 'embalmed' within a photograph where "it persists [in] carrying the past across to innumerable futures as they become the present."[132] Mulvey cites Barthes's essence of photography through his phrase "this was now,"[133] to highlight the confused displacement of temporal boundaries that photography and the camera puts into motion. Mulvey, who continues to draw on Barthes, also incorporates Bazin, noting that for him the photograph equates to "an image that is a reality of nature, namely an hallucination that is also a fact."[134] Mulvey comments on Bazin's use of language in which the photograph indexically 'haunts' a space between life and death through "the mechanical process, which embalms time

---

[128] R. Barthes and R. Howard, *Camera Lucida: Reflections on Photography* (Vintage, 1993), 92.
[129] Ibid., 15.
[130] Raymond Bellour, "The Pensive Spectator-Disparate Processes Used in Viewing Cinema and Photography," *WIDE ANGLE-A QUARTERLY JOURNAL OF FILM HISTORY THEORY CRITICISM & PRACTICE* 9, no. 1 (1987).
[131] Ibid.
[132] L. Mulvey, *Death 24x a Second: Stillness and the Moving Image* (Reaktion Books, 2006), 56.
[133] Ibid., 57.
[134] Ibid., 64.

against corruption." [135] Consequentially, as Mulvey describes, "it is the photograph as index, located as it is in an 'embalmed moment, that enables these exchanges across the boundaries between the material and the spiritual, reality and magic, and between life and death."[136]

Adapting this line of argument, with focus away from the photograph and upon the camera apparatus, we can consider how the diegetic inclusion of the mobile camera in the found footage genre plays a large part in transporting a body of the living over to the dead, as is the conventional trope in most uses of this cinematic style. The protagonists from the *Blair Witch Project*, and Mopic, we understand are both killed within their respective diegetic worlds, denoted by the void of the black screen, the nothingness, as the characters and spectators are abruptly subtracted from the fiction of the film and the movements from the bodies that carry the camera. The found footage genre thus puts the extension and limitation of the subjective camera into two extreme poles of life and death.[137]

Sandwiched between these two extremities of life and death, the content of these film styles are characterised by unsteady, spasmodic camerawork. These rough segments of footage are often portrayed to give the viewer a sense of authenticity and involvement in the raw docudrama process, which will frequently involve the camera in transition and down to the side of a character, recording unbeknown to them as they move. Footage like this is generally portrayed through an irregular and chaotic *mise-en-scène* where such imagery

---

[135] Ibid.

[136] Ibid., 65.

[137] This pattern can be seen in numerous found footage films including: Ruggero Deodato's *Cannibal Holocaust* (1980), Jaume Balagueró's *Rec* (2007) and *Rec 2* (2009), Matt Reeves' *Cloverfield* (2008), Oren Peli's *Paranormal Activity* (2007) and Barry Levinson's *The Bay* (2012).

has reportedly caused viewers to experience motion sickness.[138] If the subjective camera as a surrogate body represents life, and blackness or stillness a form of death, then spasmodic camerawork and irregular angles (from a subjective disposition) can be considered a form of diegetic illness, in line with the actuality of the motion sickness affect.

This is what Julian Schabel's *Le scaphandre et le papillon*, (*The Diving Bell and Butterfly*) puts into practice, to present a hap-tech experience of a victim character through the surrogate vessel of the ill, weakened and damaged body. The film gruelingly charts the biographic first person experiences of Jean-Dominique Bauby (Mathieu Amalric), a renowned author and editor for a fashion publication who became inflicted with locked-in syndrome (LIS) after suffering a severe stroke. Before passing away, Bauby spent a little over fifteen months trapped within the confines of his own body, only able to move and control his left eye, which would become his entire spectrum of communication. The chaotic feel of this film with erratic camera movement bears similarity to the found footage films mentioned above. But because the camera does not play a diegetic part in the story of the film, subjective death by way of the camera is avoided. Instead the film subjectively focuses on a corporeal space between life and death in the form of illness.

With a sense of paradox the camera equipment employed to represent these subjective moments of a physically redundant body consist of an Arriflex 435 Super Speed camera and an Arri Tilt Shift lens. This equipment, which is

---

[138] The initial box office opening of *The Blair Witch Project* had numerous complaints that the camera movement was making viewers feel nauseous. One cinema in particular reported that within one month this was happening at an average of at least one person per showing. Further details at: The Washington Post, Emily Wax, 'The Dizzy Spell of Blair Witch Project' at http://www.washingtonpost.com/wp-srv/style/movies/features/witchdizzy.htm (accessed 07 May 2016)

both light and mobile with a wide range of spherical movement, is used within the film to represent Bauby's left eye as he frenetically scans his environment to have some sense of his world. As characters enter the *mise-en-scène* to address the viewer/Bauby, they appear at an askew angle to match up with the way Bauby perceives them either from his lopsided position in bed or with his head drooping to one side when sat up.

The most adverse use of victim experience within the film is a distressing scene in which a neurologist informs Bauby that his right eye must be occluded to prevent from turning septic. Tethered to his gaze, the viewer undergoes this surgery too, watching out of the eye as the lid is pulled down and stitched closed.
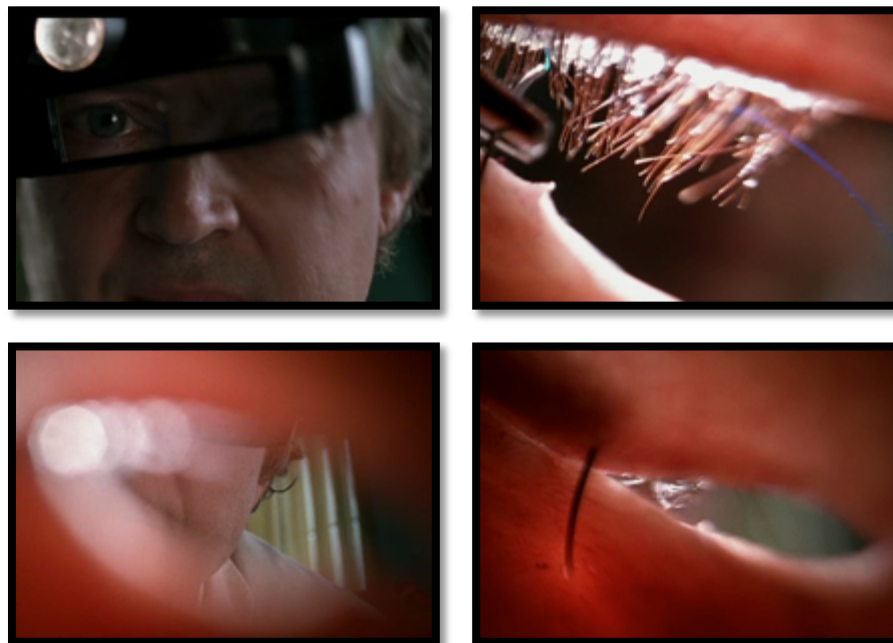
Figure 49: Bauby's occluded eye surgery

The effect is achieved by way of a pink latex oval shaped eyehole that covers the camera lens, which the surgeon proceeds to sow up. Watching this experience through a sloped pinkish oval as the needle pushes through flesh, suturing the

eye shut is as lengthy as it is disturbing, with each stitch felt by the viewer (figure 49). The light capturing the pinkness of the eyelids is evocative of Sobchack's well known description of fingers in the opening of *The Piano* (see Literature Review) but in a much more upsetting way.

With the right eye out of action, Bauby is left to interact with the world through his left eye, as it becomes a communication channel through a system of structured blinking: once for 'yes', twice for 'no'. This method of communication is incorporated in later scenes through a similar pinkish border that frames the lens of the camera. When questions are fired at Bauby/the viewer, the border responds accordingly by shutting for the appropriate number of blinks. This is achieved by way of an off-screen hand's index and middle finger horizontally positioned in front of the lens which opens and closes like a flesh digit clapperboard.[139] This corporeal method eventually develops to an arrangement of language when speech therapist Henriette (Marie-Josée Croze) devises a way for Bauby to talk through the motion of the eye. Using a letter chart, Henriette recites and points to each character of the alphabet while awaiting a response from Bauby, as he chooses each letter with a signaled blink. Bauby is instructed that once a word is complete he should blink twice, "like hitting a spacebar on a keyboard" to go onto the next word. He is also informed that if something goes wrong, to blink rapidly to alert Henriette to this.

This process begins painstakingly slow and Bauby complains through thought tracking about the pace and difficulty he has in keeping his eye wide open in anticipation for the letter. The crude technology of the letter chart, like the subjective camera, simultaneously limits and extends Bauby. It enslaves and

---

[139] 'A Cinematic Vision': DVD Featurette on *The Diving Bell and the Butterfly*.

dehumanises him in the way that he has no choice as to when he chooses to speak. Instead he can only respond when someone else, holding the lettered technology, initiates a conversation with him. On the other hand, Bauby is extended through this technology back into the world of communication and is able to articulate his inner thoughts through his own voice, albeit with a degree of compromise as the words are read back to him by way of an external speaker. As Bauby emerges from the darkness of his own thoughts back into a communicative existence, where speech becomes faster through practice and transparency of the lettered chart, the first person camerawork recedes in place of a third person cinematic syntax. The body of the triumphant overthrows the body of the victim as Bauby sets about to write his biography through his complex body phraseology.

A similar use of subjective stillness and motion to represent the body of the sick can also be identified within the film *Thomas est amoureux* (*Thomas in Love*) directed by Pierre-Paul Renders. This is a different type of subjective film in which the camera is static for the entire duration, focusing only upon a computer screen. Like Schabel's film, the subjective camera is diegetically invisible and used to present the ill body of Thomas, a severe agoraphobic, who has been confined to his apartment for over eight years. The viewer sees through Thomas and can hear him as he socialises and conducts business, shopping and sexual activity all from the computer system before him, which is his entire world. Thomas is confined to the four walls of his apartment just as the viewer is confined to the four edges of the screen. Grocery deliveries arrive to the protagonist notified by CCTV popups in the corner of the screen together with a constant flow of other notifications, from online therapy sessions to surprise

calls from Thomas's overbearing parent. In one scene in which Thomas is interactively participating in virtual sex by way of a plugin body suit on a pornography website, he receives an intrusive video call from his mother.

This interruption combined with Thomas's rapid shift of mood, changing from arousal to embarrassment and frustration, emphasises the computer technology's ability to conjure a range of emotions from geographically distanced characters with instantaneous effect. Each character, from his mother, to potential love interests and his online therapist, who he is obliged to meet in order to keep receiving sickness payment, appear by way of a talking head upon the protagonist's screen. The rapid fluidity of the ever-changing computer *mise-en-scène* gives the viewers access to Thomas's rapid stream of consciousness as he clicks from site to site while dealing with the virtual traffic of interruptions through constant popup notifications.

Like Bauby, Thomas is simultaneously extended and hindered by his technological device, forced to address others as and when they choose to speak to him. Over the course of the story and as the title promises, Thomas indeed finds love through a dating website. In trying to pursue and maintain this love he is forced to exit his apartment and head out into the open world to once again reestablish human-to-human contact. This moment brings with it a significant change within the *mise-en-scène* as Thomas is portrayed for the first time inside the CCTV popup of his own computer screen, exiting his front door. A new external third person gaze that breaks away from the confines of subjectivity denotes the cessation of his victim body and a new beginning, just as we saw with the respective body vessels of Bauby and Parry. Within this film and Schabel's increasingly, the victim role is represented through camera techniques

that ask the viewer to occupy a surrogate body, which is given form by the capacities of the apparatus, placing the viewer in a position of vulnerability through corporeal limitation.

Conclusion

In this chapter I have formulated the concept of hap-tech narration by elucidating Ihde's postphenomenological concept of the embodiment relationship. In doing so I have discussed how the technology of the camera and camera image serves as a surrogate body in subjective films, which simultaneously extends and limits the viewer's experience into the fictional diegesis of the film world. I have discussed the essence of hap-tech narration through the postphenomenological friction between the embodied camera technology and its limiting echo focus, arguing that this is the reason why the experience of subjective camerawork is generally negative. I have reinforced this through attention to a collection of subjective moments in narrative films that channel physical or moral corruptibility through first person camerawork. Subsequently I have argued that experiencing subjectivity through the killer, or the victim, permits the extending and limiting camerawork to become a more credible phenomenological experience, enabling the viewer to feel the discomfort through the surrogate's skin.

Further development of the hap-tech victim body could be continued over to a subset of social ineptness when we consider subjective moments from socially awkward characters in cinema. For example, Benjamin Braddock's (Dustin Hoffman's) subjective scuba diving pool scenes in Mike Nichols's *The Graduate* (1967), the unsocial non-conformist Ricky Fitts (Wes Bentley) who

isolates himself from behind the lens of his mobile camcorder in Sam Mendes's *American Beauty* (1999) or the school bullied Andrew Detmer (Dane DeHaan), who progresses to supernatural killer in Josh Trank's pseudo-documentary, camera diary film *Chronicle* (2012). Within these titles and others discussed throughout this chapter, the camera as an extending and limiting technological apparatus enables the viewer to step into a surrogate body vessel and experience some of the negative connotations of a character within their world.

This is primarily due to the character's isolation and inability to control their self, either morally, physically or socially in a conventional diegetic setting. This lack of control within the narrative world mirrors a lack of control between the seated viewer and cinema screen, which always distances the viewer from the action. Even a very large screen as Ihde notes, "remains a detectable film artifact."[140] Just as the viewer is powerless to change the next frame of action, good hap-tech narration should similarly deploy a sense of powerlessness within the narrative in order to convincingly extend viewers into a subjective story world where the camera's 'echo focus' or presence is disguised within the film's fictionality. This disguise may take the form of a killer weaponised gaze in relation to Virilio's association with cameras and guns, reinforced by Barthes's relationship between cameras and death. Or it may take the form of a corporeally hindered body like that of Schneider's or Bauby's. Either way, the reason for subjectivity must be narratively rationalised from the outset, otherwise it serves as little more than a novelty device, which was the problem with Montgomery's *Lady in the Lake.*

The framework of being postphenomenologically extended and hindered

---

[140] Ihde, *Bodies in Technology*, 10.

by a technology is a concept that I carry over to the next chapter on interfaces where I will be considering the composition of story through Ihde's terminology of amplification/reduction. This will be explained in more detail in relation to interactive art. In that chapter I will also be considering the full spectrum of Ihde's human-technology relationships in closer detail. These different relationships, as I will describe, enable us to understand how a physically passive cinema spectator shifts to active participant in story making. Furthermore I will demonstrate how the mix of Ihde's different human-technology relationships affords the active user new experiences of corporeal narrative composition.

Chapter 2: Interface

In this chapter I continue with the postphenomenological framework developed by Don Ihde to discuss interactive narrative artworks. Here I will focus on how different narratives are composed through a body-technology relationship. Using Ihde I investigate the interface structure of different interactive artworks that include canonical installations in the form of Jeffrey Shaw's *The Legible City* (1988) and Toni Dove's *Artificial Changelings* (1998) through to more contemporary works of circa 2010-11 from Blast Theory and Dennis Del Favero. Drawing upon these diverse artworks enables me to demonstrate how the hypothesis that I generate from Ihde's framework can be applied to a wide range of narrative artwork interfaces in order to understand the characteristics of interactivity.

These artworks utilise technologically different interfaces, ranging from mobile phones, motion detection and a stationary bicycle, and in doing so they ask the user to mobilise their body differently. It is in this difference, as the body begins to negotiate with technology, that postphenomenological imperatives are brought into view as different human-technic relations are revealed. This will prove, in light of Ihde's philosophy, that technology is not passive but rather an active phenomenon that shapes the body in a range of different postphenomenological relationships. The intention of this chapter is to explore how different application of these relationships afford different narrative structures, and to show, within each artwork, how the specific relationship between a body and interface technology is reverberated within the artwork's narrative content. The case studies also demonstrate a performative trend

running throughout media art history where the artworks have provided a means to understand and indeed experience more generalisable traits of embodied relations between human users and technology.

I stress here that the hypothesis I will use is strictly for the purposes of interactive narrative artworks rather than interactive art as a whole, the difference being that many interactive artworks are non-narrative installations. As described in the Literature Review, interactive media art developed from the expanded cinema paradigm, a movement described by Gene Youngblood in his book of the same name. As Youngblood illustrates *in Expanded Cinema,*[1] as Peter Weibel does in *Future Cinema*, many of the artworks that come under the expanded cinema classification are experimental pieces that depart from conventional modes of cinematic narrativity, such as Stan Brakhage's *Mothlight* (1963), Stan VanDerBeek's *Movie-Drome* (1965) or Shaw's *MovieMovie* (1967) amongst many others.

VanDerBeek who coined the term 'expanded cinema' created *Movie-Drome* as an experimental, cinematic artwork that took place within a large spherical aluminum dome. Inside, seated or laying spectators watched superimpositions of film, photography and coloured light, which was beamed onto the dome's interior from multiple projectors affixed to turntables, forming a movable collage. Unlike traditional cinema, the imagery was no longer confined to the single oblong frame of the screen. Instead the superimposed still and moving pictures were all around the collective body of spectators and on them, light touching flesh, closing down the spatial distance between the corporeal body and imaging technology. Expanded cinema was therefore about experience

---

[1] Gene Youngblood, *Expanded Cinema*, 1st ed. (New York,: Dutton, 1970).

over story and interactive art continued in this vein, developing experiences that users access through an interface where bodies and technologies of image making could be brought into relation.

Works such as Camille Utterback's *Text Rain* (1999, figure 50) or Wolfgang Muench's *Bubbles* (2000, figure 51) demonstrate this by producing an area of activity by juxtaposing a user's image with a digital projection. Within these works a user's image or silhouette within a screen appears to interact with and affect other onscreen depictions. In Utterback's, this is the arrangement of letters that gently fall and arrange themselves upon the contours of the user's screen-body to form words. In the case of Muench's, this is the way in which virtual bubbles that are portrayed upon a screen, pop when making contact with a user's shadow. In each case, a specific relation between body and interface technology is established, and it is this very relationship that I will focus on through Ihde to analyse how interactive narratives are constructed.

Figure 50: *Text Rain*   **Figure 51:** *Bubbles*

Although the origins of interactive art are rooted in the anti-narrativity of expanded cinema, interactive art has developed over time to not just reject

narrative but actually offer new opportunities for its unfolding in complex, non-linear and multi-temporal ways. Unlike traditional forms of cinema, interactive artworks bring users into a closer and more tactile relationship with a technology, and this is how the narrativity and temporality of works are actualised. As Ryszard Kluszczyński has shown, an artist does not make a finished piece of work that is watched but rather, "produces an area of activity for the receivers, whose interactive actions bring to life an artwork-event."[2] Within this 'artwork-event' the narrative of interactive art latently awaits to be activated by a user. Collaborative works by Shaw, one of the pioneers of media art, along with Del Favero, have put focus on new narrative modalities. *T_Visionarium* (2008-15, figure 52), a joint work between Del Favero and Shaw for example, is an artwork that involves users constructing stories by editing video clips via remote control in a cylindrical space called an AVIE (*Advanced Visualisation and Interaction Environment*). Over 20,000 clips[3] from television programmes are compiled into a database that users then arrange in an ordering of their choice to create their own stories. As discussed in the Literature Review, this is an instance of 'transcriptive narrative.'[4]

Story is also a crucial aspect to Shaw's collaborations with the Wooster Group on the experimental theatre project *There is Still Time...Brother* (2007, figure 53). In this work, a user watches a film in a 360-degree panoramic space from a revolving chair. Turning the chair within the space prompts different scenes of the film to materialise on screen, thus allowing the viewer to edit their own story 'on the fly'. These stories however are deliberately abstract,

[2] Ryszard W Kluszczynski, "Strategies of Interactive Art," *Journal of Aesthetics & Culture* 2 (2010).
[3] iCinema, 'T_Visionarium', at http://www.icinema.unsw.edu.au/projects/t_visionarium/ (accessed 20 January 2016)
[4] Ibid.

prioritising a user's editorial control in the construction of the story, rather than the story's emotional weight and engagement with a user.

Figure 52: *T_Visionarium*   **Figure 53: *There is Still Time... Brother***

Although *T_Visionarium* and *There is Still Time...Brother* begin to indicate the possibilities for interactive narrative, they remain relatively loose in terms of narrative structure, focusing instead on interactivity over the emotional investment of a user in the dramatic scenes. By Contrast, the case studies that I will be focusing on are ones that foreground the emotional investment of the users. My chosen artworks also enable me to analyse and make postphenomenological arguments about the way these works 'draw a user in' to their opportunities for experience. The three main case studies that I have chosen for analysis later in this chapter have been carefully selected for their consistent story and fictional attributes. Each of the artworks I have chosen contain (in accordance with David Herman's book of the same name) the basic elements of narrative. These are:

- A mode of representation - *situatedness*
- A trajectory of events - *event sequencing*

- Events that introduce disruption or disequilibrium into a storyworld – *worldmaking/world disruption*
- A conveyed experience of living through this storyworld – *what it's like* [5]

My three chosen artworks, in addition to characters and settings, each adhere to Herman's listed points. Individually they also bring different aspects of narrative to the forefront through discrete interface apparatuses that involve the body in a robust way. These three case studies are: Dove's *Artificial Changelings*, Blast Theory's *A Machine to See With* (2010) and Del Favero's *Scenario* (2011).

Each artwork specifically focuses upon a different aspect of narrative. *Artificial Changelings* for example asks the user/viewer to edit a story centred on two different characters, one from the 19th Century and one from the future. The user has freedom to decide which of the two characters they predominantly want to watch and follow in this 'responsive film' about time travel, consumer economy and digital culture. In contrast, *A Machine to See With* asks users to adopt a role within a scenario, with the story created as it is played out. The artwork invites users to physically move through a pervasive story in a mixed reality setting and become physiologically absorbed in moral and emotive tropes, recognisable from crime and espionage films. Contrary to this, *Scenario* is an example of 'co-evolutionary narrative', as story is constructed through shared agency between a user and the technology of its interface. The artwork was conceived as an experiment to test the way human users and machine agents work together to co-produce narrative scenarios. This particular piece also calls

---

[5] Herman, *Basic Elements of Narrative*, 14.

to attention several of Vladimir Propp's narrative functions, such as villainy, the struggle between good and evil and victory over an oppressor. On another level, as will be argued in what follows, the work is also about the complexity of having and being a body.

Each of these artworks presents novel arrangements of story through an interface that mobilises the relationship between a user's body and computer technology. For Dove and Del Favero this is predominantly achieved through motion sensing cameras linked to computer software programmes that control visual imagery upon a screen. For Blast Theory there are no screens, the fiction is instead conveyed through a mobile phone, serving as the interface device in *A Machine to See With*. I should also like to note that my analysis of these works prompts an alteration in methodology. Unlike the previous chapter that draws upon a body of literature, this chapter utilises both existing literature on my chosen artworks in addition to interviews I have conducted with each of the three artists. This allows me to analyse and articulate the artist's own beliefs, intentions and motivations firsthand from a design perspective and compare with my own empirical experiences of using an interactive interface within a gallery environment. As explained within the Introduction, this methodology, divided between my own experiences and interviews with artists, corresponds with the nature of the interactive art medium, which is co-produced between an artist and a user.

I also note that the arrangement of my three main case studies ascend in order of what I deem to be a complexity of mechanics regarding each installation's interface structure. There is also, as will become clear by the end, an acclivity in my ordering of these artworks that moves from a weaker to a

stronger formation of narrative. Highlighting this early on will allow me to illustrate throughout this chapter how the complexity of apparatuses in these interactive settings have bearings on the complexity of the stories that are told. This concept is pivotal to my framework in which Ihde provides the tools that allow me to argue that technology, as more than a tool, affects the way a worldly thing can be seen or understood by a user, thus marking technological apparatuses as non-neutral through the way in which they shape content and invite users to act in a specific way.

The Non-Neutrality of Technology

In *Technology and the Lifeworld: From Garden to Earth*, Ihde asserts that technologies are not neutral [6] and instead have the capacity to form 'technological intentions.' As Ihde states, "technologies, by providing a framework for action, [...] form intentionalities and inclinations within which use-pattern take dominant shape."[7] These intentionalities, as Peter-Paul Verbeek highlights, "play an active role in the relationship between humans and their world."[8] Verbeek goes on to note how "these intentionalities are not fixed properties of artifacts"[9] but rather "get shape within the relationship humans have with these artifacts."[10] In doing so, technologies change naked human-world relationships. Through this understanding, intentions, beliefs, desires and meanings, obtain their shape by the technologies that occupy the in-between

---

[6] Ihde, *Technology and the Lifeworld : From Garden to Earth*, 141.
[7] Ibid. P141.
[8] Peter-Paul Verbeek, "Materializing Morality: Design Ethics and Technological Mediation," *Science, Technology & Human Values* 31, no. 3 (2006).
[9] Ibid.
[10] Ibid.

fields. To illustrate Ihde's preliminary concepts, he argues that naked unmediated relationships break down thus:

$$\text{Human} \longrightarrow \text{World}$$

In phenomenology the human can be thought of as an experiencer and the world, an environment that is experienced. The arrow stands for the direction of focus or intentionality (in Edmund Husserl's sense of the term)[11] directed towards the world of something, which in this instance will be the world of interactive art. As Ihde explains,

> directed actional involvement with a world is not only one-directional, however, it is also reflexive or interactive. Phenomenology interprets intentionality as not only a distance from and involvement with world, but as *reflexive* with respect to world. This is to say […] what we eventually come to know of ourselves is strictly reciprocal with what we come to know of the world. Without world

---

[11] Edmund Husserl's phenomenology, which Ihde in part draws from, uses the term intentionality to describe the phenomenological relationship between a human being and external object in the world. Husserl's concept of intentionality means to intend towards or refer to something. As Paul Ricoeur translates: "[a]ll conscious acts are intending that intend something. For instance, Husserl says that 'judging is intending.'" D. Moran and J. Cohen, *The Husserl Dictionary* (Bloomsbury Publishing, 2012), 166. Whereas Husserl's intentionality is primarily cognitive, Ihde combines this line of thought with the philosophy of Martin Heidegger's tool analysis and John Dewey's pragmatism, to consider praxis through the intentionality of tools. This is what distinguishes Ihde's postphenomenology from Husserl's phenomenology.

there would be no self; without self, no experience of the world.[12]

In other words the world reflects experience or knowledge back onto the human. The world of fire for example is hot and dangerous, the human learns from experience not to put their hand directly into it. For someone to burn his or her self with fire is to take that world of fire back into one's self-experiencing. A second arrow denotes this accordingly:

Human ⟵⟶ World

Once we begin to consider the role that technologies play in mediating between humans and world, the relationship changes once more:

Human ⟵⟶ Technology ⟵⟶ World

According to Ihde, who builds upon and is influenced by Martin Heidegger's philosophy of technology, when the world of something is mediated through a technological means, the medium alters that which is experienced both outwardly of world and reflexively of self. It is through this arrangement that I will later come to discuss the worlds of my chosen narrative artworks, considering in particular how their stories are mediated through technological interfaces and how these interfaces reflexively organise the body of the human.

---

[12] Ihde, *Existential Technics*, 53.

To begin this investigation let us consider a more everyday example of interface in the form of the telephone.

The phone is a device that technologically filters experience by changing human-to-human relationships. The phone reduces human experience to just an abstract voice, a completely different experience compared with a face-to-face encounter. The mediation of the phone carries out a process of filtering in order to transmit information and cancel out visual, haptic and olfactory sensation. The phone caller does not come face-to-face with the other person on the line. Instead they come face-to-face with a new technically mediated subject, a technological other. As Mike Michael has argued, in a similar vein to Ihde, this is an example of co(a)gentive becoming,[13] a term that describes an emotional and corporeal connection between technology, world and selfhood. A caller could be in the next street or the next country; this makes little difference to the recipient as they both experience the other through what Ihde refers to as an irreal sense of *near distance*.[14] *Near distance,* Ihde explains

> is neither geographical, in the sense of having a clear
> perception of far and near, nor the distance of normal life
> space as in dialogue space. It is rather the mediated space-
> time in which all distances are made quasi-near.[15]

The quasi-near distance of the phone filters each caller's full-bodied appreciation of one another, reducing it exclusively to an audible experience. This reduction

---

[13] Mike Michael, *Reconnecting Culture, Technology and Nature : From Society to Heterogeneity*, International Library of Sociology (London ; New York: Routledge, 2000).
[14] Ihde, *Existential Technics*, 56-57.
[15] Ibid., 57.

however normally goes unnoticed because there is a simultaneous magnification of the device at work that takes precedence. The phone extends voice across any geographical distance, allowing two callers to be virtually present to one another. The phone therefore amplifies experience also, transforming the unmediated impossibility of two people miles apart conducting a fluent conversation in real time. Consequentially, the phone amplifies and reduces aspects of experience through its technological mediation. As Ihde states, "[i]t is together that this amplification—reduction makes a medium nonneutral or transformative of human experience. It is, moreover, a feature of every use of a technology."[16]

For Ihde this amplification/reduction structure is evident in all technological mediations, especially embodiment relations, where a technology will 'withdraw' into its user during use, allowing its user to act or see *through* this embodied device, like the way the cinema spectator is embodied through the camera (see Chapter 1). In interactive art there are many different ways in which users can be embodied through a device to interface with an artwork. This relationship between body and technology is what happens in Shaw's *The Legible City,* one of the most well known artworks in media art history.

This particular installation has been the focus of numerous academic books and articles from key figures such as Anne-Marie Duguet, Mark B.N. Hansen and Weibel. In many of these writings, such as Weibel's 'From Expanded Cinema to Virtual Reality' or Hansen's *New Philosophy for New Media*, the work is used to analyse the fusing of virtual and physical space and to consider the place of the body in digital culture. The artwork can also be considered through Ihde's

---

[16] Ibid., 56.

analysis of embodiment relations where amplification and reduction coexists. The artwork itself consists of a stationary bicycle that is placed before a large screen depicting a three-dimensional city (figures 54 and 55). The buildings of this city (which are modeled on actual ground plans of real cities that include Amsterdam, Karlsruhe and Manhattan) are substituted with computer generated 3D letters that are scaled in size to the building that each letter replaces. The stationary bicycle is the means to navigate through this virtual world, where the lettered architecture form words and words form sentences.

Figure 54: The *Legible City*   Figure 55: *The Legible City*
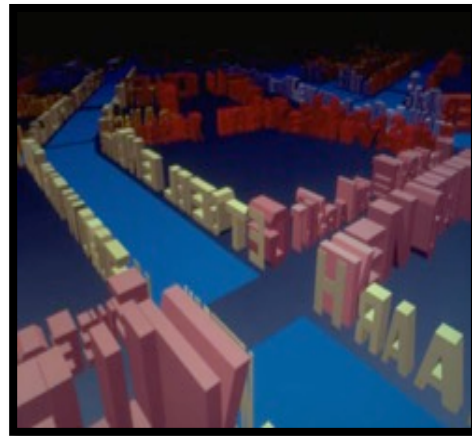
As Hansen writes, this work "specifically invest[s] the body as the site of a bodily, but also an 'intellectual,' event."[17] In contrast to earlier works of Shaw's where images are projected onto bodies, Hansen notes how *The Legible City* differs.

> If the corporeal and intellectual processing it performs still
>
> functions to "give body" to the image, it does so not by
>
> lending its physical, extended volume as a three-

---

[17] Hansen, *New Philosophy for a New Media*, 60.

dimensional screen for the image but rather by creating an

image-event out of its own embodied processing of

information.[18]

To put this differently, Hansen highlights the hybridity or co-creativity between body and image that Shaw's installation brings to light. In his work this is what Hansen terms as 'body-brain' activity (see Literature Review) a concept he develops to replace Gilles Deleuze's time-image or movement-image of cinema. This is where the distant senses of sight and sound fuse with the cinematic image to create meaning. Hansen instead champions the idea of replacing Deleuze's model with the digital image, which "should be seen as the source for any technical frame designed to make information perceivable by the body."[19] Following Hansen, this is what *The Legible City* puts forward, a digital interactive artwork in which meaning is made between the technology of the media artwork and the body of the user. The bicycle mediates the user's experience of reading, which is predominantly cognitive, to a full-bodied experience of muscular reading. The reader-rider thus takes the bike into their 'experiencing' in which it withdraws into their corporeality as they act or experience *through* the bike, just as the caller experiences through the phone. This is what Heidegger calls 'ready-to-hand' and what Ihde updates in his lexicon to embodiment relations, both of which will be described in more detail later in the chapter.

Similar to the phone example, *The Legible City* and other interactive artworks like it (where a technology is embodied) amplifies and reduces

---

[18] Ibid.

[19] Ibid., xxii.

experience for its user through its technological interface. Amplification/reduction is a subset of Ihde's embodiment relation, which can be seen in Shaw's artwork. *The Legible City* involves a reduction of the interacting body to its interacting parts, as those things that are 'sensed' or used as input by the machine. In the artwork a user's range of bodily motion is reduced only to the action of cycling, which is the only means the user has in animating the onscreen imagery. The user is thus reduced to pedaling and steering, condensing a range of possible bodily actions to just two. However this reduction is balanced by the amplified effect of traversing a digital world. This is similar to how the telephone reduces the speaking subject to just a voice, while amplifying and extending the subject to instantaneously reach a geographically remote recipient.

Furthermore, in a non-neutral capacity, these structures of amplification/reduction reverberate within the world of interactive narrative content. Interactive narrative is an amplified version of narrative. Whereas traditional narrative involves one story path and outcome, an interactive narrative often involves multiple paths and multiple possibilities. Users possess agency through choices and interactions such as which path or character to follow and what choices to make. For this amplification to work a process of reduction must also balance the equation, otherwise the narrative, due to limitless possibilities, will cease to exist in any meaningful way. Therefore, interactive narrative, as I will later demonstrate through the case studies, reduces choices (as well as bodily action) as this new technically defined body makes narrative cohesion possible. Without reducing the interacting body in this respect, the interactive narrative is unable to retain its narrative structure.

Amplified choices in interactive art are therefore always balanced with a process of reduction that filters surplus story bits out based on a user's amplified and corporeally reduced interactions, where content mirrors form.

The amplification and reduction that Ihde alerts us to in human-technology relations can be understood as the process at the heart of mediation. Sarah Kember and Joanna Zylinska address this very idea in their collaborative work, *Life after New Media: Mediation as a Vital Process*, arguing that modern life, saturated by new media, is a hybrid of biology and technology. Drawing on the philosophical concepts of Karen Barad, Henri Bergson, Donna Haraway and Marshall McLuhan, they posit a theory that "mediation can be seen as another term for 'life,' for being-in and emerging-with the world."[20] Kember and Zylinska chart modern living from social networking to cosmetic surgery, cybernetics to systems theory to present media as a dynamic ecology that humans are actively involved in. Making use of Gary Gumpert and Robert Cathcart's paper, 'A Theory of Mediation,' they argue that humans are inseparable from media. As Gumpert and Cathcart write, "[n]o one today can operate apart from the influences of mediation, because our functional, cultural, social and psychological identities are, in large part, dependent on the instrumentalities of media.[21] Gumpert and Cathcart put forward a proposition that "human and media development are intertwined in a helixlike embrace."[22] Kember and Zylinska highlight this as the most significant aspect of their theory, and use it to emphasise how "media

---

[20] Sarah Kember and Joanna Zylinska, *Life after New Media : Mediation as a Vital Process* (Cambridge, Mass. ; London: MIT Press, 2012), 23.
[21] Gary Gumpert and Robert Cathcart, 'A Theory of Mediation' in Brent D. Ruben and Leah A. Lievrouw, *Mediation, Information, and Communication*, Information and Behavior (New Brunswick, N.J.: Transaction Publishers, 1990), 24.
[22] Ibid., 35.

cannot be conceived as anything else than hybrids, and [that] technology is part of that hybridity."[23]

Many authors have illustrated this idea, in particular N Katherine Hayles's *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature and Informatics*, which considers how media technologies have adapted the human to that of a posthuman being. Haraway has similarly articulated the hybridity of human and machine, stating that in "the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism; in short, we are cyborgs."[24] In each of these works the authors use human engagement with modern media practices and bodily prosthetics to make their conclusions. Haraway in particular (who recognised this back in 1983 when she wrote this work) observes a crossover between organism and machine, writing that:

> [l]ate twentieth-century machines have made thoroughly ambiguous the difference between natural and artificial, mind and body, self-developing and externally designed, and many other distinctions that used to apply to organisms and machines. Our machines are disturbingly lively, and we ourselves frighteningly inert.[25]

This of course has intensified thirty years on with machines becoming evermore lifelike, evident in everyday examples such as Siri, the voice of Apple's operating

---

[23] Kember and Zylinska, *Life after New Media : Mediation as a Vital Process*, 7.
[24] Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature*, 150.
[25] Ibid., 151.

system that can converse with humans, or the way shopping websites can remember browsing histories in order to push recommendations to the consumer. Hayles shares Haraway's hybridity of human-technological relationships at a more basic level, arguing in *How We Think: Digital Media and Contemporary Technogenesis* that language (a lettered technology of symbols) has materiality and that "materiality is a human-technical hybrid"[26] in which "bodies and information interpenetrate."[27] *The Legible City* can be considered an exposition of this very idea, in which a human body and information upon the screen are blended together through the technology of the bicycle. In *My Mother Was a Computer: Digital Subjects and Literary Texts*, Hayles refers to the hybridity between humans and technology as 'intermediation,' a term that "denotes mediating interfaces connecting humans with the intelligent machines that are our collaborators in making, storing, and transmitting informational processes and objects."[28] Once again, this is reminiscent of Shaw's technological artwork, *The Legible City*, which a user collaborates with, to similarly make and transmit informational processes upon the screen, through the actions of the cycling body.

Barad takes this human-technological ecology the furthest by using it as a structure to define particles, the components of life itself. In *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning*, Barad meticulously details the affects technologies have on matter by using Niels Bohr's scientific study of electrons as a way to argue that interaction with

---

[26] Katherine Hayles, *How We Think : Digital Media and Contemporary Technogenesis* (Chicago, IL ; London: University of Chicago Press, 2012), 91.

[27] Ibid., 148.

[28] N.K. Hayles, *My Mother Was a Computer: Digital Subjects and Literary Texts* (University of Chicago Press, 2010), 33.

specific technologies is a contributing factor in defining the materiality of entities. This structure is important because it can also be considered later on as a way of defining the narrativity of artworks. The wave-particle duality, a debate that started in the 17th century, began when Christiaan Huygens and Isaac Newton each proposed conflicting theories as to whether the nature of light and matter consisted of waves (Huygens) or particles (Newton). This debate was eventually intervened by Bohr, who offered a fresh perspective.

As Barad illustrates, Bohr contended that different technological equipment used to carry out experimentation into this argument would change the behaviours of light and matter, so that light and matter would act like a particle under one set of experimental apparatuses and then like a wave through a different technological setup. As Barad notes in her reading of Bohr, "concepts obtain their meaning in relation to a particular physical apparatus,"[29] which is what Ihde and my case studies are predicated on. As Barad states,

> Bohr resolves the wave-particle duality paradox as follows: "wave" and "particle" are classical concepts (that are given determinate meanings by different, indeed mutually exclusive, apparatuses and) that refer to different mutually exclusive phenomena, not to independent physical objects.[30]

---

[29] K. Barad, *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning* (Duke University Press, 2007), 196.
[30] Ibid., 120-21.

Barad thus highlights the non-neutrality of technologies in action, or more precisely, what she coins as 'intra-action.' This term calls to attention an ontological process of co-emergence and inseparability between an object and human agency that forms phenomena. Again, this is a model I will use to describe the formation of interactive narratives, which are also hybrids or co-emergences between a human operator and a technological apparatus. As Barad states, "phenomena are the ontological inseparability/entanglement of intra-acting 'agencies.'"[31] In other words, phenomena, like in the case of the wave-particle duality, are formed through the intra-activity of a technological tool that does not merely observe but rather reconfigures an aspect of reality. As Barad argues, "phenomena are constitutive of reality. Reality is composed not of things-in-themselves or things-behind-phenomena but of things-in-phenomena."[32]

It is through this co-emergence and non-neutrality of technologies as active, dynamic processes that Barad argues how "apparatuses are specific material reconfigurings of the world."[33] As she states,

> apparatuses are material (re)configurings or discursive practices that produce material phenomena in their differential becoming. Phenomena are produced through specific causal intra-actions involving multiple apparatuses of bodily production.[34]

This links Barad's notions directly back to Ihde in which he discerns how

---

[31] Ibid., 139.
[32] Ibid., 140.
[33] Ibid., 142.
[34] Ibid., 170.

scientific apparatuses enable its users to discover truths about the world. Ihde emphasises how reality is co-shaped by the instruments that users perceive through. Information about the reality of the moon's surface for example, in terms of mountains and lunar craters was revealed to Galileo Galilei through the technological means of a telescope.[35] Similarly, CT scans in hospitals co-shape the internal reality of a patient's body. And in this chapter we will see how a person's body within a technological interface, like the bike in *The Legible City*, co-shapes the fictional or alternative reality of an interactive (narrative) artwork.[36]

Returning to Ihde's concept of amplification/reduction, which is his basis for the non-neutrality of technologies, he notes that, "the amplification tends to stand out, to be dramatic, while the reduction tends to be overlooked, or may be forgotten, particularly when the technology is truly good, when its transparency is highly enhanced."[37] Such a structure amplifies features of the world balanced by a simultaneous reduction, which often is unnoticed, thus forming experiences of the world through a technological process filtering. This is not to say that Ihde is a technological determinist, he, as Carl Mitcham acknowledges, "rejects a hard technological determinism"[38] but does admit how technologies are often "latent telic *inclinations*."[39] This as Mitcham notes, "predispose[s] human beings to

---

[35] Ihde, *Bodies in Technology*, 46.

[36] I am cautious here to refer to *The Legible City* as a narrative artwork. Although it is certainly an experimentation of narrative in the sense that it tests conventional reading habits, it is not an artwork that contains the basic elements of narrative as outlined by Herman. It contains no characters or trajectory of fictional events in the way that my other interview based case studies do. *The Legible City* however is a prime example of how a body and technology interface with one another to co-create meaning.

[37] Ihde, *Technics and Praxis*, 21.

[38] Mitcham, *Thinking through Technology: The Path between Engineering and Philosophy*, 77.

[39] Ibid.

develop certain life forms over others."[40] In *The Legible City* this telic inclination is the user's requirement to operate a bicycle in order to experience the lettered world, thus revealing the bike as a non-neutral device that a user co-emerges with to create meaning. This artwork's co-emergence and meaning is primarily accessed through Ihde's concept of embodiment relations.

Embodiment Relations

Embodiment relations, as stated earlier in this chapter, have evolved from Heidegger's ready-to-hand and refer to the way a technology is physically taken into a user's 'experiencing' body, affording them a particular way of doing something. It is as Ihde describes a 'use-context' relation that has its roots in Heidegger's tool analysis. In *Being and Time* Heidegger constructs a pragmatic concept of phenomenology through an analysis of equipment. As Heidegger explains,

> [t]aken strictly there 'is' no such thing as *an* equipment. To the Being of any equipment there always belongs a totality of equipment, in which it can be this equipment that it is. Equipment is essentially 'something-in-order-to...' ["etwas um-zu..."]. A totality of equipment is constituted by various ways of the 'in-order-to', such as serviceability, conduciveness, usability, manipulability.[41]

---

[40] Ibid.

[41] Martin Heidegger, John Macquarrie, and Edward Robinson, *Being and Time*, Library of Philosophy and Theology (London: S.C.M.Press, 1962), 97.

Heidegger organises this totality of equipment into three stages. In stage one he states that all technological objects are relative in a context to other objects. Heidegger for example considers the pen's relationship to paper, the paper's relation to a pad upon a table, the table on a floor within a room and so on, endlessly spreading out into a networked ecology that binds equipment with a co-equipment. The second stage involves what Heidegger calls the 'in-order-to' structure. "In the 'in-order-to' as a structure there lies an *assignment of reference* of something to something."[42] Put another way, the 'in-order-to' of equipment binds action with a co-equipment; such as the pen 'in-order-to' write on paper. Through this process we come to the third and most important stage, the tool or equipment in relation to the user as one withdraws into the other, such as the pen which ceases to be an external object and becomes the means 'in-order-to' write, which forms the concept of ready-to-hand. In his own words, Heidegger describes ready-to-hand thus:

> ready-to-hand is not grasped theoretically at all, nor is it itself the sort of thing that circumspection takes proximally as a circumspective theme. The peculiarity of what is proximally ready-to-hand is that, in its readiness-to-hand, it must, as it were, withdraw [zurückzuziehen] in order to be ready-to-hand quite authentically.[43]

---

[42] Ibid.
[43] Ibid., 99.

Heidegger's ready-to-hand affords the user praxis or a 'practical behaviour' rather than a theoretical one. Praxis binds a human user and technology in a process of withdrawal. In the act of handwriting for example, the pen withdraws into the grip and actions of its user. The pen temporarily fuses with its user, tracing their corporeality whilst at the same time changing their world, which has now become accessible to the lettered technology of the alphabet. In *The Legible City* the bicycle also withdraws into the rider, enabling them to access the lettered world of the virtual city displayed upon the screen before them.

As Heidegger asserts, ready-to-hand is a type of 'fitting in with technology' into a network of equipment, such as the ink to the pen, the pen to the paper, the paper to the desk and so forth. A tool with ready-to-hand properties puts its human user into this network, whereupon the user operates with the tool "bound up with other equipment that is useful to us in engaging in the projects that mark the space of our concern." [44] The ready-to-hand relationship posits that when a user is engaged in a task while using a tactile tool, such as a pen to write, a hammer to hit nails or a spade to dig the earth, a process of withdrawal takes place between body and tool, at which point they are synthesised together in the networked act of writing, hammering or digging. During this process the user encounters an intuition, competence and inclination *through* their tool in order to accomplish the task at hand. As Heidegger maintains, the carpenter when hammering nails, does not consider the properties of the hammer as an object made of wood and metal but instead is absorbed in the activity before them. Similarly with Shaw's artwork, the rider

---

[44] J.J. Wisnewski, *Heidegger: An Introduction* (Rowman & Littlefield Publishers, 2012), 41.

does not consider the bicycle; instead they act through it, (peddling and steering) absorbed by the imagery upon the screen.

Describing Heidegger's concept of ready-to-hand, Jeremy Wisnewski succinctly explains, "[y]ou're [...] absorbed in an activity that requires no reflection: the hammer is that which you can use to complete your project, albeit with the rest of the equipment necessary to this task."[45] Clarifying Heidegger further, Wisnewski advances the hammer concept to explain that if the tool should break, such absorption in the activity becomes ruptured.[46] This is what Heidegger recognises as present-at-hand, which as Wisnewski explains, is "an object with properties that don't allow you *to be* concernfully absorbed in an activity."[47]

Present-at-hand thus denotes a different type of relationship to ready-to-hand. While ready-to-hand is distinguished by the user's activity or perception *through* a technology, present-at-hand concerns itself with an awareness *of* the technology. As Wisnewski notes, the act of hammering does not require the user to think about the hammer explicitly, instead focus goes *through* the *noesis* of the hammer to the *noema* that is the nail. If the hammer should break or gets misplaced (rupturing the *noesis-noema* experience of hammering nails) then the user "[*does*] think about the hammer explicitly. [Their] concernful absorption is broken by the presentation of an object present-at-hand."[48] Put differently, the tool that is "broken, rendered useless or in the hands of someone who does not know what it is for, is experienced as present-at-hand."[49] The broken tool, the

---

[45] Ibid.
[46] Ibid.
[47] Ibid., 41-42.
[48] Ibid., 43.
[49] M. Watts, *The Philosophy of Heidegger* (Taylor & Francis, 2014), E-book.

tool that cannot be 'used', no longer 'withdraws' or fits into the network of being and instead becomes noticeable or *present* as an object that now sits uncomfortably in the network of being as something that must be fixed, replaced or something that we must learn to use.

Heidegger's ready-to-hand is the influence that Ihde draws upon to formulate his concept of embodiment relations. In Ihde's work we can see the concept of ready-to-hand at play when we "take [a] technology into [our] experiencing in a particular way by way of perceiving *through* such technologies and through the reflexive transformation of [our] perceptual and body sense."[50]

The phone, illustrated earlier, is a particular type of technology that withdraws into its user in-order-to be perceived *through* audibly. Eyeglasses also afford a similar type of withdrawal 'into' the body, as users perceive *through* them and they become a part of a sensory network. The fundamental point of Ihde's embodiment relation is that an experiencer perceives *through* a technology, whereupon the technology becomes transparent. As Ihde states, "the better the machine the more 'transparency' there is."[51]

The fundamental difference between Ihde's philosophy and Heidegger's is that while Heidegger influences Ihde, the latter does not agree with Heidegger's approach of fitting all technological tools into the two bottleneck structures of present or ready-to-hand. This idea, as Ihde comments, "blinds Heidegger to the differing contexts and multidimensionalities of technologies that a pragmatic-phenomenological account can better bring forth."[52] For Ihde tools are not restricted to one single use but instead have multiple uses. The hammer for

---

[50] Ihde, *Technology and the Lifeworld : From Garden to Earth*, 72.
[51] *Experimental Phenomenology : Multistabilities*, 102.
[52] *Heidegger's Technologies : Postphenomenological Perspectives*, Perspectives in Continental Philosophy (New York: Fordham University Press, 2010), 115.

example can be used as a tool for hitting nails, a weapon or paperweight. Similarly a bicycle, as demonstrated in *The Legible City*, can become the means to traverse a digital world, outside its more conventional use of travelling within the real world. The tool's multiple uses or multistability (as Ihde calls it) arises from the active way a body engages with it. By virtue of these multistable uses of a technology, Ihde replaces ready-to-hand and present-at-hand with his diverse human-technology relationships, where he updates ready-to-hand with embodiment relations, which account for the differing multidimensional ways that a user experiences something, such as the amplification and reduction of a technology which as Ihde asserts, is characteristic of all embodiment relations. "Embodiment relations display an essential magnification/reduction structure [...] Embodiment relations simultaneously magnify or amplify and reduce or place aside what is experienced through them."[53]

Returning to *The Legible City* we can see how the bike in Shaw's artwork is yet another type of technology that the rider embodies and perceives through in order to co-create an experience. As with all embodiment relations, transparency of a technology is never pure, as its presence makes itself known through the amplification/reduction structure. This is something that I came to appreciate at the ZKM Karlsruhe, when I first experienced *The Legible City*. What I soon became aware of was that the physical effort of cycling in the real world was being virtually transcribed before me upon a screen that corresponded to the pedaling and steering actions that I performed. Gestures from my body were being amplified from the realm of the real into the world of the virtual. This is an example of what Anna Munster talks about when she describes how "our bodies,

---

[53] *Technology and the Lifeworld : From Garden to Earth*. P. 76.

analog compositions that they are, can […] transform themselves and become virtual selves."[54] For Munster "analog/digital relations are interdependent rather than separate,"[55] allowing a trajectory or flux to extend beyond our bounded bodies into a virtual other. This is a concept shared by many. Hayles comments that informational patterns such as email are a way that "problematizes thinking of the body as a self-evident physicality."[56] Brian Rotman claims likewise, stating that email and other electronic communication channels, change a user into a parallel form of self in which their electronic presence exists virtually beside their organic flesh body. And Ihde focuses upon the duality of the body in terms of real and virtual in which the virtual (VR) body is an extension of the real life (RL) here-body.

Munster claims that virtualization is "an expanding and contracting field of differentiation, an enfolding of matter by informational incorporeality."[57] This is a concept that overlaps with Ihde's and can be applied to *The Legible City*, which is an installation that simultaneously expands and contracts the rider's corporeal techniques and bodily awareness amid an aura of informational code. As the rider pedals the bike, muscular effort is churned into informational code, with its effect presented before them upon the screen. As I discovered during my experience an increase in leg speed propels the visual rapidity of letters and a physical decrease slows them down. But I also found that as much as the cyclist is projected into the virtual world and in a sense extended by the technology of the interface, they are also inhibited by it. As previously stated, my bodily

---

[54] Munster, *Materializing New Media : Embodiment in Information Aesthetics*, 114.
[55] Ibid.
[56] Hayles, *How We Became Posthuman : Virtual Bodies in Cybernetics, Literature, and Informatics*, 27.
[57] Munster, *Materializing New Media : Embodiment in Information Aesthetics*, 114.

movement was constrained *only* to pedaling and steering, decreasing a range of possible bodily actions to just these two.

This experience of amplification/reduction in regards to the bike was also transcribed into the lettered world before me. Letters took on amplified significance in this artwork as: alphabetical symbols, map markings, buildings and images. The method of reading also became amplified in this artwork, expanded from the cognitive practice that is bounded by the rules of scanning a page from left to right, top to bottom. Instead I could travel in any direction, co-creating new meanings as I went, or even travel through letters themselves. In doing so however, the sentences became more abstract and the meaning reduced. It also became evident that in order to read the words within this virtual world, I had to slow my pedaling down so that I could take the words in, thus amplifying my cognitive understanding through corporeal reduction.

Through this understanding the artwork was multistable as my body underwent several experiences at once. Amplification and reduction occurred within this network of discursive practice in the form of an embodiment relation. Additionally I also experienced at the same time, a distinctly separate experience of reading the screen through a hermeneutical relationship, as was the case in Chapter 1. As I studied the digital letters, cognitively arranging them into some order or meaning, a hermeneutical relationship influenced my bodily action. This is where I tried to steer the bike to follow a particular sentence. Thus a hermeneutic relation governed embodiment, while simultaneously, my embodiment relationship generated the hermeneutic letters. I will return to this hermeneutic idea later on in this chapter when I describe other screen-based works, but for now I turn my attention to my first interview based case study;

discussing the multistability of the embodiment relation in Blast Theory's *A Machine to See With.*

Mobile Multistability in *A Machine to See With*

"Just listen to the voice on the phone. The voice tells you what to do. The voice says you're playing the lead in a movie. Hide in the toilets, find the getaway car, stake out the bank and take a deep breath. You're going in."[58]

Figure 56: *A Machine to See With*

The description above taken from Blast Theory's website describes their artwork, *A Machine to See With*. This is a pervasive game that involves a group of users following instructions on a mobile phone. As these instructions are spoken each user must carry them out, mobilising each individual participant across a real urban environment. Within a specific starting point in a city setting and at an arranged time, a participant's phone will ring. The voice on the phone will then proceed to instruct a user about the fictitious bank robbery they are going on, leading them to real checkpoints and other participants before eventually

---

[58] Blast Theory, 'A Machine to See With' at http://www.blasttheory.co.uk/projects/a-machine-to-see-with/ (accessed 20 February 2016)

reaching the doors of a public bank. The fictionality of this experience relies heavily upon the multistability of the mobile phone technology.

As previously discussed, multistability is a term frequently used by Ihde in his postphenomenology of technology and bodies. Ihde uses it interchangeably to denote different things pertaining to the body or the disparate ways a technology can be put to use. To recap, this can be the way a hammer is not only limited to hitting nails but can also be used as a weapon, paperweight or anything else that the active user ascribes to it, making the technology multiple in its uses. In a physiological sense, multistability is incorporated by Ihde to explain the binaries of contrasting elements that a body can experience in different technological scenarios, such as the amplification or reduction of real and virtual worlds.

Ihde argues that the very essence of being a body is also a multistable phenomenon, comprised of what he terms as body one and body two. Ihde writes, "[w]e *are* our body in the sense in which phenomenology understands our motile, perceptual, and emotive being-in-the-world. This sense of body I call *body one.* But we are also bodies in a social and cultural sense […] I call this zone of bodily significance *body two*." [59] Body two consists of the cultural signifiers that are inscribed upon us as bodies and what we as bodies culturally inscribe upon others. Body two is the body of age, gender, race, class and sexuality. Bodies, as Ihde argues, are therefore multistable hybrids of flesh and culture, simultaneously affecting one another. This is a view shared by Elizabeth Grosz, who states in her work, *Volatile Bodies: Towards a Corporeal Feminism*, that "[t]he body must be regarded as a site of social, political, cultural and geographic

---

[59] Ihde, *Bodies in Technology*, xi.

inscriptions, productions or constitution. The body is not opposed to culture, a resistant throwback to a natural past; it is itself a cultural, *the* cultural product."[60]

In *Mobile Interface Theory: Embodied Space and Locative Media*, Jason Farman cites Grosz and Jacques Derrida's concept of the *mise en abyme* (used metaphorically to show human inability to escape culture adapted from Derrida's indispensability of 'the text') as a way to argue that embodiment, or being a body, is always inherently linked to existing within a cultural space. For Farman, "spaces and bodies are co-constitutive as they produce one another, and this production must be theorized with cultural and physiological specificity."[61] Farman utilises Henri Lefebvre's *The Production of Space* that states: "[e]ach living body *is* space and *has* space: it produces itself in space and it also produces that space."[62] This intertwinement of body and space can be considered a multistable relationship in Ihde's sense of the term, which becomes particularly significant when Farman develops his argument to consider space as being synonymous with culture, asserting that: "our bodies, our spaces, and our technologies are all formed within culture and subsequently work within the bounds of culture to transform it."[63]

Farman's analysis of body and space treads a similar path to Ihde's notion of human and world (discussed earlier in this chapter), especially when Farman begins to look at how a technological interface (in the form of the phone) can

---

[60] E. A. Grosz, *Volatile Bodies : Toward a Corporeal Feminism*, Theories of Representation and Difference (Bloomington: Indiana University Press, 1994), 23.

[61] Jason Farman, *Mobile Interface Theory : Embodied Space and Locative Media* (New York ; London: Routledge, 2012), 18.

[62] Henri Lefebvre, *The Production of Space* (Oxford, OX, UK ; Cambridge, Mass., USA: Blackwell, 1991), 170.

[63] Farman, *Mobile Interface Theory : Embodied Space and Locative Media*, 25.

elicit new experiences of embodiment and open new spaces created through the body. By way of example, Farman cites Allucquére Roseanne Stone's sociological study of phone sex from her article 'Split Subjects, Not Atoms; Or How I Fell in Love with My Prosthesis.' Within this work Stone draws upon her experience of time spent with phone sex workers, reasoning how "what was being sent back and forth over the wires wasn't just information, it was *bodies*."[64] As she explains,

> [t]he sex workers took an extremely complex, highly detailed set of behaviors, translated them into a single sense modality, then further boiled them down to a series of highly compressed tokens. They then squirted those tokens down a voice-grade phone line. At the other end of the line the recipient of all this effort added boiling water, so to speak, and reconstituted the tokens into a fully detailed set of images and interactions in multiple sensory modes. [65]

Stone's description, aside from resonating with Munster, Hayles and Ihde's notion of a virtual body extending beyond the boundaries of a real physical form, also personifies McLuhan's concept of the phone as a model of 'cool media.' In *Understanding Media: The Extensions of Man,* McLuhan differentiates between *hot* and *cool* media on the basis of how much participation is required from the user to fill in the consequential sensory void that is left by media apparatuses.

---

[64] Allucquere Stone, "Split Subjects, Not Atoms; or, How I Fell in Love with My Prosthesis," *Configurations* 2, no. 1 (1994): 176.
[65] Ibid., 177.

Cinema, McLuhan argues, is an instance of hot media because it imparts to the spectator a rich level of data for the eyes and ears. The phone in contrast "is a cool medium or one of low definition, because the ear is given a meager amount of information."[66] The user is therefore required to participate by filling in the sensory blanks of the reduced or absent data through their own sensorium.

In a similar vein to the eroticism of phone sex but replaced with phone narrative, Brighton based art group, Blast Theory, have devised a way for participants to corporeally experience a fictional scenario through the interface of their mobile phones. Blast Theory's work, in their own words, "explores interactivity and the social and political aspects of technology. Drawing on popular culture and games, the work often blurs the boundaries between the real and the fictional."[67] In their 'pervasive game' artwork, *A Machine to See With*, body, space and culture of a fictional and cinematic type are synthesised in a specific way across the echelons of a real and virtual context.

The artists of Blast Theory (led by founding members: Matt Adams, Ju Row Farr and Nick Tandavanitj) provide the opportunity for six participants to simultaneously engage within an interactive narrative through the multistability of a mobile phone, ascribed the new use of constructing a fictional event. Participants give their mobile numbers to the artists when signing up for this experience and are directed to a starting location at a specific time and place. Once ready, each participant receives a series of phone calls from an automated voice, created by the artists from the call-centre software Asterisk. This voice instructs each participant that they are going on a bank robbery and over the

---

[66] McLuhan, *Understanding Media : The Extensions of Man*, 24.
[67] Blast Theory, 'About Blast Theory' at http://www.blasttheory.co.uk/our-history-approach/ (accessed 20 January 2016)

216

course of an hour, the voice phones each participant at sporadic moments, guiding and instructing them on where to go and what to do, with each directive moving participants closer to the targeted real-life bank.

This type of artwork virtually reconstructs the space before participants in which "[t]he city is understood as a cinematic space and the eyes of the participants as the screens themselves."[68] Such an experience is Blast Theory's interpretation of 'locative cinema', which they describe in the following way.

> It is about cinema. We thought about the city as a cinematic space and considered how screens might be inserted into the streets or carried through them. Our approach was to think of our eyes as the screens themselves: as Chris Hedges says in The Empire of Illusion, "we try to see ourselves moving through our life as a camera would see us, mindful of how we hold ourselves, how we dress, what we say. We invent movies that play in our heads."[69]

Within this artwork, Blast Theory echo the embodiment practices that Stone refers to in a more robust formation, as the cool medium of the phone, or its reductive component in Ihde's use of amplification/reduction, leaves a large space to be filled in by the user in both a physical and physiological manner. Ihde's concept of body one and body two are both manipulated by Blast Theory

---

[68] A. Treske, *Video Theory: Online Video Aesthetics or the Afterlife of Video* (transcript, 2015), 35.
[69] Blast Theory, 'A Machine to See With' at www.blasttheory.co.uk/projects/a-machine-to-see-with/ (accessed 20 January 2016)

217

as they set users off on a palpable and emotive journey. With respect to Blast Theory's work, body one; the motile and emotive body is put to work through the physical acts of traversing the geographical checkpoints and feeling the energy, fatigue and emotive excitement and paranoia that the artwork offers. This is combined with body two; in which Blast Theory inscribe the role of potential criminal onto the user, as the voice on the phone robotically guides the player towards their fictional offence. The users are not able to verbally converse with the voice, which, postphenomenologically speaking, actualises the phone's multistability.

The phone, which is usually a two-way communication technology, is reconfigured to a one-way variant of a machine that a user acts and 'sees' through. Participants are encouraged to improvise actions that feel right based on the guidance spoken to them by the automated voice. In the artwork the reduction of being controlled by the phone provides the opportunity to be amplified into a fictional space where each user can become a central character. This crime-based, mixed reality artwork, that blends the realness of a geographic city setting with a fictive bank robbery scenario, invites participants to fill this space with physical action and introspective sensation. Put differently, Blast Theory blend Ihde's concept of body one and body two into the role of a bank robber who can feel the nervous excitement and anticipation of the fictional crime within their skin. There are no screens depicting virtual imagery within this work, instead a user moves around an actual city that is given a virtual slant through the interface of the phone.

A Machine to See With, commissioned by ZER01: The Art & Technology Network, Sundance Film Festival's New Frontiers Initiative and Banff New Media

Institute, was a work that began with the question 'what could cinema be outside the traditional cinematic space?'[70] In an age in which cinema and technology are ubiquitous, downloadable to pocket sized devices and accessible at any time, combined with the inundation of urban cameras that countlessly photograph us throughout the day, Blast Theory's artwork plays with the idea of cinema's omnipresent affect and influence on the passing moments of our day-to-day lives. The voice, while instructing each participant on where to go and how to act, (turn right, blend in, look inconspicuous) has the capability of intensifying each player's own physical comportment, as they begin to visualise themselves in the starring role of a crime motion picture. In an interview I conducted with Ju Row Farr she explained this structure and the importance of the artwork's narrative frame.

> Creating a structure and world in which people can participate is obviously very important and one of the things we are interested in is story. We see story or narrative across fiction, the real (the documentary), the imaginary and the virtual, so our thinking on narrative roams across those four areas. There has to be a story or journey that makes sense. The participant needs to know what they're being asked to do in order to enter into that world. They need to know their part in that story and what their place is in this work, (their call to action) then we can move what they're going to do or where the story or

---

[70] Blast Theory interview, November 2014.

structure is going to twist. If you are talking about a classic

narrative structure with a dramatic arc where the climax

comes two thirds of the way in, we test and revise

rigorously where those points are and we willfully play

with those.[71]

Within this work, Blast Theory furnish their participants with the tools to move to and from emotional states as frequently as they move to and from geographic locations. Users are guided from checkpoint to checkpoint across a city (figure 57), in preparation for the final act of entering and robbing the bank. A player might begin their journey by being directed into a public washroom (figure 58).

Figure 57: *A Machine to See With*   **Figure 58:** *A Machine to See With*

From here the voice instructs the players to rate themselves on how they perform under pressure by asking them to score themselves between one and nine on the keypad of their phone. This task is intended to give the player a sense

---

[71] Ibid.

of control over whether it will be them or an accomplice (another player sharing the experience) that will perform the robbery or instead be assigned to the post of lookout. In actuality these choices do not affect the prerecorded instructions and every player will be, at carefully timed intervals, the lookout *and* the one to enter the bank. Other tasks are also requested of the player, such as taking out all their money and concealing it somewhere about their person. Such requests are contrived to resonate with players as familiar cinematic tropes designed to ease them into the performing roles of onscreen characters by turning their own possessions into props and the actual city into a set.

This idea is intensified by a different strand of content within the artwork running parallel to the fictional heist. Juxtaposed to the role of bank robber, Blast Theory also provide participants with the opportunity to experience an additional meta role of an actor on set playing the character of the bank robber in a heist movie. The voice on the phone informs the user that the city around them is nothing more than artificial scenery, built solely for the user to act and star in. The voice will occasionally remind the user to imagine that a camera is on them, and will prompt them to think about their own actions and gestures in terms of where the camera is placed and the type of shot it might be, adding another layer to the already confused state of body one (the motile body) and body two (the criminal role). Within the washroom the voice on the phone may inform the player that the (imaginary) camera is filming them through gaps in the wall. The voice may further prompt the user to hold certain personal items of inventory out towards the (imaginary) camera so that the (imaginary) spectator might learn something of their protagonist. Subjective viewpoint is thus multistable within this artwork through the arrangement of fluctuating roles

between character, actor and external spectator, which Farr explained in the following way.

> What we believe is that the cinema is inside people; that our senses are the machines to see with. It's kind of like this is the cinema world and we are walking through it and we don't need a bit of rectangular glass to show us that or to frame that. So we've framed it through story and description of the camera moving up your body and that everything around you is paper thin and made up.[72]

As Farr indicates the player's body *is* the machine to see with in this artwork as it performs two roles side by side: the criminal and the actor – and adopts four multistable perspectives at once: criminal, actor, external spectator and pervasive game player. When I asked Farr the significance of these shifting perspectives she replied:

> we are under no illusions that what we're doing is making a fiction, this is a fictional experience but our works are often in the real world. So we're aware as people that when we're going around and we're listening, lets say to a story on a pair of headphones, what will impact on that story is the other stuff in the real world. For example taking the headphones off to get your car keys out, or pay

[72] Blast Theory interview, November 2014.

for the coffee you've bought. There are always these interruptions and there are always these multiple levels in which we operate as individuals. So the artwork is trying to recognise and play with those things by destabilising the participant. We want, within a very tight timeframe to be able to pull the participant around and destabilise them without psychological damage. [*A Machine to See With*] is meant to feel visceral, its meant to feel real and I suppose that's what we really like. We want that sense that we are alive now. And we want it to feel like it is a possibility and that's not just an intellectual thing but also a physiological positioning. I like that sense that you can physically feel different to the world around you, and we do that all the time. If we feel worried or anxious things look different, you can feel that in your body, the world around us looks different and that's all we're doing. In a way [the artwork] is using those things that we naturally have as resources: physiological resources.[73]

Looking at the artwork through Ihde's understanding of body one and body two allows us to see how Blast Theory plays with a user's physiological resources. By pervasively changing the player culturally to the roles of criminal and actor (body two) the user can experience heightened physiological sensations of paranoia or solipsism in their physical body (body one).

---

[73] Ibid.

A Machine to See With is organised in a specific way so that each player never actually enters the bank but this is not revealed until the very last second. As the player draws closer to the building after fulfilling the automated instructions of scrutinising it, walking around it and devising an escape route, the voice informs the player it will begin a countdown from ten. The human puppet is instructed to have their hand on the door handle of the bank ready to go in at one (figure 59).
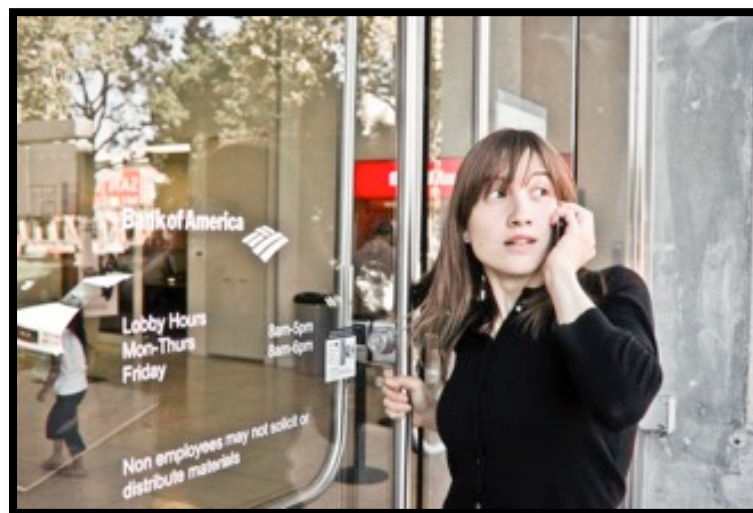
Figure 59: One of the banks in *A in Machine to See With*

In the final second the voice tells the player to abort the mission, abruptly ending the experience at what is devised to be a tense moment in the body of the performer. Through this arrangement Blast Theory sets the stage for a user to experience the emotive and physiological sensation of a criminal, mere moments before their offence. The intensity is designed to magnify the user's fictitious experience and stay under their skin long past it. This amplified sensation, taken from the screen and figuratively injected placebo-like into the sensing body of the user, works in tandem with magnified feelings of paranoia and potential

grandeur through the partial belief of an invisible movie-camera watching their every move. In a different interview, Tandavanitj comments that,

> [o]ne of the strongest responses from people is […] a sense of being watched, and we've invoked that quite a lot, because we talk about a camera being on you, and trying to frame it as being cinematic and placing you within a field of view of a camera. And people feel extremely paranoid, they don't know whether there is a camera there or not, they don't know whether there are half a dozen Blast Theory [performers] all standing, waiting to come on stage or step out in front of them at any point. And so I think that sensation is really common.[74]

In my interview, Farr also recounted that past players have misread the people around them, sensing through modified physiological radars, that other members of the public are somehow involved in the experience and conversant to the player's criminal intentions, evoking once again Ihde's body one and body two dichotomy. The artwork therefore amplifies fictive sensation in the user's own body and the space that it creates, as well as in the external space and bodies of others.

In terms of multistability, this artwork helps to initiate fictional interaction between the participant and their phone, members of the general

---

[74] Marcos Pereira Dias, 'A Machine to See With (and Reflect Upon): Interview with Blast Theory' in Liminalities: A Journal of Performance Studies, Vol. 8, No. 1, April 2012 at http://liminalities.net/8-1/blast-theory.html (accessed 20 January 2016)

public and the five other players whose paths might cross. Highlighting a claim made by Hayles, that "for information to exist it must always be instantiated in a medium"[75] and as such must be embodied, this artwork shows how the virtual information of a fictional event is channeled from technology to real life body of player and external bodies occupying the space. The multistability of this artwork in terms of real and virtual, the collective roles and perspectives of criminal and actor and heightened sense of corporeal and spatial awareness, is all made possible through the non-neutral interface of the phone. The multistability of content, which at times is both empowering and restrictive, is given shape by the multistable phone interface, altered from reciprocal communication device to oppressive and deterministic machine that orders its participants about, unable to hear them and making them see the world as it instructs. The phone in this sense is a multistable machine to see and feel with.

---

[75] Hayles, *How We Became Posthuman : Virtual Bodies in Cybernetics, Literature, and Informatics*, 13.

Body and Incorporeality in *Artificial Changelings*

Toni Dove is a media artist whose collective work experiments with narrative, technology and a participant's body in order (as she puts it) "to take the movie off the wall and bring it into the room."[76] Her work has been described by Jean-Louis Boissier as a form of "'sensorial cartography' of the interactive image"[77] and the meaning of her art has produced extensive academic discussion. In *Artificial Changelings*, a work that Dove describes as "an immersive, responsive narrative installation,"[78] the user stands before a large curved projection screen that hangs in a darkened room. Three rubber floor pads lay positioned upon the ground inline and in front of the screen demarcating three individual zones, which when entered (by stepping onto the pads) activate different cinematic shots within Dove's responsive movie (figures 60-63).

Figure 60: *Artificial Changelings*

Figure 61: *Artificial Changelings*

---

[76] L. Hill and H. Paris, *Guerilla Performance and Multimedia* (Continuum, 2001), 25.
[77] Timothy Murray, *Digital Baroque : New Media Art and Cinematic Folds*, Electronic Mediations V. 26 (Minneapolis: University of Minnesota Press, 2008), 181.
[78] Hill and Paris, *Guerilla Performance and Multimedia*, 25.
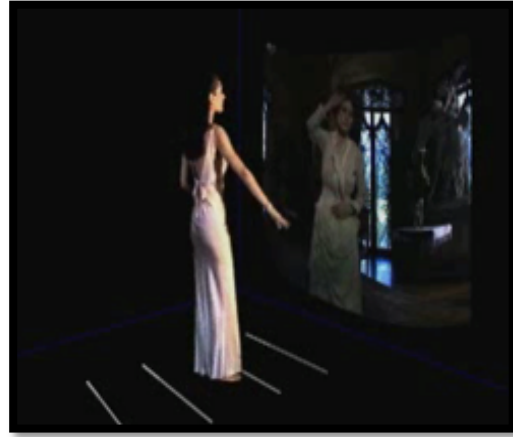
Stepping into zone one for example (nearest to the screen) activates a close-up of a character's face (figures 61 and 62), accompanied by a voiceover of their thoughts, as if inside the character's head; a step back into zone two depicts a character in medium shot and in direct address with the participant (figure 63). Another step back into zone three puts the onscreen character into a trance or dreamlike state and a final step back onto a fourth smaller pad triggers a time tunnel where participants can switch between one of two different story settings and characters. These characters are Arathusa (figure 64); a woman living in nineteenth-century Paris during the rise of the department store and Zilith (figure 65), a female twenty-first-century encryption hacker, who in the story exists both independently in her own universe and figuratively in Arathusa's, who first visualises Zilith in a dream.

Figure 64: Arathusa
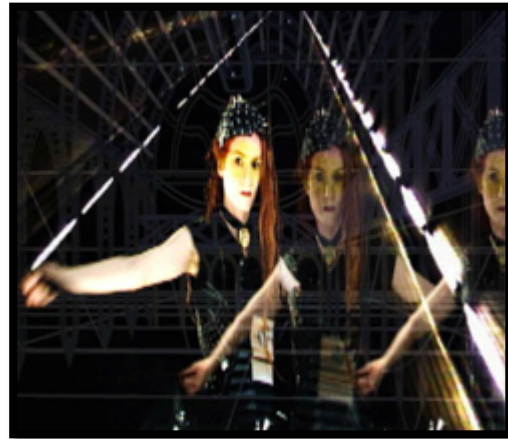
Figure 65: Zilith

Situated above the pads are two lights and a surveillance camera that captures the user's movements, and through motion sensing, causes changes in the sound and video imagery upon the screen. By stepping into the pool of light and moving up and down the different zones, participants co-create a story by manipulating shards of prerecorded sound and footage, responsively tethered to the user's movement and zone location. The results can be a rapid fusion of Arathusa and Zilith if the participant's mobility is frenetic (and crosses the time tunnel) or can instead be focused on one of the two characters in more measured tones of movement and gesture. As Dove states,

> [t]he characters become like marionettes with unpredictable reactions based on the movement of the viewer in front of the screen. Body movement will dissolve images, shuttle forward and reverse on the time line, trigger frame loops, and change speed and color, as well as dissolve between segments and create superimpositions.[79]

---

[79] Ibid., 26-27.

Movement is the driving force of the artwork, the user is free to move in whichever way they choose but must keep moving within the parameters of the zones, otherwise the onscreen action will dwindle to lifelessness. As Dove highlights, "Different viewer responses will produce different aspects of content and affect."[80]

In contrast to *A Machine to See With* where users have no influence in shaping content and can only respond to it, a major point of *Artificial Changelings is* to control the flow of content through a user's physical response, which moulds and edits subject matter. Users cannot change the prerecorded narrative events themselves but are in a position to orchestrate how these film fragments come together through their physical behaviour, thus producing bespoke "aspects of content, emotional tone and information."[81] Furthermore, the narrative is more complex through the inclusion of parallel worlds and characters portrayed externally to the user upon a screen. The screen itself brings to the artwork another technological layer in the form of a hermeneutical relationship.

The user is extended *through* the artwork by means of their corporeality that is detected by the motion sensors, and through a process of withdrawal, outputs an onscreen effect. The user's attention is drawn to this screen, where they read and gauge it to test their agency. Consequentially the screen can be considered hermeneutical. Ihde's definition of a hermeneutical relationship, which I defined in the introduction and incorporated in the previous chapter,

---

[80] Ibid., 27.

[81] Toni Dove 'Artificial Changelings' at http://www.tonidove.com/afoverview_text.html (accessed 15 October 2015)

relating to the cinema screen, means in its simplest form, interpretation. "In a more specialized sense it refers to *textual* interpretation and thus entails *reading*."[82] As Ihde highlights all reading involves something that is written and "all writing entails technologies."[83] The relationship that the reader has with these technologies deviates from that of an embodied relationship. From a phenomenological stance the difference between these two relationships is that embodiment consists of an experience *through* a technology while hermeneutical is an experience *of* a technology.

When looking upon a thermometer for example, we do not *feel* the temperature through the device by embodying it; instead we hermeneutically read the level of the liquid within the glass tube to gauge an understanding of the climate. "A hermeneutic relation mimics sensory perception insofar as it is also a kind of seeing [...] but it is a referential seeing."[84] In *Artificial Changelings* this referential seeing is presented upon a screen that the user hermeneutically reads and interprets in order to follow the story. The complexity of these intertwined relationships permits a complexity in narrative content as the screen allows the user to access two different characters in two different worlds. This is a richer formation of narrative in comparison to Blast Theory's artwork, which contains no other characters and plays out in the corporeal interior of the locomotive subject. In keeping with Ihde's non-neutrality of technology, the complexity of Dove's interface has bearing on the complexity of the story.

The reverberation of interface technology into story content also comes into play through the multistability of real and virtual in the space that the user

---

[82] Ihde, *Technology and the Lifeworld : From Garden to Earth*, 80.
[83] Ibid.
[84] Ibid., 85.

operates in. Real gesture extends beyond the body to touch and edit, in a virtual sense, fragments of the story into some sort of order, which is mirrored within the narrative's content in terms of how the characters relate to each other. Timothy Murray's *Digital Baroque: New Media Art and Cinematic Folds* has addressed this, highlighting that the character of Arathusa, who is a kleptomaniac and obsessed with consumerism, is emblematic of Margaret Morse's description of the shopping mall as a form of virtualization. In Morse's *Virtualities: Television, Media Art and Cyberculture*, she asserts that "freeways, malls and television are the locus of virtualization or an attenuated *fiction effect*, that is a partial loss of touch with the here-and-now."[85] Murray uses Morse's ideas to discuss the loss of touch that Arathusa imparts against the backdrop of the department store from which she steals. Murray cites the subliminal effect that Arathusa encounters when purloining goods, experiencing a "sensation like electric waves [that] flows through her body."[86] Murray refers to Arathusa's sense of touch as a "subliminal surface"[87] which he compares to Deleuze's 'surface effects' described in *The Logic of Sense*.

In this work Deleuze describes surface effects as an interweavement of corporeal and incorporeal organisms. Deleuze states that "all bodies are causes"[88], while effects in contrast "are not bodies, but, […] 'incorporeal' entities."[89] In other words, effects are virtual forces or incorporeal potentiality. As he argues,

---

85 M. Morse, *Virtualities: Television, Media Art, and Cyberculture* (Indiana University Press, 1998), 99.
86 Murray, *Digital Baroque : New Media Art and Cinematic Folds*, 184.
87 Ibid.
88 Gilles Deleuze and Abdelkrim Brahim-Bounab, *The Logic of Sense* (London: Athlone Press, 1990), 4.
89 Ibid.

[t]hey are not physical qualities or properties, but rather

logical or dialectical attributes. They are not things or

facts, but events. [...] They are neither agents nor patients,

but results of action and passions. [...] They are not living

presents, but infinitives: the ultimate Aion, the becoming

which divides itself infinitely in past and future and always

eludes the present.[90]

In *Artificial Changelings* movement from the participant's body (cause) creates incorporeal surface effects or events onscreen between Arathusa and Zilith, characters, who in a literal sense, are divided by past and future and are incorporeal to each other. Their incoporeality is what fuels the story as they conduct (through the corporeal user) a telepathic conversation with one another. The participant serves as a form of flesh interface to power this conversation through their movement. In an interview I conducted with Dove she explained that "in narrative terms its primarily exposition. It's essentially your body movement, emotion and interaction with the screen that sets up a dialogue with the two characters. As a user you navigate, activate and inhabit the characters like you are inside them."[91]

Similar to Sherry Turkle's identification of the screen as a second self, where "computers can be extensions of the mind's construction of thought,"[92] Dove's interface involves a space where the onscreen characters become

---

[90] Ibid., 5.
[91] Dove interview, December 2014.
[92] Sherry Turkle, *Life on the Screen : Identity in the Age of the Internet* (New York: Simon & Schuster, 1995), 30.

extensions of the user's body to construct a story. The user becomes pluralised, existing as a medium, a space in-between real and virtual, past and future. The user becomes what Rotman has referred to as a parallel form of self. In *Becoming Beside Ourselves: The Alphabet, Ghosts and Distributed Human Being*, Rotman describes how media technologies that have evolved from the lettered technology of the alphabet through to modern cotemporary media apparatuses such as tablets or phones, always projects the user to a form of virtual self.[93] Rotman identifies three waves of virtuality in the form of gesture to speech, speech to writing and writing to networks. He describes how each of these waves produces what he terms a ghost-effect, stating that,

> [s]peech […] materializes thought and virtualizes dumb presence. The spoken 'I' [provides] a symbolic, out-of-body template for a ghost-effect. […] Writing performs a parallel move on speech, materializing utterance and virtualizing spoken presence. The written 'I' [provides] a template for a virtual voice, a ghost-who-speaks from elsewhere.[94]

Artificial Changelings (for the user) incorporates all of Rotman's waves. It projects gesture from the user into speech and movement upon a screen. An electronic network captures movement, translated first through the overhead motion sensing camera, turning gesture into commands upon a computer programme, prewritten by Dove through software coding. Information from

---

93 B. Rotman, *Becoming Beside Ourselves : The Alphabet, Ghosts, and Distributed Human Being* (Durham: Duke University Press, 2008), xiii.
94 Brian Rotman 'Ghost Effects' at http://users.wowway.com/~brian_rotman/ (accessed March 2015)

234

these commands is then networked to the output device, the screen, to complete a haptic feedback loop. Consequentially ghost effects emanate across these waves. The user is a parallel self, present both within his or her own skin and within the screen.

This resonates with Frank Popper's writing on the artwork, where he describes *Artificial Changelings* as an interface that mirrors the bodies of characters and viewers, as each come to know one another. As Popper asserts, "[t]he fusing of the viewer's body with the story structure functions both as embodiment and its absence. It is as if the viewer haunts the movie—a telepathic trace left behind in the story and the characters on the screen."[95] During my interview with Dove, she also raised this concept of haunting the space through remote agency and telepresence. Dove describes this as the user's body haunting the movie and experiencing a doubling and activation between their sense of self and the space of the screen. She refers to this as, an 'extruded you,' meaning a sense of remote and extended agency beyond the boundaries of the body, which becomes a virtual form of self.[96]

Brian Massumi has also addressed this idea of doubling in a separate interview with Dove, surmising that the virtual is not something that is on the screen or in the algorithmic transformations of the hardware. But is rather present in the 'thickness' of space between the screen and the boundaries of the user's skin, which *Artificial Changelings* helps to enunciate. Massumi highlights that the artwork

---

[95] F. Popper, *From Technological to Virtual Art* (MIT Press, 2007), 231.
[96] Dove interview, December 2014.

gets away from the idea that the virtual is what's on the screen or what's behind the screen in the machine. What's on the screen is an icon. What's behind it is a set of permutations and algorithms and logical possibilities. None of these things are the virtual. It seems to me that the virtual is that slipperiness of experience. It has to do with the relation and what happens in between. This makes virtuality a dimension of everyday reality that the work is bringing out and expressing more directly.[97]

In *Parables for the Virtual: Movement, Affect, Sensation*, Massumi points to affect. For Massumi affect is a virtual co-presence of potentiality (similar to Deleuze's surface effect) that is integrated into humans as bodily beings. Like Ihde, Massumi affirms that, "the body is as immediately abstract as it is concrete; its activity and expressivity extend, as on their underside, into an incorporeal, yet perfectly real, dimension of pressing potential."[98] In other words affect is a threshold in which the real proprioceptive body converges with, it is a virtual, incorporeal space for potential action and changeability. As Massumi states,

[w]hat is being termed affect […] is precisely this two-sidedness, the simultaneous participation of the virtual in the actual and the actual in the virtual, as one arises from and returns to the other. Affect is this two-sidedness *as*

[97] The Interface and I - A conversation between Toni Dove and Brian Massumi at www.brianmassumi.com (accessed December 2014)
[98] B. Massumi, *Parables for the Virtual: Movement, Affect, Sensation* (Duke University Press, 2002), 31.

seen from the side of the actual thing. [...] Affects are *virtual synesthetic perspectives* anchored in (functionally limited by) the actually existing, particular things that embody them. The autonomy of affect is its participation in the virtual. [...] Affect is autonomous to the degree to which it escapes confinement in the particular body whose vitality, or potential for interaction, it is.[99]

Artificial Changelings accentuates Massumi's notion of affect by keeping the space between real bodily movement, and it's potential to trigger virtual changes of the context (with every move), charged. In line with Massumi, Dove's interface helps to mobilise what Ihde calls "a sliding perspective from the multidimensional experience of [...] here-body toward[s] the image body."[100] This is mirrored in the work's narrative when we consider that Zilith is first brought to life in Arathusa's dream. In the story Zilith is incorporeal until Arathusa awakens her, within the interface both incorporeal characters are awoken by the user's corporeality. And in a non-neutral sense this corporeality relies upon a process of amplification/reduction, which is evident in the way that a user's body is reduced to incorporeal code in a specific way in order to produce an effect. Dove explained this process to me as follows.

To understand how to navigate this work takes about five minutes. In these first five minutes most people generally try to control everything. Then they start letting go and

---

[99] Ibid., 35.
[100] Ihde, *Bodies in Technology*, 6.

there's a process where there is a mixture of control and mirroring. They try to control the character and then the character controls them. It goes back and forth, kind of like the way people do in conversation when they mirror body language. Sometimes you are reacting to characters, sometimes you are following characters but it's a forward continuum and a sense of being attached or stuck to the characters. You have to find your body in the screen, its like your body is haunting the movie. If there was a very precise mapping between your body and the character onscreen, a direct mirroring in which you raised your hand she'd raise hers, it would be like having control of both sides of the conversation and this would be boring, it would just be all about you. I like to think in terms of constellations of simple behaviours that form emergent complexities that you cannot always plan. You have to relinquish a certain amount of control in order to get to a different way of building an engine. In this work the interface is slippery. What happens is you get stuck to the character, lose control, gain it back then lose it again. You are in a constant state of trying to feel that sense of connection to the character and that connection gives you this body identification with the character. The character will do certain things and you'll try to mirror her in order to stay connected, the way human beings work in

conversation.[101]

Dove's description is comparable with Ihde's claim that "to enter any human-technology relation is already both to 'control' and to be 'controlled.'"[102] Within *Artificial Changelings,* as Dove highlights, the interface is specifically designed in such a way that a user gains control, loses it, then tries to retrieve it again. This corporeal toing and froing is akin to the idea of having a conversation with someone, which is exactly what the narrative content of the work explores. Dove's interface achieves this corporeal conversation through attunement to particular rhythms of the body in motion. As she explains,

> I use responsiveness to create a circle of exchange between the viewer and the screen that escalates sensation. You tend to think of a gesture as a single thing, and what you don't realize is that a gesture contains a rubbery avalanche of slow and fast. It starts slow and it escalates and de-escalates. The motion-sensing system picks minor variations of fast and slow and filters them in a constant modulation. It makes it difficult to predict what will happen.[103]

Consequentially there is a process of give and take within this interface where movement can become repetitive and almost trancelike. Dove compares

---

[101] Dove interview, December 2014.
[102] Ihde, *Technology and the Lifeworld : From Garden to Earth*, 140.
[103] The Interface and I - A conversation between Toni Dove and Brian Massumi.

the physical experience to the way the mind can wander when driving a car, highlighting how "these repetitions of action forms a trance-like experience"[104] where the body becomes automatic, freeing the mind to exist elsewhere. This is why the theme of trance and dream features so heavily in the artwork, and why the notion of existing in two different places simultaneously, so often comes into play.

In contrast to *A Machine to See With,* designed to heighten the user's sensory receptors through a fictitious narrative, Dove's artwork could be argued to reduce and dull soma sensation through the trance-like mode that users fall into as their attention is directed to the screen and away from their own sensorium. This is also compounded in the way that the user does not occupy a role in the story as they do in Blast Theory's. So although narrative in *Artificial Changelings* is heightened in terms of characters and settings, a sense of involvement in the story could be perceived as drastically reduced. The next case study however, makes every effort to put the participant back in the picture.

---

[104] G. Carver and C. Beardon, *New Visions in Performance* (Taylor & Francis, 2005), 109.

The Co-Authoring Interface of *Scenario*

Dennis Del Favero's *Scenario* is an artwork that incorporates similar functions to that of Dove's but on a much grander scale. Like *Artificial Changelings*, *Scenario* is an artwork that uses motion sensing to allow a user to interface with imagery in an immersive story setting. Just as we saw with Dove, Del Favero's artwork offers a feeling of a more 'naked' or transparently immersive experience that forgoes the need to strap into, mount or hold a specific piece of equipment. The interface setting enables users to perform agency within these environments through unhampered bodily motion.

Created at iCinema,[105] this interactive narrative artwork calls upon the participation of five active users to simultaneously enact physical performance. This involves walking around the projection space and following on screen characters in order to structure and mobilise the story. The artwork takes place in a 360-degree cinematic space called an AVIE (*Advanced Visualization and Interaction Environment*). This auditorium is a 3D projection environment containing a cylindrical screen with a diameter of ten metres across and four metres high. It is a mixed reality environment, a meeting place where five corporeal users and ten digital screen characters converge. Six pairs of stereoscopic projectors within the AVIE give the illusion that these characters inhabit the same space as the users (figure 66). This is strengthened by the donning of 3D glasses (figure 67) and a custom built audio system.

---

[105] Centre for Interactive Cinema Research established in 2002 at the University of New South Wales.

Figure 66: *Scenario*

Figure 67: 3D immersion

As Del Favero and Timothy Barker have highlighted, the origins of *Scenario* was to test out the formation of meaningful relationships between humans and technology by generating "innovative research in the field of machine learning and artificial intelligence (AI), along with iCinema's ongoing research into immersive and interactive environments."[106] The result of this transaction

---

[106] Dennis Del Favero and Timothy S Barker, "Scenario: Co-Evolution, Shared Autonomy and Mixed Reality" (paper presented at the Mixed and Augmented Reality-Arts, Media, and Humanities (ISMAR-AMH), 2010 IEEE International Symposium On, 2010).

between a human user and digital character in *Scenario* is what they term a *co-evolutionary narrative*. In a separate paper by Neil Brown, Barker and Del Favero, this term is defined as "a narrative that *evolves* or *emerges* based on a relationship formed between a human user and a digital agent able to respond autonomously."[107]

When users first enter the space of this artwork, they are met with the slow notes of a piano composition followed by the sound of an eerie voice. The voice welcomes the participants to come forth, and as they do, their movement triggers the imagery of large floating disembodied eyes, portrayed upon the circular panoramic screen. The voice instructs the users to choose an eye, which is attained by the participants moving toward one (if the user does not comply an eye will choose them). Following this, a light-coloured digital humanoid figure mounts the top of each eye and leads the user through a 3D labyrinth of

---

[107] Brown, Barker, and Del Favero, "Performing Digital Aesthetics: The Framework for a Theory of the Formation of Interactive Narratives."

atmospheric locales (figure 68). This journey begins with the sound and imagery of falling rain as participants are led through shadowy passageways that appear to move as if they (the user) are traversing the space. Occasionally the humanoid *guide* stops in their tracks to pick something up, showing it to their human followers. These exhibited objects are smooth 'bloodless' body parts that appear to have once belonged to another humanoid character before something or someone fragmented it. Here the users are supposed to encounter a sense of mystery, atrocity and criminality.

This is assisted by the dark ambient tones of these strange backdrops, designed to coerce a sense of uncanniness and foreboding in each participant's body. This is heightened as Del Favero and Barker write, by the way users experience "the ambiguity of the sensory objects that surround [them]"[108] juxtaposed with sensations that are "relatively familiar as [they] can see [their] own physical bodies and the bodies of the other users."[109] Again, like Dove's work this sets up a dichotomy of here and there, real and virtual. Yet in contrast to *Artificial Changelings* the user is not outside the story, haunting it like a ghost. Instead *Scenario* calls upon participants to adopt an active role within the story that is acknowledged and recognised by the digital characters.

Within the third 'act', the users are transported to an open clearing in a forest. Scattered about this bucolic setting lay more body parts, and off to one side is a shadow, a large human figure. The users learn through the voiceover that this silhouette and the limbs littered in front of it belong to a colossal baby. The five participants are then assigned the task of reassembling the child back to

---

108 Favero and Barker, "Scenario: Co-Evolution, Shared Autonomy and Mixed Reality."
109 Ibid.

wholeness. The means to perform this task involves each light-coloured character developing into an avatar and mirroring each of the participant's movements and gestures. The avatars beckon to the users, asking them to help. The users must then move around the space, locating the body parts before returning them to the figure of the child through this process of avatarial mimicry (figure 69).
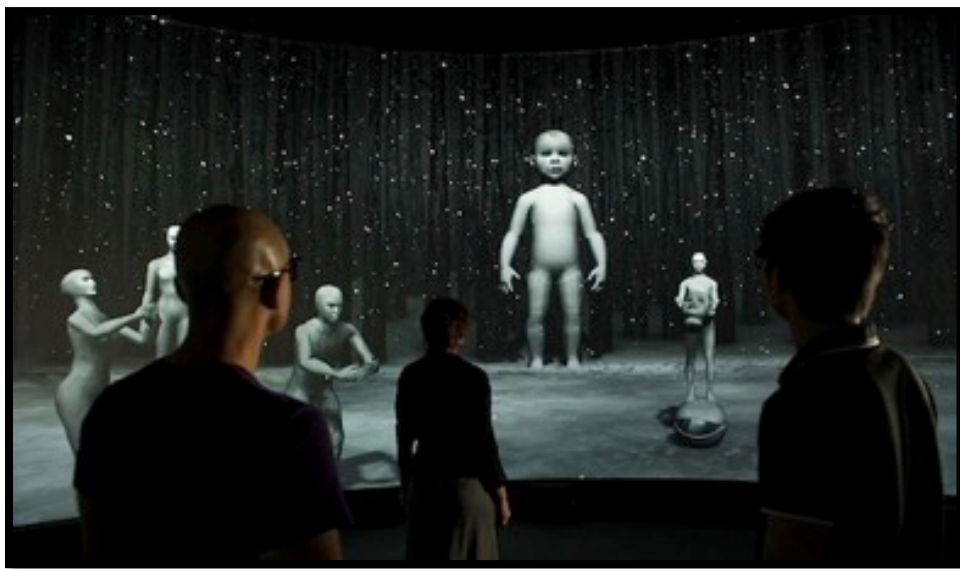
Figure 69: The baby and the avatars

This restorative task is made difficult by dark shadow characters, programmed with artificial intelligence to autonomously block the user's light avatars and impede the child from repair. This process transpires through infrared cameras within the AVIE that senses movement and feeds this data into a software programme called iTRACK.[110] iTRACK communicates each user's body motion data with the digital characters, "which then reason about an appropriate course of action to take."[111] The dark characters are programmed to hinder

---

[110] Ibid.
[111] Ibid.

movement by obstructing the light avatar's path to the child. Making approximately five thousand decisions a second, [112] the dark characters independently learn and respond to the user's movements in order to debilitate their corporeal efforts. If dark succeeds, the space collapses into blackness followed by the imagery of raining ash to symbolise the burning out of the child's life. If on the other hand the users succeed by outsmarting the machine, the child comes to life and walks through the surrounding forest as snow begins to fall, a symbolisation of renewal[113]

As Edward Scheer has identified in his analysis of *Scenario,* the broken child is pivotal to the artwork through its symbolic evocation to Jacque Lacan's concept of the fragmented body.'[114] In Lacanian psychoanalysis the development of a child's ego in the mirror stage, whereupon the child perceives itself as a whole for the first time and begins to forge an identity, is fuelled by the desire to escape their previous and vulnerable existence as an assemblage of fragmented limbs. As Scheer identifies by way of Malcolm Bowie's writings on Lacan, "the body once seemed dismembered, all over the place, and the anxiety associated with this memory fuels the individual's desire to be the possessor and the resident of a secure bodily 'I.'"[115] The restoration of the infant's body is therefore more than just a game but is rather a story of what it means to be a body. In an interview I conducted with Del Favero he elaborated on this, stating:

a baby goes through a process of having to put itself

---

[112] Del Favero interview, June 2014.

[113] Timothy Barker, "Images and Eventfulness: Expanded Cinema and Experimental Research at the University of New South Wales," *Studies in Australasian Cinema* 6, no. 2 (2012).

[114] E. Scheer and S. Sewell, *Scenario* (University of New South Wales Press, 2011), 68.

[115] M. Bowie, *Lacan* (Harvard University Press, 1993), 26.

together. To become a person you have to be able to articulate not only your intention to move your arm but actually recognise that your arm is attached to your body. To do that requires an imaginative function. You are human. You are putting a body together in the virtual world [the baby] but you are also putting *your* body together with the help of the virtual characters. Your behaviour in the space changes what happens and it [the space] changes you.

Del Favero's description is indicative of Hansen's portrayal of body-brain activity in VR environments (see Literature Review), in the sense that there is a dynamic coupling between body and image, where the body transforms the medium as the medium transforms the body.[116] Del Favero's exposition is also symptomatic of body ecology in terms of how parts connect to and relate to one another, and how in Massumi's sense of affect, (described in the previous case study) bodily movement always fills an incorporeal space of potentiality. As a result, a body is put together with every move it makes in a process of continuous becoming. This is something that Del Favero and Barker delve further into when they highlight how *Scenario's* model for action is structured by a theory of assemblage that is developed by Deleuze and broadened by Manuel DeLanda's *A New Philosophy of Society*. Within this work, Barker and Del Favero highlight that DeLanda's assemblages are a way to consider a collection of wholes, such as the whole of an atom, organ, human body, ecosystem or society.

---

[116] Hansen, *New Philosophy for a New Media*, 186.

Regardless of the content, an assemblage consists of all the parts that make up this whole.

> However, it is always more than a mere aggregate of these parts. For instance, it is not that a human body is constituted simply by an aggregate of organs. Rather, the human body is constituted by the organs' capacity to act and to work with one another. Similarly a society is not made up merely by a sum of people. What makes the society an assemblage is the capacity that each individual has to interrelate within the collective. In short, an assemblage is always constituted by the capacity for interaction between its parts.[117]

In other words, it is not just the parts that make up an assemblage but also how they act, or how they could act, through the potentiality of their interaction to one another. "It is the *affect* of the parts – as their capacity to act on one another – that matters, not their materiality, individual power or visual appearance."[118]

DeLanda considers a human conversation as an assemblage for it is made up of specific rules and organisational states that condition the exchange of information. People, language (sub-divided into words and tone), the scenario as to why they are conversing, (family, friends or colleagues or any other association) and the unforeseen potentiality of what might be said, or how something might be interpreted, are all integral parts of such a discourse

---

[117] Favero and Barker, "Scenario: Co-Evolution, Shared Autonomy and Mixed Reality."
[118] Ibid.

assemblage. In a similar capacity, the co-evolution narrative of *Scenario* is also something that can be considered a conversation between human and computer. As Andrew Stern states, "[b]y making the computer *listen* to the audience (the first half of reactivity), *think* about what it heard (autonomy), and then speak its thoughts back to the audience (the second half of reactivity), the artwork can have a dialog, a *conversation* with the audience."[119]

This conversation of *Scenario* between the digital characters and the human users relies upon an embodied assemblage through the way that the iTRACK system detects motion, translates it into digital data and responds accordingly. Added to the role the human user plays during the artwork, the design of the interface by the artist and technical procedures of a computer programmer are all integral parts of the assemblage. By taking Ihde's technology relationships into consideration, this assemblage breaks down even further. In terms of an amplification/reduction structure, *Scenario* sets out a specific relationship for the user, whereupon their corporeality is detected and reduced into code, then instantly projected into the circular screen, amplifying the user's body into a parallel form of self. This parallel body becomes the means to experience a parallel narrative of the child who will either live or die based upon how users perform, once tethered (in a virtual capacity) to their avatars.

In addition to embodiment (through motion sensing) and the hermeneutic relationship of reading the screen, the postphenomenological experience of *Scenario* also incorporates an alterity relationship. The experience of the artwork is one of discomfort, of sharing a space with something anterior to

---

[119] Andrew Stern, "Deeper Conversations with Interactive Art or Why Artists Must Program," *Convergence: The International Journal of Research into New Media Technologies* 7, no. 1 (2001).

the self, or trying to come to terms in a shared space with the other. This sense of otherness, agency and alterity is what distinguishes the discomfort of this experience from hap-tech narration (described in Chapter 1). Ihde describes alterity as a relationship in which the human user encounters a form of otherness, which is seemingly independent and autonomous. This is the difference, as Ihde argues, between driving a car and riding a spirited horse. The first responds to your commands and is embodied while the latter has a life of its own that is unpredictable. Both modes of transport put the driver and rider in an embodiment relation where they experience the road *through* the car or horse. But whereas a car malfunction indicates a mechanical lack of response in the vehicle, a lack of response in a spirited horse exceeds malfunction as disobedience.[120]

Another example of alterity is that of the child's toy — the spinning top. The pleasure of this toy is the fascination of it, as it takes on a life of its own, travelling an unpredictable path. An embodiment relation powers the toy through the plunger but an alterity relation exceeds embodiment as the toy becomes temporally autonomous in motion. Computer games of course are a more modern and everyday example of alterity, which will be considered in more detail in the following chapter. In computer games a player is pitted against the autonomy of a virtual character or scenario that they must best. Through alterity play there is, as Ihde states, "the sense of *interacting with* something other than me, the technological *competitor.* In competition there is a kind of dialogue or exchange. It is the quasi-animation, the quasi-otherness of the technology that fascinates and challenges. I must beat the machine or it will beat

---

[120] Ihde, *Technology and the Lifeworld : From Garden to Earth*, 99.

me."[121]

This is the form that *Scenario* takes as the dark characters achieve sophisticated quasi independence by responding to each of the player's movements. The dark characters interpret the human's gestures and counteract them in order to prevent the baby being assembled. This alterity provides each participant with physical and emotive intentionality through a physical performance of conscious and unconscious motivation, which Del Favero explained in our interview.

> We started with the notion of trying to find a way to allow users to interact with intelligent characters. How do we provide viewers with sufficient motivation or affect/identification to actually want to participate? [...] What we tried initially was a children's game of the user putting differently shaped objects through holes in the ground. This worked functionally but it lacked that ability to draw the user into a narrative or affect a user. So then we started looking at how we can seriously use a narrative architecture to drive that affect or that engagement so the logic of the interaction could play out. We were interested in how viewers are motivated inside this technical space [*Scenario*] and the connection between your unconscious motivations and your physical behaviour, because that's what this technology is trying to grapple with. It's trying to

---

[121] Ibid., 100-01.

engage with your motivations and your motivations are both things that you are aware of but by and large they're things you're not aware of. They play out on the peripheral of your unconsciousness.[122]

The desire to save the child during the restorative process serves as a reminder of the performing role of the caring parent or nurturing adult, which as Del Favero commented, is an intrinsically primal and human response to a child in distress.[123] If a user goes above and beyond to save this child from anguish, or alternatively is indifferent to the whole affair, these conscious or unconscious feelings are presented physically within the space, revealed through the user's bodily endeavours.

Later in our interview, Del Favero discussed how the idea of concealed desire and the conflation of unconsciousness buried within the conscious subject is thematised within the structure of this work, which is also inspired by the notorious Josef Fritzl case of 2008. As Del Favero explains,

we came across the story of Fritzl early on because we wanted to deal with human desire or what motivates people – more often than not it is something they're not aware of. We liked the idea in the Fritzl story of the house, which was two houses in one: the underground house and the above ground house, the house of crime and the house

---

[122] Del Favero interview, June 2014.
[123] Ibid.

of a family. The (Fritzl) house was a machine, another

technology. And if you looked at this architecture, this

machine from one perspective all you could see could was

a normal family life but then if you changed perspective it

became something else, a bit like an electron being either a

wave or a particle. It depends on how you interact with

that architecture, that's how the story evolved.[124]

Del Favero describes the house as a machine, before him Deleuze and

Guattari use the concept of a machine to reformulate the notion of desire. The

desiring machine, as they call it, relates to a "direct link between desire and

production."[125] The desiring machine, according to Deleuze and Guattari, is the

way in which the unconscious produces desire in a manufactured way. This is

the desire to connect to other systems or machines, or the way in which

"components couple and connect with one another,"[126] such as the breast

machine of the mother, the education machine of school or the communication

machine of language. Deleuze and Guattari, in a way that resonates with Del

Favero's work, offer an alternate interpretation of desire from Freudian

psychoanalysis. For Freud desire is established from lack. For Deleuze and

Guattari, as for Del Favero, desire can be thought of as a productive force that is

machined. A machine is the *flow* of this productive force, consistently interrupted

by other machines. As Deleuze and Guattari state: "[a] machine may be defined

as a *system of interruptions* or breaks (*coupures*). [...] Every machine, in the first

---

[124] Del Favero interview, June 2014.
[125] E.B. Young, G. Genosko, and J. Watson, *The Deleuze and Guattari Dictionary* (Bloomsbury Publishing, 2013), 85.
[126] Ibid.

place, is related to a continual material flow (*hyle*) that it cuts into."[127]

The underground prison of the Fritzl home is a machine that interrupts the domestically normal looking flow of family life in the above ground house and vice versa. A machine is actualised within *Scenario* so that activity interrupts spectatorship, movement interrupts the flow of story, and movement from user to character and reciprocally from character to user interrupt and affect one another, which as Del Favero and Barker state, can be clearly seen.

> We have observed that users tend to move in *Scenario* in a much slower and deliberate manner than in real world interactions. This may be [… that] the users' movements are affected as they attempt to regulate physical movements to the movements of the characters on the screen, as they follow the users around the space. [Also] because the users are innately aware that they are being closely watched and that all of their movements are being given significance, they may tend to reason more thoroughly about the consequences of their otherwise 'natural' movements, which produces these slow, deliberate movements, largely designed to 'test' their effect on the digital characters.[128]

The sensing technology of the interface has real observable effects on the user's movement. Users move more slowly around the space as the digital pace of the

---

[127] G. Deleuze, F.Ì. Guattari, and R. Hurley, *Anti-Oedipus* (Bloomsbury Academic, 2004), 38-39.
[128] Favero and Barker, "Scenario: Co-Evolution, Shared Autonomy and Mixed Reality."

254

machine interrupts and conducts the flow of natural bodily rhythm.

Scenario as Del Favero explained to me is an experience of performance that utilises four 'E's: *expanse, embedment, embodiment and enactment.* The *embodiment* occurs as the human's whole body interfaces with the environment of the AVIE, allowing them to become *embedded* as code in the digital architecture. The user is thus *expanded/extended* into this codified space in which their presence, *embedded* in the narrative flow, becomes a fertile ground to *enact* meaning making as co-authors and *embody* an interactive narrative. The users simultaneously experience reading their body upon the screen as it affects actions and the direction of the story, along with the experience of *being* a body within this immersive space, interlocking alterity, hermeneutical and embodiment relations into one.

Conclusion

In this chapter I have demonstrated how a progression in the complexity of technological interfaces have organised users in more intricate ways to mobilise more elaborate forms of story. Through my application of a postphenomenological methodology, each artwork has ascended by way of Ihde's human-technology relationships, beginning *with A Machine to See With*, that makes use of an embodiment relation through a phone. *Artificial Changelings* develops this with the juxtaposition of a hermeneutical reading of the screen *and* the embodiment relation of motion detection. Finally *Scenario* intensified this structure with an added portion of AI alterity. The application of Ihde's different postphenomenological relationships, as I have shown, can be

mixed in different ways to afford users distinct experiences of story and meaning making.

As Ihde's relationships increase, so too does the complexity of the interface and in turn the possibilities of the story. *A Machine to See With*, the scenario of robbing a bank, is a basic storyline that a user engages with. It does not involve any external characters and uses just one of Ihde's relationships that relies upon a techno-deterministic relationship, insomuch that the user must act out what they are being told in order to connect to the fictional experience. *Artificial Changelings* (using two relationships) is a more elaborate story with two different characters and settings that a user can switch between like television channels. Unlike Blast Theory's artwork that tells users where to go and how to move down to the last detail, Dove's artwork encourages an ostensible sense of freedom to drift in and out of two distinct narrative tracks. However the user is impotent to affect the content of these tracks. *Scenario* on the other hand with three relationships, gives users the power to unfold a narrative on the go. The story as Brown, Barker and Del Favero emphasise, evolves through a user's embodied interactions, which, in a postphenomenological sense, become regulated by alterity and hermeneutical cues.

What this suggests is that the non-neutrality of technology can also be used as a way to devise or study the content of interactive narrative structures through the multistability of these human-technology relationships. Furthermore, embodiment relations (the main ingredient present within all of these artworks) can be subdivided even further into the amplification/reduction structure, which is also present within each of these interactive stories. In *A*

Machine to See With for example, users are amplified into two main roles of character in a heist drama and actor on a set. They are invited to become central figures of two fictional universes that are merged into one another. For these pervasive fictional experiences to work it is conditional that the user, in their real world setting, be reduced to closely following the instructions of the phone, reduced so to speak, as to what it tells them to do. This reduction amplifies the user in a fictional and physiological sense, channeling the potentiality to sharpen awareness and make users feel alive, paranoid and crucial to their fictional space.

Similarly in *Artificial Changelings*, which is like a conversation between two characters, amplification/reduction features heavily in the embodied interface. Dove gives users a certain amount of corporeal control but not complete control. Instead power moves back and forth between user and machine like a conversation. Here the medium is emblematic of the story content in which Arathusa and Zilith are also setup in a conversation that moves back and forth between the two characters. Finally in *Scenario*, amplification/reduction is one of the main elements of the interactive narrative. Movement and gesture in the third act of the piece works by users being amplified into the imagery through an avatar that extends movement through motion sensors. At the exact moment of these motion sensors extending corporeality, they also reduce it, represented through the adversaries of the dark sentinel characters that attempt to block a user's mobility and gesticulation. This visual representation within the imagery is again emblematic to the user's body within the interface, as movement is both physically reduced in terms of natural rhythm (observed by Barker and Del Favero) and reduced to code in order for

users to be amplified as a parallel form of self, present both inside and outside of the screen as a performer and spectator of the content.

Amplification/reduction is thus pivotal to an interactive narrative structure because it helps to establish a corporeal/incorporeal or real/virtual dichotomy that each of these works relies upon. Solid bodies and the incorporeal space of potentiality that they slide into are what these artwork interfaces set up, thus enabling the narratives to become interactive, giving the user the ability to follow Arathusa or Zilith or rescue or neglect the *Scenario* child, which in turn leads to different story outcomes. Within each artwork the structure of the interface technology is revealed in its narrative content, thus proving the non-neutrality of technology, active through a multitude of relationships, which when mixed in different measures afford different types of story. Taking this forward, my next chapter turns to computer gaming, where I continue my analysis of the postphenomenological structures of story through investigation of the playing body.

Chapter 3: Controller

In this final chapter my focus shifts onto the medium of computer gaming. Through critical reflection on my own computer game experiences, I consider the technology of gaming and how it differentiates in the construction of story from the camera or interface body. Here I consider the composition of fictionality in single-player story games through my own playing body. My central line of enquiry is twofold: first I discuss how the gaming apparatus reshapes the playing body, which is considered in relation to a history of computer game controllers. Second, I explore through attention to such hardware and software, how corporeal modification is expressed within a game's story by way of an onscreen avatarial body. Using Ihde's philosophy of technology that I have explored within this thesis hitherto, I argue in this chapter how computer gaming is the most multistable of the three media in regards to his concept of postphenomenology. This is because computer games incorporate all of Ihde's human-technology relationships addressed so far. *Embodiment relations*, *hermeneutical relations* and *alterity relations,* in addition to the relations that are to be the subject of what follows, namely *background relations,* which are all key components of the computer playing body. Accordingly, this new amalgamation of human-technology relations uncovers a new type of fictional experience that I am calling 'somaster fiction', which will be described in due course.

These relationships are identifiable in the way that every computer game requires a player to use touch or voice control (embodiment) in order to govern onscreen data consisting of imagery and text (hermeneutical). The pleasure of computer gaming is in the challenge of onscreen adversaries programmed to

counter the player's efforts (alterity), while all the time scores, statistics, inventory or other off-screen components silently run within the game's background. Ihde's definition of a background relation is something that is a "present absence"[1] or a fringe awareness of a technological artefact, which does "not usually [occupy] focal attention but nevertheless [conditions] the context in which the inhabitant lives."[2] As described in the introduction, household lighting for example is an instance of a background relationship. It is a technology that is present but for the most part goes unnoticed, until something like a power failure brings it into focus.

This concept can be adapted to the medium of computer gaming, in which we can consider how a game usually takes place within a fictional world, serving as a background to how an onscreen avatar body can move or interact. Such movements and onscreen abilities are further governed by other background relationships, which recede from the player's focal awareness and become evident within the player's empirical sense of feeling. *The Elder Scrolls V: Skyrim* (2011, Bethesda Games Studio) for example, is a game in which a player inhabits a humanoid avatar within a vast fictional continent. When using the controller, making the avatar run, I experience a sense of speed and freedom through the virtual body navigating the lands. However, working in the background is a stamina limit, presented as a hermeneutical bar at the bottom of the screen that appears only when the player is sprinting. The longer I run, the sooner the avatar's stamina depletes, until eventually I feel the controls becoming less effective and sluggish. When this happens, I must stop and rest to replenish the

---

[1] Ihde, *Technology and the Lifeworld : From Garden to Earth*, 109.
[2] Ibid., 111.

bar whereupon it will disappear from view, retreating into the background of the game experience. The background relation serves to condition the perceived freedom of movement. It limits the possibility for what can be done and also sets the parameters for the challenge in the game.[3]

The running ability is also hindered by other elements of the game's background such as inventory (armor, weapons and crafting materials) that my character wears and carries (figure 70) When picking up items within the game, they are stored within an inventory screen within the background of the game, ready to be equipped or put to use when the player should require such equipment. Each item is assigned a weight value (figure 71) offsetting a carry value that my avatar can manage.

Figure 70: *Skyrim* avatar
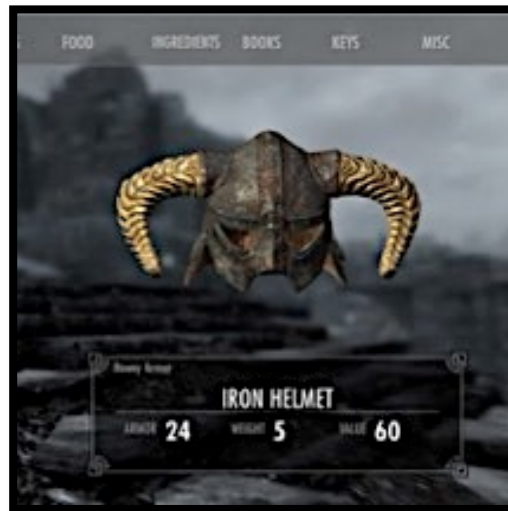
Figure 71: Item weight

---

[3] The inclusion of a background relationship marks a specific distinction with the previous chapters, particularly with that of the subjective filmography from chapter 1. There the focal point of attention was only the content immediately in front of the viewer upon the cinematic screen.

If the weight exceeds this, my avatar is unable to run and movement becomes laborious. The purpose of these measured background stamina limits is to give the player a more authentic feel for the game's realism, allowing the player to become immersed within the game's narrative and make bespoke decisions about what to carry and leave behind, inevitably steering the course of events into a customised experience of fictionality.

Within *Skyrim* and other open world games like it, the avatar body must 'work out' and train – like a real life gym body– to increase strength and stamina through repetitive practice. Time and experience invested in the game unlocks power ups, greater endurance and skills for the avatar and player's body through the combination of Ihde's four relationships. Consequentially my argument will show how the game body, unlike the weakened hap-tech camera body, or neutral co-authoring interface body, occupies a fictional position of strength, which is both key to a player's enjoyment and necessary in some story-based games in pushing the fiction forward.

In Mary Flanagan's book *Critical Play: Radical Game Design*, the author notes how "players are almost always constructed as powerful agents, superheroes, or even gods."[4] In compliance with Flanagan's observations, this chapter, using Ihde's four technology relationships, explores how the human game player and game avatar become synthesised. This is a process of cultivation in the sense that both player and technical system have to work together to sustain the experience of play. This takes place in the form of mastering space, honing skills, accelerating reactions and gaining strength and experience in order to progress and level up. I discuss the concept of speed,

---

[4] Mary Flanagan, *Critical Play : Radical Game Design* (Cambridge, Mass.: MIT Press, 2009), 230.

strength, agility and invulnerability through a corpus of avatar-based open world story games, primarily the *Grand Theft Auto* series (2001-16, Rockstar Games), with particular focus on *GTA: San Andreas* (2004). I also continue to draw upon *Skyrim* to demonstrate how open world narrative is composed through an action based avatarial body.

I then compare this with a second corpus of story-based games that dispenses with the presence of an avatarial body. This group of games includes: *Everybody's Gone to the Rapture* (2015, The Chinese Room), *The Novelist* (2013, Orthogonal Games), *This War of Mine* (2014, 11 bit studios) and other secondary titles. Within this corpus of games, the player's body is not anchored to a visible avatar and instead occupies a more omnipotent, spiritual and godlike role that feeds directly into the visible characters of the game space. This incorporeal sensation plays into the diegesis of *The Novelist,* in which the player takes on the role of a spirit within a family home. The touch screen interface of *This War of Mine*, meanwhile, can be considered representative of the human touch within the game's subject matter, which explores the humanity of survivors amidst a war-torn city.

The key to survival within all of these games is to become a master of space by training the playing body through practice, a concept that I explain through Richard Shusterman's notion of *Somaesthetics*, which will be clarified later in this chapter. [5] Accordingly, this will prove, in line with Ihde's postphenomenology, how the computer game body offers a new kind of fictional body dissimilar to the inquisitive interface body or restrictive hap-tech camera

---

[5] This will be addressed in the section titled: 'Somaster Fiction: The Cultivation of the Avatarial and Playing Body'.

body. Instead the player as a controller of space utilises their self as a master of their digital topography. This brings about a different type of narrative experience that I am calling somaster fiction, a portmanteau of 'soma' and 'master', and a play on Shusterman's somaesthetic term. As I argue, such mastery of body and space comes to fruition through the entwinement of Ihde's four human-technology relationships, which can be considered the building blocks that help to cultivate (in Shusterman's sense of the term) a game body's ability to exercise supremacy over a world, their avatar, and the external characters that inhabit it in order to enjoy a game experience and advance fictional events.

Games vs. Narrative: The Story So Far

Anyone with an interest in games studies will probably be aware how this discipline has come to be divided into two distinct camps. One side consists of the narratologists: Janet Murray, Henry Jenkins and Marie-Laure Ryan amongst others, who argue that games are a form of story and belong to the discipline of narratology. Murray has even gone as far as to state that, "games are always stories, even abstract games such as checkers or *Tetris*."[6] This is because such games "are about winning and losing, casting the player as the opponent-battling or environment-battling hero."[7] Although I feel that Murray is correct in the latter part of her statement and games do organise players into a heroic godlike figure or master of space, her statement is somewhat unconvincing, relying purely on the notions that games and stories share characteristics in the form of

---

[6] Noah Wardrip-Fruin and Pat Harrigan, *First Person : New Media as Story, Performance, and Game* (Cambridge, Mass.: MIT Press, 2004), 21.
[7] Ibid.

puzzles and contests. The rival camp made up of the ludologists has frequently challenged this view.

Espen Aarseth, Markku Eskelinen, Gonzalo Frasca and Jesper Juul (to name a few) have individually argued how "games are games, [and] are not narratives."[8] Frasca for example defines the difference between games and narratives as the difference between simulation and representation, and argues a case for ludology over narrative through the guidance of Aarseth. For Aarseth narrative is misplaced in the ludic world. As he states, "to claim that there is no difference between games and narratives is to ignore essential qualities of both categories."[9]

Fiction in Aarseth's view cannot exist in games on account of his strict interpretation of the word as something that is untrue or made up. Consequentially Aarseth's understanding of games is incompatible with his comprehension of fiction because, unlike fiction, he believes games to possess real properties.

> When we play games, in real or virtual environments, we really win or lose, and the events in the game are real, even if for a casual observer, they might be indistinguishable from a similar sequence in say, an animated fiction film. The bullets in a game of *Counter-Strike* are not real bullets, but neither are they fictional. In

---

[8] Ryan, *Avatars of Story*, 2495 ebook.
[9] Aarseth, *Cybertext : Perspectives on Ergodic Literature*, 5.

short, games are not fictions, but a different type of world,

between fiction and our world: the virtual.[10]

Aarseth maintains the opinion that games have a ludo-realism because they evoke real feelings. In a 2013 keynote lecture at the Computer Game Conference in Bergen he uses the example of a child's deceased Tamagotchi as a way to demonstrate how the virtual pet stimulated real feelings of guilt in its owner. Guilt he argues is not a fictional feeling but a real feeling. When challenged on how books or films can similarly evoke strong feelings in the spectator, Aarseth argues that these feelings are not personal but vicarious. Aarseth asserts that "unlike literature, games are not about the Other, they are about the self."[11] Computer games therefore allow players to directly experience real emotional encounters in a virtual space rather than watch from the sidelines of a narrative one. Games thus afford the pleasure of real manipulation and experiencing whilst narrative in contrast is what he describes as "the pleasure of the voyeur. Safe but impotent."[12]

In his book *Cybertext: Perspectives on Ergodic Literature*, Aarseth famously coins the term *ergodic literature* to describe the relationship a user has with an interactive medium such as a hypertext story or a computer game (see Literature Review). Eric Hayot and Edward Wesp clarify Aarseth's term in the following way.

---

[10] Aarseth, (2005) "Doors and Perception: Fiction vs. Simulation in Games." Digital Arts and Culture Proceedings.

[11] Aarseth, (2004) "Genre Trouble: Narrativism and the Art of Simulation" in Wardrip-Fruin and Harrigan, *First Person : New Media as Story, Performance, and Game*, 50.

[12] Aarseth, *Cybertext : Perspectives on Ergodic Literature*, 4.

Ergodic texts actively encourage the reader to make decisions, and moreover make visible and central that act of decision-making: the active enactment of choice (as opposed to the naturalized "choice" to turn to the next page, or to keep reading left to right) is what makes the ergodic difference stick.[13]

Put differently, ergodic literature emerges through the choices a user actively makes, either by hypertextual clicks or computer game controls. This navigation through a text is, as Aarseth notes, "a work of physical construction that the various concepts of 'reading' does not account for."[14] Here we can begin to see the outline of how a playing body can physically construct a narrative. But as Aarseth is adamant that narrative and games do not share the same space, his philosophy to this work quickly becomes redundant.[15] Unlike Aarseth, my work tries to tease out the physical ways that a narrative might be formed, which, attempting to move beyond Aarseth, tries to conceptualise this phenomena in an era of increasingly complex narrative games.

In order to get beyond this pro/anti-narrative debate I turn to Juul, a ludologist who once decried the coexistence of games and narrative[16] like Aarseth (see Literature Review), but has since, in a time of story saturated games, come around to the idea of their harmonisation. This is explored in his

---

[13] Eric Hayot and Edward Wesp, "Style: Strategy and Mimesis in Ergodic Literature," *Comparative Literature Studies* 41, no. 3 (2004).

[14] Aarseth, *Cybertext : Perspectives on Ergodic Literature*, 1.

[15] In an interview I conducted with game and interactive fiction writer, Emily Short, who has composed a series of text parser games, she felt that Aarseth's views on fiction were becoming archaic, particularly at a time where narrative is so ubiquitous to gaming.

[16] Jesper Juul, A Clash between Game and Narrative, 2001 at https://www.jesperjuul.net/thesis/ (accessed 14 April 2016)

work *Half-Real: Video Games between Real Rules and Fictional Worlds,* a book that loosely echoes Aarseth's point that games evoke real feelings. Juul however expands on this through a central argument that asserts how games are half-real because they are a compound of "real rules and fictional worlds."[17] Discussing the merging of narrative and computer gaming, Juul notes that one must be clear about what they mean when they use the term narrative. As he highlights, narrative has come to signify such a vast array of meanings that over time its definition has become lost. Juul condenses narrative down to six different definitions as follows:

1.   Narrative as the presentation of a number of events. This is the original and literal meaning of the word: story*telling* (Bordwell 1985; Chatman 1978).

2.   Narrative as a fixed and predetermined sequence of events (Brooks [1984] 1992).

3.   Narrative as a specific type of sequence of events (Prince 1987).

4.   Narrative as a specific type of theme – humans or anthropomorphic entities (Grodal 1997).

5.   Narrative as any kind of setting or fictional world (Jenkins 2003).

6.   Narrative as the way we make sense of the world (Schank

[17] Jesper Juul, *Half-Real : Video Games between Real Rules and Fictional Worlds* (Cambridge, Mass.: MIT Press, 2005), 1.

and Abelson 1977). [18]

Juul uses these points to reformulate the question about whether games are narratives by answering that it "depends exclusively on which meaning of 'narrative' we are using and what aspects of games we are focusing on."[19] In this manner Juul is in a position to use point 5 and make the following statement.

> While all games have rules, most video games also project
> a *fictional world:* The player controls a character; the game
> takes place in a city, in a jungle, or anywhere else. Such
> fictional game worlds, obviously, do not actually exist; they
> are worlds that the game presents and the player
> imagines.[20]

Following Juul, my own use of narrative within this chapter is an amalgamation of points 4, 5 and 6: human or anthropomorphic avatars in fictional worlds or settings, which a player makes sense of through the duration of the game. Torben Grodal's concept of narrative, discussed within the Literature Review, comes back into play here. Grodal's definition of a story is a sequence of events experienced by one or many living beings in which "there is a constant interaction of perceptions, emotions, cognitions and actions,"[21] which as Grodal maintains, exercises a "basic first-person 'story' experience."[22]

Grodal, like Murray, argues that story is inherently human (see Literature

---

[18] Ibid., 156-57.
[19] Ibid., 157.
[20] Ibid., 121.
[21] Grodal, "Stories for Eye, Ear, and Muscles," 130.
[22] Ibid., 132.

Review). This concept is reinforced in this chapter through reference to Monika Fludernik's concept of experientiality, which is a term she uses to put value on the anthropomorphic qualities of a narrative that is taken from an embodied and an emotive perspective.

In her book, *Towards a 'Natural' Narratology*, she describes experientiality as "the quasi-mimetic evocation of real-life experience." [23] Fludernik's concept of a natural narratology puts emphasis upon anthropomorphism and embodiment, whereupon she asserts that the most basic feature of experientiality is embodiment.[24] This, as she states, is because

> [e]mbodiedness evokes all the parameters of a real-life schema of existence which always has to be situated in a specific time and space frame, and the motivational and experiential aspects of human actionality likewise relate to the knowledge about one's physical presence in the world.[25]

Experientiality for Fludernik therefore refers to a 'naturally occurring' narrative that puts value on the conveyance of an embodied and an emotive perspective of which a listener, reader, viewer or in this case gamer can adopt as their own. Emphasis upon the anthropomorphic aspects of character in terms of embodiment, perception and intentionality are crucial to Fludernik's definition, which she explains as follows.

---

23 Monika Fludernik, *Towards a 'Natural' Narratology* (London ; New York: Routledge, 1996), 9.
24 Ibid., 22.
25 Ibid.

Experientiality in narrative as reflected in narrativity can therefore be said to combine a number of cognitively relevant factors, most importantly those of the presence of a human protagonist and her experience of events as they impinge on her situation or activities. The most crucial factor is that of the protagonist's emotional and physical reaction to this constellation, which introduces a basic dynamic feature into the structure. [...] Any extended piece of narrative relies on both of these building stones. Most basic forms of narrative are exclusively built on an action schema, but acting and thinking are equally part and parcel of the dynamic human predicament of living in a world with which one inevitably interacts. The specific aesthetic effect of narrative need not rely on the teleology of plot, on how all the episodes and motives contribute to the final outcome, but can be produced also by the mimetically motivated evocation of human consciousness and of its (sometimes chaotic) experience of being in the world.[26]

Based upon Fludernik's definition, any text that represents anthropomorphic experience can be considered a form of narrative, even if that text is missing a plot structure. As she notes, "[i]n my model there can [...] be narratives without plot, but there cannot be any narratives without a human

---

[26] Ibid.

(anthropomorphic) experiencer of some sort at some narrative level." [27] Adopting Fludernik's concept of experientiality enables me to rationalise how computer games can be narrative experiences, and indicates to the reader why my case studies revolve around characters and avatarial bodies that are fundamentally anthropoid. The evolvement of such avatarial bodies is what I now turn to through the technological advancement of the handheld controller. In this section I consider the development of the computer game controller and avatarial body. Later in the chapter I will identify a specific turning point in the history of controllers, which allow computer games to be considered through Shusterman's concept of somaesthetics.

A Brief History of Controllers

The development of the avatarial body has progressed in coexistence with the advancement of the computer game controller. The refinement of software mirrors the sophistication of hardware, both improving over time to put players in touch with a fictional world. The controller has come a long way from early home entertainment systems such as the Magnavox Odyssey or the Atari Computer System (1972), through to the PlayStation 4 and Xbox One (2013), as well as the plethora of touchscreen technologies that accommodate numerous game titles. Here I want to consider how games and controllers have emerged to put players into an avatarial body inside a fictional world. What will also become apparent through this list, beginning with the Magnavox and extending towards contemporary consoles, is the ratcheting up of Ihde's human-technology relationships as the controllers and gaming software become more innovative.

---

[27] Ibid., 9.

To illustrate, allow me to begin by recounting my own recent experience of the Magnavox Odyssey, which I had the opportunity to use for the first time in early 2015. This machine is an important system that inaugurated the video game console into the home and is widely considered the first generation of computer gaming. The technology, which was cutting edge for its time, obviously looks and feels minimal by today's gaming standards, and a number of issues became apparent that restrained me from losing myself in any of its games. To begin, many of the games, which are very similar to each other, graphically consist only of three onscreen dots of light that are programmed to behave, and be controlled, in marginally dissimilar ways. Consider for example different variations of the game *Pong*, which in fact was reputedly plagiarised from the Magnavox's built in game, *Odyssey Tennis* (figure 72).[28]

Figure 72: *Odyssey Tennis*   Figure 73: A Magnavox controller

In this game and others like it, (*Odyssey Hockey and Odyssey Football*) two players each control a large dot of light on each side of the screen, which they move up and down like a tennis paddle (hockey stick or football player) in order

[28] N. Montfort and I. Bogost, *Racing the Beam: The Atari Video Computer System* (MIT Press, 2009), 8.

to hit a smaller dot of light representing the tennis ball (football or puck). The player moves their paddle through a handheld control box with two dials either side: one for moving up and down, the other left and right (figure 73).
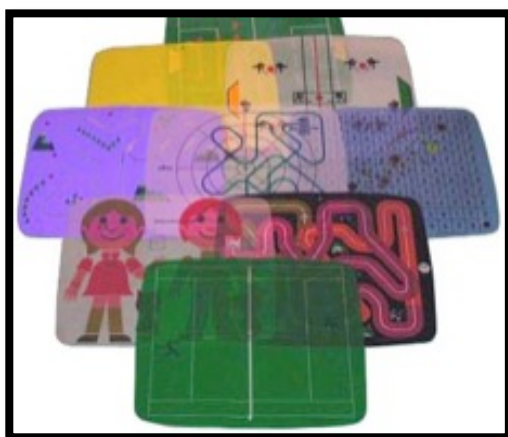
Figure 74: Plastic overlays

Figure 75: The overlays onscreen

Using this equipment, I experienced a certain detachment in the gameplay both hermeneutically and in terms of an embodiment relationship. First in regards to hermeneutics, there is very little to read onscreen. There are no graphics other than the light dots, which at the time of the Magnavox's release was compensated with interchangeable plastic overlays (figure 74). These transparent sheets, depicting a basic hockey rink, tennis court or football pitch, were placed over the player's television screen to decoratively aid the game's visual immersion (figure 75).

Concerning my embodiment restriction, this was evident in a controller that did not need to be gripped. As the control box required movement only from my thumbs and index fingers to turn the dials, the rest of my hand felt redundant, leaving me to place the controller on a surface and tweak it like I would a radio tuner. Background relations were also something I noticed to be absent from Odyssey gameplay. Scores are absent onscreen and must be kept by

the player mentally. Later models of the Odyssey relied on a score system in the form of a plastic lever located on the console itself, which the players would physically push after each point.[29]

By 1976 the company Fairchild Semiconductor revolutionised the restrictions of the home gaming machine with the release of the Channel F console, the second generation of computer gaming. The novelty of this machine was the ability to play a collection of new games on interchangeable cartridges, many of which were loaded with two to three games at a time. Furthermore, the channel F modified the game controller to that of a detachable plastic oblong, designed for players to grip vertically in one hand. Atop of this device resided a rotational nob and trigger that the player could turn or press with their other hand (figure 76). These new bodily controls corresponded with a new catalogue of games, which were more detailed and varied in comparison with the Odyssey's collection. These new titles were in colour and featured more complicated graphics and movements, but nevertheless were still restricted to a single static frame. Games such as *Alien Invasion* (figure 77), *Maze*, *Cat and Mouse*, *Video Blackjack* and *Video Whizball* along with the rest of the console's back catalogue, all take place in a static environment in which the player seemingly watches events from above (figure 77).

---

[29] Other improvements that the Odyssey underwent between 1972-78 (where it was revamped fourteen times) included an additional dial for ball trajectory, juxtaposed with the established horizontal and vertical controls, and a difficulty setting. However, all these functions were now on the console itself rather than a separate controller. This would have made it difficult (hypothetically speaking, as I have not tried this version) for the player to achieve a transparent embodiment relation, as the layout of the controls would require players to sit up close to the console, encroaching on their comfort and posture. Added to this, every Odyssey console was fundamentally limited to variations of the same game, earning Magnavox and other brands like it, the informal name of '*Pong Machines*.' Restrictions of games were thus echoed in the constraints of the controls.

Figure 76: A Channel F controller
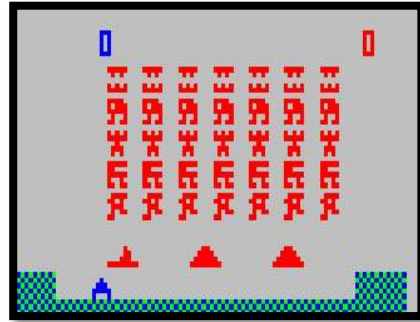
Figure 77: *Alien Invasion*

The Atari 2600, released in 1977 continued this type of game position but did so in such a way that the player could alternate through a succession of single static environments, to give the illusion of traversing a vast topography. This was initiated with the title *Adventure,* an open world game with environments that spanned several different screens (figure 78).
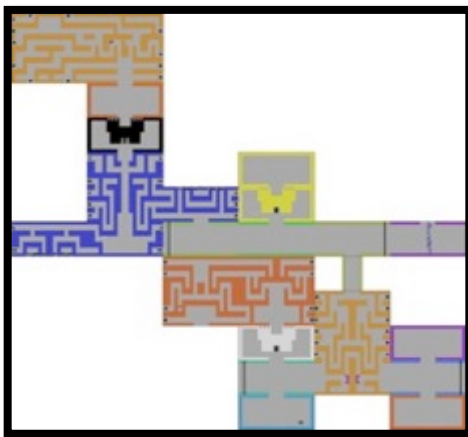

Figure 78: Game map from *Adventure*

Figure 79: An Atari controller

The player navigates these complex game worlds with the iconic single button, 8-directional joystick (figure 79). This enabled the player to move with ease and avoid enemies in certain time-based challenges. The enemies within this game were innovative for continuing to move even when off-screen, highlighting

sophistication in terms of both background and alterity relations. Such sophistication was reciprocated with an advanced controller, affording players a better, two-handed grasp of the world. Graphically however, *Adventure* was somewhat deficient, insomuch that the avatar consisted solely of a single square, impeding the player from vivid hermeneutical immersion.

The following year however, Atari developed *Battlezone* (1980), a game that was more sophisticated in terms of immersion through the way it accomplished the aesthetic of putting the player into the game world. This was achieved with wireframe vector graphics to give the visual impression of inhabiting three-dimensional screen space (figure 80), or what Ihde has referred to as 'through-the-screen space.'[30] The game takes place in a tank (obscured from the player's view as they look out from it) within an eponymous battle zone. Players must destroy enemy tanks within their vicinity before their enemy shoots them, all the time peering through the viewfinder of the tank gun's target. In the cabinet arcade version of *Battlezone*, the target viewfinder was intensified by the requisite of a rotatable periscope controller, which the player had to put their face into in order to view the game (figure 81).

---

[30] Ihde, *Experimental Phenomenology : Multistabilities*, 147. This is Ihde's recognition that computers and computer games can be considered multistable through the way a user engages with it. As he notes, computers both use 'on-the-screen space,' pertaining to the hegemonic modes of computing as a textual word processing experience such as emailing or web surfing. Computers, particularly in gaming that present 3D worlds, also purport the player with 'through-the-screen space' to denote topographical realism.
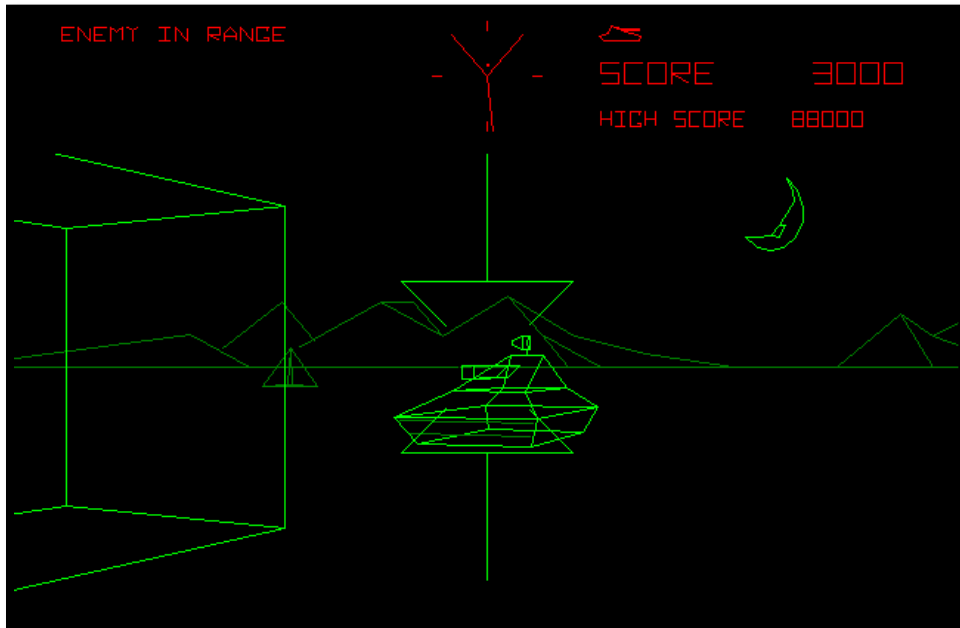
Figure 80: *Battlezone*

Figure 81: The cabinet arcade version

During the mid to late eighties, the staggered commercial release of the Nintendo Entertainment System (NES) and the Sega Master System, ushered in the third generation of computer gaming with these respective and rival 8-bit consoles. The controller for both of these machines consisted of a four way

directional pad[31] (d-pad: figures 82 and 83) and two buttons, which coincided with a surfeit of side-scrolling platform games, spearheaded by the rival mascot characters of Super Mario and Sonic the Hedgehog (figures 84 and 85).

Figure 82: A NES controller

Figure 83: A Master System Controller

Figure 84: *Super Mario Bros*

Figure 85: *Sonic the Hedgehog*

These respective franchises were graphically rich with vibrant colours and fast-paced action that kept the player's eyes and thumbs continuously attentive and rhythmically harmonious. The games also stitch components together that are

---

[31] The Master System combined 'cardinal directions': UP, RIGHT, DOWN, LEFT with 'intercardinal directions': UR, DR, DL, UL. However, not all games required these additional controls, and those that did could be achieved by simply pressing two directions at once such as D and L, making the extra buttons more decorative then necessary. Although, the release of the next generation 16-bit consoles in the form of the Mega Drive and Super Nintendo, did incorporate these extra controls into games, particularly fighting titles, which required more intricate maneuverability.

identifiable as each of Ihde's relationships, enabling players to become masters of space while experiencing a degree of characterisation.

In *Sonic the Hedgehog* and its sequels, the player traverses their environments while simultaneously collecting gold rings. In terms of a background relation, these rings are tallied at the top of the screen, by way of a hermeneutical score. The rings serve as a layer of protection for Sonic, for if an enemy hurts him, or when Sonic should come into contact with a dangerous part of his world, such as spikes or lava, he will first of all lose all the rings in the initial attack/contact (figure 86).

Figure 86: Sonic losing rings

If the enemy or environment harms Sonic for a second time, before the player can replenish a single ring, they are instantly killed. The rings in the background of Sonic's inventory thus enables the player to master and progress the topography of the game world. The unpredictability of the enemies that Sonic faces is what indicates the game's alterity, but this alterity can also be localised

to the Sonic avatar itself. For if Sonic is left long enough without any control from the player, he will turn inwardly, and begin to shrug his shoulders or tap his foot, indicating his confusion or frustration at the player's inactiveness (figure 87).

Figure 87: Sonic impatiently breaking the fourth wall

Controlling Sonic controls space, as I move the avatar from left to right, the side-scrolling world changes accordingly to keep in pace with my actions. The level of speed that I run my avatar at instantly spawns the next segment of world background for the avatar to exist in. *Sonic the Hedgehog* is rich in topographical mastery through the way a player can also return from right to left, returning to the start point of a level if they so wished. Some side-scrollers were exempt from this style and had a disempowering quality about them. The NES's *Super Mario Bros* (1985) for example, was analogous to driving on a one-way street, in the sense that the player and environment could only move forwards from left to right. If the player attempted to return to the point now off-screen where they once were, they soon discovered that the world had suddenly

locked and their only available path was ahead. By the release of *Super Mario Bros 2* (1988) however, this had changed to allow players to move forwards and backwards within the virtual world, ushering in the action adventure game across a vast map. The release of the fourth generation, 16-bit consoles: the Sega Mega Drive and the Super Nintendo Entertainment System (SNES), made the most of these new complicated worlds which were ratified with new controllers with extra action buttons.

These extra controls enabled the player to experience more complicated avatarial actions in order to participate in richer and more immersive worlds. The game *Flashback* (1992, Delphine Software) for example, was ported across to each of these consoles. Originally this was a PC game that incorporated numerous keyboard controls. Within the game, which was marketed as a cinematic platformer, players perform complex controls in a game world that mixes action with cut-scenes and cinematic close-ups, revealing new bits of story as the player progresses.[32]

By the mid nineties the fifth generation of computer game consoles, led by the PlayStation and Nintendo 64 (N64) rejuvenated the handheld controller, which now combined a directional button pad juxtaposed with a control stick.[33] More action buttons were available in addition to two, or in the case of the PlayStation, four trigger bumpers located at the back of the device, just in reach of the index fingers (figure 88), while the N64 incorporated a trigger button (figure 89).

---

[32] The release of the Sega Saturn in 1995 came with a 6-button control pad for more complicated games with extra maneuverability. Intricate 3D fighting games such as *Virtual Fighter* (Sega, 1995) made the most of this.
[33] In the case of the PlayStation, which was released in 1994, two years prior to the N64, the controller contained two control sticks.

Both consoles and controller designs facilitated a new style of computer gaming that was set in lavish three-dimensional environments. Nintendo's *Super Mario 64* was one of the most ambitious open world games on this system to take full advantage of these controls, enabling users to experience the story of the game and its fictional worlds in a unique way for each player.

Within this game the player uses the stick to carry out a full range of avatarial movements that previous *Mario* games had never before been able to achieve. In this world Mario can walk or run, crouch, crawl, swim and climb as well as execute a range of kicking or punching attacks. "The analogue stick is pressure sensitive, which means that Mario [can] tiptoe, walk, and run depending on the pressure."[34] He can also pick up items of inventory or grab, swing and throw enemies, as well as use the world to perform special double or triple jumps. Both the controls and the game world is vast, full of perceptible and secret doors that lead into new levels and worlds. The gameplay, like the setting

---

[34] J. deWinter, *Shigeru Miyamoto: Super Mario Bros., Donkey Kong, the Legend of Zelda* (Bloomsbury Publishing, 2015), 48-49.

is adaptable to the player's preferences in which levels can be completed linearly or mixed, just as gameplay can be stealthy or attack based. The directional buttons on the controller enables the player to manage the game's dynamic cameras, which can zoom in close to Mario or be far away, permitting the look of the game to be optimised to the gamer's playing preferences.[35]

Figure 89: A Nintendo 64 controller

Open world gameplay like this was becoming ubiquitous across consoles with similar controllers. *Shenmue* (1999, Sega), on the Sega Dreamcast, was one of the first open world, action adventure games to play out like a three-dimensional interactive film. Avatarial movement, particularly in games like *Metal Gear Solid* (1998, Konami), an action adventure stealth game, was becoming ambitious through the way the player could become more intricately involved with their environments.[36] The PlayStation controller, which includes a

---

[35] Ibid., 49.

[36] In this game the player takes on the role of a seasoned soldier picking off enemies one by one to obtain sensitive military intelligence. Instead of simply killing enemies, which the player has the option to do, the avatar can be made to crawl under tables or hide in boxes, and either wait

built in Rumble Pack,[37] designed to vibrate when the player's avatar is in danger, has now become standard with the 6th, 7th and 8th generation of computer game consoles, which from 2000-present has been dominated by the rivalry of PlayStation and Xbox.[38]

Somaster Fiction: The Cultivation of the Avatarial and Playing Body

At the beginning of this chapter I began to touch on how Ihde's human-technology relationships are incorporated into computer games and how by working together, they organise the player into a master of topographical screen space. This is an idea that Rune Klevjer has considered in his work, 'Enter the Avatar', which he illustrates in the following way.

> When we play, because the avatar extends the body rather
> than pure agency or subjectivity, screen space becomes a
> world that we are subjected to, a place we inhabit and
> where we struggle for survival. We learn to intuitively
> judge, like we do in the real world, the opportunities and

---

for the optimum moment to strike or slip past enemies undetected. The player can also witness such moments and others like it from a first or third person perspective by way of a simple button press.

[37] The N64 used a removable plug in Rumble Pack, which was inserted into the underside of the controller.

[38] These systems, along with the Nintendo Wii, have also ushered in motion sensing controllers through the Kinect and the Move system. The majority of games upon such platforms consist of sport or action related titles designed for shared multiplayer experiences. With the exception of a few games, the systems (in my opinion) do not cater for the same levels of fictionality that many single player RPGs do. This is why I refrain from using any motion sensing game titles within my case studies. Similarly I eschew the plethora of instrument-controller based games such as *Guitar Hero* (2005 –Present, RedOctane and Activision,) and *Rock Band* (2007-2015, Electronic Arts and Harmonix) for the same reason.

dangers of the environment.[39]

Put differently, successful exploration and traversal of the game world and narrative experience that it denotes, necessitates the player to cultivate a playing body through an avatar, which Klevjer compares to the controlling of a prosthetic marionette. As he states, "[c]ontrolling Mario is like controlling a marionette, hooked up to the player's fingers by invisible strings. In order to play well, the player must work to incorporate Mario [or any avatar] as the on-screen extension of his or her own body, via the physical extension of the gamepad.[40]" By embodying the controller, a player in turn embodies the avatar through what David Sundow has referred to as an "electro-umbilical hookup."[41]

During gameplay, the player will constantly be making decisions about what to do and where to go, revising such choices when they fail or learning from experience when things go right. This is what Grodal means when he describes the game player as performing repetitive rehearsal in order to gain mastery[42] (see Literature Review). The player is in a constant state of learning and repetition, duplicating a series of movements and gestures upon a control pad, until such button sequencing has become transparent. Such transparency, as Martti Lahti notes, enables the body "to develop a sort of prosthetic memory,"[43] which (as he adds) is necessary to the avatar's survival "as we melt into our

---

[39] Rune Klevjer, 'Enter the Avatar: The Phenomenology of Prosthetic Telepresence in Computer Games' in John Richard Sageng et al., The Philosophy of Computer Games, http://www.columbia.edu/cgi-bin/cul/resolve?clio10045030. 28. (accessed 20 February 2015)

[40] Ibid., 27.
[41] David Sudnow, *Pilgrim in the Microworld* (New York, N.Y.: Warner Books, 1983), 21.
[42] Grodal, "Stories for Eye, Ear, and Muscles," 148.
[43] Martti Lahti, "As We Become Machines: Corporealized Pleasures in Video Games," ibid.

electronic worlds."[44] When I consider my playing body objectively, I can identify how Ihde's four relationships interlink with one another, cultivating a gaming body (both onscreen via the avatar and off-screen through the controller), which needs to adapt to and overcome the virtual space, enemies and obstacles within a game world. Such game body cultivation can be considered through Shusterman's concept of somaesthetics.

In *Body Consciousness: A Philosophy of Mindfulness and Somaesthetics*, Shusterman describes somaesthetics (a neologism of 'soma' and 'aesthetics') as a discipline comprising of both theory and practice in relation to how sensory perception is used by the human body. And how in turn, the human body can hone and improve such sensory appreciation.[45] In his own words, Shusterman describes somaesthetics as a branch of philosophy that is "concerned with the critical study and meliorative cultivation of how we experience and use the living body (or soma) as a site of sensory appreciation (aesthesis) and creative self-fashioning."[46] For Shusterman, such meliorative cultivation of the soma consists of two dimensions. The first is the way that the body is attuned to proprioceptive sensations, such as breathing, muscular awareness and other forms of inner sentient perception as a body. Examples among many include: hunger, satisfaction, calmness, stress, tiredness and tranquility. Shusterman's first use of somaesthetics therefore relates to the body (or soma) as a dynamic instrument or medium for perception.

The second dimension pertains to the body as a site for self-creation and expression through its physical materiality. How we dress, groom and purport

---

[44] Ibid.
[45] Richard Shusterman, *Body Consciousness : A Philosophy of Mindfulness and Somaesthetics* (Cambridge ; New York: Cambridge University Press, 2008), 1.
[46] Ibid.

ourselves as bodies, enables us to convey values about our personhood to others. Andrew Feenberg's revision of Merleau-Ponty's blind person's cane for example (described in the Introduction) is an instance of this, in which the cane simultaneously enables its operator to sense the world through extended touch while at the same time impart to onlookers that the user is blind.[47] This example highlights Shusterman's point that these two dimensions of the soma, inner bodily perception and external bodily representation, are in practice connected to one another. This connection is why he uses the terms soma instead of body. As he explains, "[t]he term 'soma' indicates a living, feeling, sentient body rather than a mere physical body that could be devoid of life and sensation."[48] Put differently, Shusterman's use of soma instead of 'body', is for the intent of identifying the body as distinct from a mere surface and material interpretation as a 'flesh bag.' Ultimately, a body can be dead and have no feelings; Shusterman therefore uses soma to denote the body as an existing, feeling site of sentient subjectivity.[49]

Soma derives from the Greek word σῶμα, meaning body, and it is through an ancient Greek history that Shusterman comes to develop his term, which originates from one of his earlier works on pragmatist aesthetics. Within this book of the same name,[50] he argues that pragmatist aesthetics "has the purpose of bringing art and life together."[51] For Shusterman, "pragmatism is a philosophy that emphasises that the basis of thinking is acting, [and that humans] need to

---

[47] Selinger, *Postphenomenology: A Critical Companion to Ihde*, 191.

[48] Shusterman, *Body Consciousness : A Philosophy of Mindfulness and Somaesthetics*, 1.

[49] This is similar to Ihde's concept of body one and body two (discussed in the Introduction and Chapter 2) and again reveals the body as a multistable entity.

[50] R. Shusterman, *Pragmatist Aesthetics: Living Beauty, Rethinking Art* (Rowman & Littlefield, 2000).

[51] Interaction Design Foundation, Interview with Richard Shusterman – 'Somaesthetics – Ancient Culture' at https://www.youtube.com/watch?v=Uxe73YY56Zg (accessed 05 June 2016)

think and believe in order to act."[52] This is also in line with Fludernik's narrative concept of experientiality.[53] Shusterman's work on pragmatist aesthetics puts this idea into action by considering an embodied practice and appreciation of different forms of art.[54] In an interview on this subject, he notes how the body is key to the nexus of thinking and acting, and paraphrasing Husserl,[55] is the prime instrument of all actions, perceptions and experiences melded into one.[56]

For Shusterman, somaesthetics is a natural progression of pragmatist aesthetics, and is intended as a guide for life in which philosophy can take on a practical quality rather than just a theoretical one.[57] This, as Shusterman notes, is an ancient Greek concept, established by Socrates who developed philosophy as a pursuit towards a better way of thinking and living. To give an example, Shusterman uses written accounts about Socrates, recorded by his pupil Xenophon, describing how the philosopher emphasised the importance of the body as the source of all perception. According to Xenophon, Socrates would train and practice physical arts such as dance to keep his body, and in turn perception and wisdom, honed through cultivation.[58]

As Shusterman notes, the idea of obtaining wisdom and spirituality through cultivation of the body in terms of practice and ritual is widespread. Diogenes the Cynic, for example, practiced strengthening the body, believing,

---

[52] Ibid.

[53] This is in relation to how Fludernik perceives acting and thinking as part and parcel of the dynamic human (see page 271).

[54] Within his book, *Pragmatist Aesthetics: Living Beauty, Rethinking Art*, this is concentrated upon the art and culture of hip-hop.

[55] Husserl: "The Body is, in the first place, *the medium of all perception;* it is the *organ of perception* and is *necessarily* involved in all perception." R. Rojcewicz, E. Husserl, and A. Schuwer, *Ideas Pertaining to a Pure Phenomenology and to a Phenomenological Philosophy: Second Book Studies in the Phenomenology of Constitution* (Springer Netherlands, 1990), 61.

[56] Interaction Design Foundation, Interview with Richard Shusterman – 'Somaesthetics – Ancient Culture' at https://www.youtube.com/watch?v=Uxe73YY56Zg (accessed 05 June 2016)

[57] Ibid.

[58] Shusterman, *Body Consciousness : A Philosophy of Mindfulness and Somaesthetics*, 46.

that "[...] with constant exercise, perceptions are formed such as secure freedom of movement for virtuous deeds."[59] These beliefs advanced through the Renaissance and into monasticism, Confucianism and Taoism among many others. Such diverse practices share a universal goal in which cultivation of the body through ritual, music and rhythm or other physical custom, enables a person to attain divine culmination and be at one with their world and beliefs.

Bringing this idea into computer games, a player is similarly at one with their environment or story through the mastery of the controller, avatar and virtual space. Somaesthetics in computer games have become possible through computer games and computer game controllers that have become responsive to the player's body, while immersing them in rich 3D graphics, such as the pressure sensitive control stick of the N64 and the game world of *Mario 64*. The fifth generation of computer games and onwards, described in A Brief History of Controllers, is what has enabled somaesthetics in computer gaming to prevail and allow users, as Lahti states, to melt into an electronic world, through heightened bodily engagement. This is owed to the N64, PlayStation and Xbox controllers, which afford increased tactile agency and immersive gameplay. These complex controllers enabled the movement of complex bodily avatars, something that was not possible before in games such as *Pong* or *Alien Invasion*. In open world action adventure games like *Skyrim*, the player must cultivate their skills by mastering their controls to acquire strength, speed and dexterity to level up and progress through a fictional universe.

Shusterman identifies three aspects in somaesthetics, consisting of the

---

[59] R. Shusterman, *Performing Live: Aesthetic Alternatives for the Ends of Art* (Cornell University Press, 2000), 140.

experiential, the performative and the representational dimension. The experiential is the element of experience that makes someone feel good or better through somatic practices.[60] He identifies yoga for example, as a method that improves the body as a site for sentient subjectivity through development of movement and breathing capacities, enabling a feel of invigoration. Such feelings of 'betterness' can also be attained representatively. For instance, cosmetic surgery is a commercial practice in which the body as a site of representation is aesthetically improved.[61] The representational dimension is therefore "a culture largely built on the division of body from spirit and economically driven by the capitalism of conspicuous consumption that is fueled by the marketing of body images."[62] In contrast, the performative dimension is something Shusterman describes as, "performance-oriented disciplines [that] aim either at external exhibition or at enhancing one's inner feelings of power, skill, and health."[63]

Henrik Smed Nielsen's book, *Playing Computer Games: Somatic Experience and Experience of the Somatic,* utilises Shusterman's approach, arguing that the experiential, representational and performative dimensions of the soma, "simultaneously run through and constitute the process of playing computer games."[64] Nielsen argues that computer games, in terms of the experiential, are designed to make players feel good by making the gamer feel as if he or she is there within the game world.[65] He argues that such feelings of goodness are not limited to wholesome or ethical wellbeing (for most games exercise some level of

---

[60] Shusterman, *Body Consciousness : A Philosophy of Mindfulness and Somaesthetics*, 27.
[61] Ibid., 26.
[62] Ibid., 28.
[63] Ibid., 29.
[64] H.S. Nielsen, *Playing Computer Games: Somatic Experience and Experience of the Somatic* (2012), 97.
[65] Ibid., 98.

violence) but rather, that such goodness resides in experiences that are "*satisfyingly rich*, through perceptual shock."[66] In other words, a feeling of invigoration can be achieved by game experiences that place the player's soma in scenarios of exhilaration.

In terms of representation, Nielsen argues that human avatar bodies within computer games conform to "certain *physical ideals* within Western culture."[67] He bases this upon two papers written by Nicole Martins, who identifies how the look of video game characters supersedes the average look of most men and women. In 'A Content Analysis of Male Video Game Characters,'[68] Martins notes how such avatarial representations are presented as "systematically larger than the average American male [body], in relation to muscle mass."[69] Similarly, Nielsen via Martins[70] identifies how the bodies of female avatars are usually portrayed much more thinly than the average female form.[71] This can be seen in characters such as Lara Croft from the *Tomb Raider* franchise (1996-present, Eidos Interactive and Square Enix), Faith Connors in *Mirror's Edge* (2008, Electronic Arts) and Jill Valentine from the *Resident Evil* series (1996-2016, Capcom), amongst many others.[72]

---

[66] Ibid., 99.

[67] Ibid., 101.

[68] Nicole Martins et al., "Virtual Muscularity: A Content Analysis of Male Video Game Characters," *Body Image* 8, no. 1 (2011).

[69] Nielsen, *Playing Computer Games: Somatic Experience and Experience of the Somatic*, 102.

[70] Nicole Martins et al., "A Content Analysis of Female Body Imagery in Video Games," *Sex roles* 61, no. 11-12 (2009).

[71] Nielsen, *Playing Computer Games: Somatic Experience and Experience of the Somatic*, 101-02.

[72] The representation of gendered bodies in computer games is a vast field of study and something that is beyond the scope of this thesis (however I will return to and address the idea of gender in the Conclusion). The representation of male or female onscreen bodies is not what is at stake within this chapter. Regardless of gender my argument is that the avatarial body is something that pluralises the player, provides agency into a fictional world and supersedes a real life body in terms of endurance and invulnerability. For more detailed discussions about body gender in computer games see Anita Sarkeesian's video blog, 'Feminist Frequency—All the Slender Ladies: Body Diversity in Video Games' at https://m.youtube.com/watch?v=qbqRtp5ZUGE (accessed 02 August 2016)

The performative aspect of Shusterman's somaesthetics again translates coherently to computer games, in which motor skills through corporeal practice improve over time. Nielsen again highlights how this performative dimension is key to gamers not just in a singular way but also through the performance that the player presents to other onlookers. As Nielsen notes, games such as *Singstar* (2004-2014, Sony Computer Entertainment), *Guitar Hero* (2005-present, RedOctane and Activision) and *Rockband* (2007-2015, Electronic Arts and Harmonix) or certain Wii, Kinect or PlayStation Move games, are prime examples that promote an explicit and social performative dimension. In the instrument or sport based games, where players don guitars, sit at drum kits or bat balls back to one another through motion sensing remotes, the player may become aware of others watching, which may either stimulate or discourage their performance.[73] Such performativity, as Nielsen further notes, is predicated on the cultural codes and understandings of how a guitar player or tennis player handles their equipment. This cultural knowledge, through watching performance, is what shapes the performative dimensions of the player as they instinctively hold and handle the guitar or Wii remotes in the correct way.

As Nielson highlights, somaesthetics and computer games strike equilibrium. And as I am arguing, in narrative based games the performative, representative and experiential dimensions (in both Shusterman and Fludernik's sense of the term) come together. When playing an engrossing story based computer game, I experience an experiential feeling of excitement (Shusterman/Nielsen) and an experiential sense of anthropomorphism

---

[73] This can also be extended to the abundance of multiplayer online games, where distanced players share the same virtual space, and are at liberty to monitor, react and comment upon each other's performance.

(Fludernik) through the representation of the avatarial body. As I become assimilated to this screen body, learning to maneuver it through the performative dimension of the soma, so it becomes a tool that extends my gestures, which in turn permits me to access a fictional universe.

The soma as a meliorative site for body and narrative cultivation through mastery of controls, avatar and game space, is how I formulate the notion of somaster fiction. In *Skyrim* and other open world games of this kind, which I will come onto in the next section, all of Shusterman and Ihde's concepts are woven together, constructing this somaster style of game story. *Skyrim* requires a player to construct an avatar, and thereby mold a representational onscreen body in Shusterman's sense of the term. This avatarial identity is written into the opening narrative of the game, which commences in first person perspective with an NPC character addressing the player directly, asking who they are. The player must then choose their race, sex, gender, body type and appearance, which upon completion, spawns their avatar visibly into the game world, transforming their view from a first to a third person perspective in which the avatar is now visible.

The choices that the player makes open the character up to different possibilities. Different races have different abilities in the form of strength, weapon or magic skills, craftsmanship, stealth or thievery. These early choices guide the type of game style that the player will perform. Once the player's avatar enters the vast land of Skyrim, they are free to explore. Through this exploration my avatar comes across many towns, villages, caverns and landmarks inhabited by NPCs, offering me rewards for missions. I am free to undertake these tasks or decline them whenever I choose. Thus I am not

confined to linearity but do need to engage in such tasks in order to increase my strength and gain experience points. Every attack I perform, with the vast arsenal of weaponry at my disposal, increases my swordsmanship, archery skills or spell casting powers. The more I do the stronger I become, and the further I travel, the more space I command (figures 90 and 91).

Figure 90: First person combat

Figure 91:Third person view

Figure 92: A map of the land of Skyrim

Each time I discover a new landmark, the location is automatically added to a map (figure 92). The map is thus filled in through my movements and actions. Somaster fiction therefore equates to Ihde's Embodiment, hermeneutical, alterity

and background relationships, enfolded and linked into one another.[74]

These four relationships pertain to a virtual body (the avatar) and a real life body (the player) enfolding into one another. Ihde's four relationships give this real/virtual body relationship agency. This is in contrast to the hap-tech body (see Chapter 1), which consists of an embodiment and hermeneutic relationship only, resulting in a non-agential weakened body of corruption or vulnerability. The somaster body by contrast is about mastery of the body. It is about control and improvement over an avatarial body through repetitive practice, which falls in line with Shusterman's somaesthetics.

In terms of somaesthetics, somaster fiction is experiential in Shusterman's sense of the term in the way that gameplay, as stated by Nielsen and supported firsthand by my own experiences, makes a player feel good through repetitive practice. Somaster fiction is also performative and representational in accordance with Shusterman's hypothesis. Gameplay, as Nielsen highlights, is performative through corporeal motor skills upon controllers, and representational, in accordance with how the avatar looks to the player. This is in addition to how the avatar also looks to in-game characters or other (online) players. These elements of Shusterman's somaesthetics, combined with Ihde's four human-technology relationships, are the basis for the idea of somaster fiction in gaming. Mastery of the soma, (the real and avatarial body), topographical world and all that inhabits it, is what the game player must do, through a controller, to push fictional events forward. This is what establishes

---

[74] Aside from background relationships discussed at the beginning of this chapter, *Skyrim* incorporates a myriad of alterity relations in the form of passive or attacking NPCs, animals, dragons, monsters and other forms of wildlife that inhabit the world and respond to my presence and actions.

somaster fiction, which to recapitulate, is mastery of the soma through the engagement between the body and technology of the controller.
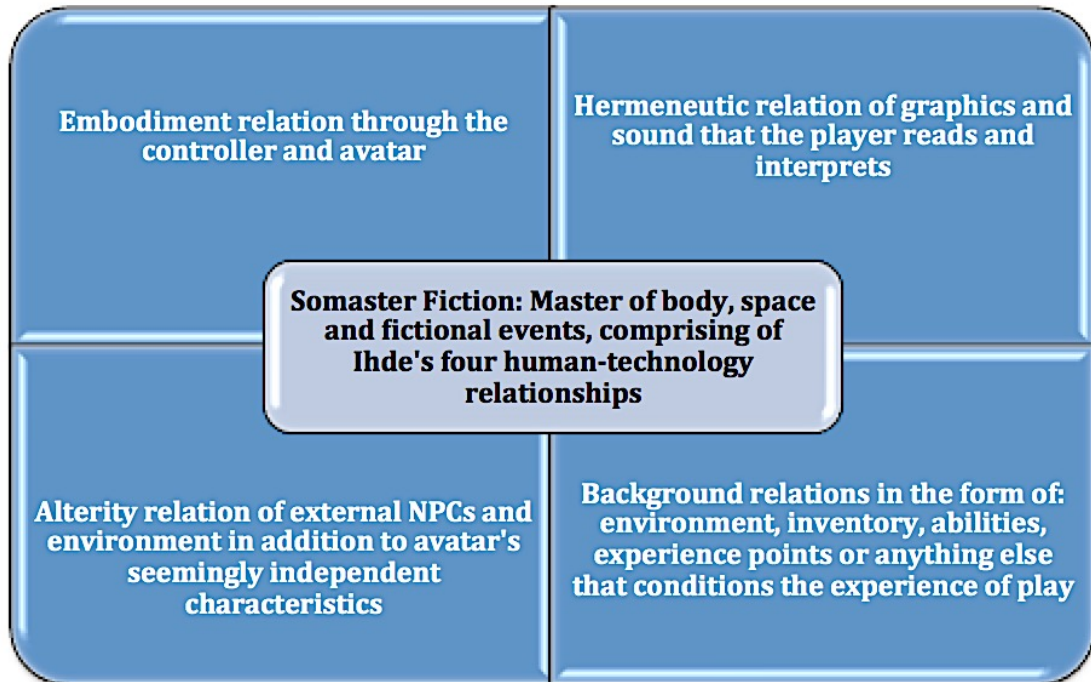
The Present Avatarial Body and Open World Fiction

In games like *Skyrim*, *Red Dead Redemption* (2010, Rockstar Games), or franchises such as *Grand Theft Auto, Fallout* (1997-present, Interplay Entertainment, 14 Degrees East and Bethesda Softworks), *Final Fantasy* (1987-2015, Square Enix), or *Dragon Age Origins* (2009-14, Electronic Arts), to name a few, a player works their way through a world and a story by way of an avatar. As Marie Laure Ryan writes,

[p]layers operate a character in the fictional world, and
their playing skills determine the fate of their avatar. The
interaction between users and the fictional world
produces a new life for the character, and consequentially
a new life story, for every run of the system. The preferred
narrative structure of the adventure game is the
archetypal plot of the quest of the hero, as described by
Vladimir Propp and Joseph Campbell.[75]

In narrative terms, many open world games begin with peripety: an abrupt turn
of events or reversal in fortune. *Skyrim* for example begins (from a first person
perspective) with the player facing execution as a prisoner of war (a sequence
reminiscent of hap-tech narration, see Chapter 1). This is the moment in which
the executioner asks us who we are, and the player constructs their identity
spawning an avatarial body to life. Moments before this death penalty can be
carried out a dragon unexpectedly attacks, enabling me amidst this frenzy to free
myself and escape, whereupon the land of Skyrim becomes open to me.

Through my present anthropomorphic avatar, visible upon screen, I now
experience narrative in line with Fludernik's concept of experientiality, which
puts fictional value on the conveyance of an embodied and emotive perspective
within a world. In playing this game I experience this sense of experientiality as
it oscillates from fixed plot structure points (such as the execution build up and
dragon attack) to moments of freedom, whereupon I can seemingly travel to and

---

[75] M.L. Ryan, *Narrative across Media: The Languages of Storytelling* (University of Nebraska Press, 2004), 350-51.

do whatever I wish within my vast surroundings. Katie Salen and Eric Zimmerman have referred to this structure in *Rules of Play: Game Design Fundamentals*, as embedded and emergent forms of narrative. As they assert, "*[e]mbedded* narrative is pre-generated narrative content that exists prior to a player's interaction with the game. [It is] designed to provide motivation for the events and actions of the game, players experience embedded narrative as a story context."[76]

Grand Theft Auto III (2001, Rockstar Games) for example, begins by presenting a similar sense of peripety at the start of the game. This begins with an embedded narrative cut-scene depicting a botched bank robbery. In a short space of time the player watches the protagonist, Claude (who players eventually take control of) committing the robbery, being double-crossed, incarcerated, then inadvertently freed from a prison truck in a police convoy that is randomly attacked whilst crossing a bridge. All these events and reversals of fortune are quickly relayed to the player through a series of newspaper headlines, radio reports and cut-scene imagery. Claude and fellow prisoner 8-Ball emerge from the damaged vehicle, cueing the player to take control. 8-Ball informs Claude that he knows the location of a safe house: "I know a place on the edge of the Red Light District where we can lay low, but my hands are all messed up, so you better drive brother." This dialogue offers the player both a sense of camaraderie between characters and fictional justification as to why it is that I am doing the driving. I even find (in terms of experiential narrative) that I am trying to drive as safely as possible so that I do not cause any further injury to 8-Ball.

---

[76] K. Salen and E. Zimmerman, *Rules of Play: Game Design Fundamentals* (Books24x7.com, 2004), 383.

This is where embedded narrative switches to emergent. Emergent narrative accounts for the moment-to-moment experience within the game that "arises from the set of rules governing interaction with the game system."[77] It is through the emergent system of the game that I am free to explore the open world as I choose, select missions in the order I want to do them and have (to a limited extent) a choice in how I interact with my environment, props and other NPCs, all of which contributes towards my overall experiential and fictional experience. As introduced in the Literature Review, this is what Gordon Calleja describes in his work *In-Game* as an alterbiographic experience. As he asserts, "alterbiography is the active construction of an ongoing story that develops through interaction with the game world's topography, inhabitants, objects, and game rules and simulated environmental properties.[78] Alterbiography therefore pertains to the way in which the player's actions during gameplay helps co-create their fictional experience. Thus, a fundamental part of this fictional co-creation is how the avatarial body performs and is utilised through gameplay.

With fifteen years since *GTA III's* release and ten sequels to date, the *GTA* avatarial body and player's game body have undergone some significant transformations. Fundamentally it has evolved from a mute marionette tool in *GTA III* to a fully voiced digital character in *GTA Vice City* (2002, Rockstar Games) onwards, where the familiarity of Ray Liotta's protagonist voice lends a more cinematic feel to the experience. This helps to enrich the avatarial multistability as both a digital marionette and fictional character. Andrew Burn and Gareth Schott have addressed this concept in their work, 'Heavy Hero or Digital

---

[77] Ibid.

[78] Calleja, *In-Game : From Immersion to Incorporation*. E-book Location 2194.

Dummy,' stating how the avatar has evolved to a multimodal two-part structure consisting of a fictional character and digital tool that interdependently leak into one another. Burn and Schott predicate this notion primarily on an analysis of the character Cloud from the action adventure game *Final Fantasy 7* (1997, Square) but this idea can be applied to any avatar in any open world story game.

Fundamentally, Burn and Schott surmise that the player avatar relationship is a hybridised phenomenon of a game text. Just as the word text derives from the Latin word *texere*, meaning to weave*,* the player avatar relationship in fictional games similarly weaves together an experience that is both *read* entwined with one that is *played*. This flags up the avatarial body in terms of Ihde's hermeneutical and embodiment relationships, as well as Shusterman's somaesthetics, whereupon the body exists simultaneously as a site for feeling and sensory perception, in tandem to representation. This notion is also echoed in Shaun Gallagher's book, *How the Body Shapes the Mind*, where the author breaks the body down into a body image and a body schema. As Gallagher asserts,

> [a] *body image* consists of a system of perceptions, attitudes and beliefs pertaining to one's own body. In contrast, a *body schema* is a system of sensory-motor capacities that function without awareness or the necessity of perceptual monitoring. This conceptual distinction between body image and body schema is related respectively to the difference between having a perception of (or belief about) something and having a

capacity to move (or an ability to do something).[79]

Gallagher's ideas resonate with Ihde's, who similarly recognises the breakdown of the body into the two components that he terms *body one* and *body two* (described in Chapter 2). Primarily, this is Ihde's hypothesis that the body is both a motile, perceptive, sensing being and a cultural inscriber in terms of age, race, gender, class or sexuality.

Ihde's terms 'body one' and 'body two' are interchangeable with what he refers to as a 'here-body' and an 'image-body'. Ihde's concept of the here-body and image-body are taken from R.D Laing's *The Divided Self.* Within this work Laing discerns that the human body consists of both an embodied and an unembodied self, which he describes in the following way.

> The embodied person has a sense of being flesh and blood and bones, of being biologically alive and real: he knows himself to be substantial. To the extent that he is thoroughly 'in' his body, he is likely to have a sense of personal continuity in time. [...] The unembodied self, as onlooker at all the body does, engages in nothing directly. Its functions come to be observation, control, and criticism *vis-à-vis* what the body is experiencing and doing, and those operations which are usually spoken of as purely 'mental'.[80]

---

[79] Gallagher, *How the Body Shapes the Mind*, 24.
[80] R. D. Laing, *The Divided Self* (New York,: Pantheon Books, 1969), 67.

What Laing describes and that Ihde adapts, can be considered in relation to the avatarial game body.

When playing any *GTA* title from *GTA III* onwards[81] I simultaneously am the avatar, where I look *through* it to see the world before me, and have a relationship *of* the avatar that I observe as a character. I have a sense of perceptual beliefs about the character I am using, which I gauge from the onscreen image-body, cut-scenes and interaction with other NPCs. I also have an experience of the body schema that I take into my phenomenological experiencing when I engage the button sequences to ride the avatarial image-carriage within the virtual world. Paul Martin has addressed this duality of the avatarial tool from a Heideggerian perspective of being both ready-to-hand, that which we play through, and present-to-hand, that which we observe.[82]

As tidy as Martin's idea is, it is somewhat reductive for fictional games that can stretch beyond these two confined categories of using and looking. This is why Ihde is more befitting to this medium. Instead of incorporating Heidegger's terms, we can instead adopt Ihde's by using variants from his concept on multistability, particularly when we can discern how the avatar is multistable as both a tool and character. As Ihde claims, "[t]o both 'see' in an embodied position and to 'read' in an apparent position, and to be able to easily 'hermeneutically' transpose between the two positions is part of what it means to perceive in the now *postmodern* lifeworld. Our perspectives are multiple, refracted and

---

[81] *Grand Theft Auto* games before this adopted a flat overhead look and feel to the game. The third game rejuvenated this with rich 3D graphics.
[82] Paul Martin, "A Phenomenological Account of the Playing Body in Avatar-Based Action Game" (paper presented at the Philosophy of Computer Games Conference, Madrid, January, 2012).

compound." [83] Taking Ihde's view into account enables us to see how multistability is key to how these two positions of avatarial tool and character (as illustrated by Burn and Schott) go beyond simply being used and read and can be further dissected into: embodied, hermeneutic, background and alterity relations, which as I am arguing, are the essential components that formulate somaster fiction.

This can be clearly seen when we consider that avatars in graphic or text based computer games in general, are hermeneutic in their nature, insomuch that the player reads the imagery or text onscreen in order to assess what is happening and what their response should be. Such responses come by way of the controller: an embodied input relationship that powers the avatar, affording the player agency within the game. The game world or backdrop to which the avatar exists within, can be considered a background relationship, although this idea also extends to assorted background relationships localised to the avatar itself, which I will come onto. The same can be said for alterity relations, which exist in the player and avatar's relationship to the game environment and other NPCs, but can also be in proportion to the avatarial body. To give an example, I return to the *GTA* franchise.

The fictional setting of Los Santos: the *v*irtual world of *GTA V* (2013, Rockstar Games) provides a quite literal background relation to the avatarial marionette that dominates my focal point of attention. Without this vast world the ergodic pleasure of the game would simply collapse. This is because the background as a form of fringe awareness serves as a set of affordances or 'I-

---

[83] Don Ihde, *Postphenomenology : Essays in the Postmodern Context*, Northwestern University Studies in Phenomenology and Existential Philosophy (Evanston, Ill.: Northwestern University Press, 1993), 87.

cans' (in Maxine Sheets Johnstone's sense of the term, see Chapter 1) that allows

my avatar to behave in a range of different ways. In the absence of this city, when

for example my avatar ends up in the sea, my range of motilities are drastically

reduced to just swimming. As Salen and Zimmerman state, "the organization of

spatial features in a game is critical to the design of a game's narrative space of

possibility."[84] This is in line with Henry Jenkins and Kurt Squire's paper, 'The Art

of Contested Spaces', which states that, "game space is organized so that paths

through the game world guide or constrain action, making sure we encounter

characters or situations critical to the narrative." [85]   Residing within the

background of the city I can run, jump, drive, shoot, fight as well as attend the

numerous events that the virtual city has to offer such as hunting, cinema going,

riding rollercoasters, golfing or playing the stock markets, to name just a few.

Figure 93: Los Santos

The rich setting offers multiple strands of intentionalities that provide me as a

player the opportunity to craft my own unique experiences and game character

---

[84] Salen and Zimmerman, *Rules of Play: Game Design Fundamentals*, 390.
[85] Henry Jenkins and Kurt Squire, "The Art of Contested Spaces," *Game On. London: Barbican* (2002).

qualities. For example, mastering the stock market leads to increased wealth that can be spent on new weapons, vehicles and properties. This in turn assists my ergodic and fictional appreciation of how I interpret and participate within the game setting.

The background of the city is also rich in fictionality because of its alterity status as a "quasi-world with which the human actor relates."[86] The fact that the game has a currency, continuous in-game time that differentiates between day and night, regulating the opening and closing hours of business establishments within the cosmopolis, enhances the digital environment as a quasi story world. Like the city, my avatar can also be described as a form of alterity in addition to embodiment and hermeneutical, through a range of apparent independency that the avatar can execute, in a more sophisticated version of Sonic's tapping foot. As Kiri Miller has identified in her book *Playing Along*, the pressing of a single button near a vehicle in *GTA* accomplishes a long series of gestures from the avatarial character. A single button press on a controller will prompt my avatar to run to a car, open the door, grab and drag the driver and hurl them into the road (figure 94). This single click of the button in my real world space sparks an alterity of independent violence in the virtual; an experience that many players would not be familiar with in their everyday lifeworld.

---

[86] Ihde, *Bodies in Technology*, 81.

Figure 94: Carjacking in _GTAV_

This simple gesture also channels into the fictionality and existent backstory of the character. In _GTA V_ for example the player is in control of three characters, each operated one at a time. This in a sense crystallises avatarial multistability, especially in the moments when all three characters share the same space, whereupon I play through one character while observing the other two. These three main characters consist of two white middle-aged career criminals: Michael – the family man, his psychopathic accomplice Trevor and a young black apprentice criminal named Franklin. Each character's unique fictional background is briefly inferred through the technique they adopt when breaking into parked cars. Michael and Trevor for example, as hardened criminals, brazenly smash windows with aggression. Franklin on the other hand, who is presented as a more methodical character with a history of vehicular expertise, is at times able to perform this operation without hostile behaviour or damage to the vehicle. The same single button press is used for each character but individually encoded alterity traits allow a 'quasi-other' to emerge. Just as Shusterman, Gallagher, Laing and Ihde each state how a corporeal body and culturally constructed body are two halves of the same whole, gameplay in _GTA_ can be interpreted as a handshake between embodied input from the controller

and fictional alterity within the character, which is hermeneutically outputted upon the screen.

In line with Ihde and Shusterman's concept that the body is a site for sensory perception and representation, the look of the avatar in the *GTA* games becomes a major feature of the game experience. Haircuts, tattoos, clothing and body sculpting are all significant elements of the *GTA* experience, which in the game *GTA San Andreas* (2004, Rockstar Games) is particularly relevant for both gameplay and fictionality. Within this installment of the series, players control a character named CJ (Carl Johnson), a young black character affiliated with gang activity within the suburbs of the eponymous fictional metropolis, San Andreas. From mission to mission and district-to-district, CJ's purpose is to rise to the top and become king of the city by conquering rival gangs, corrupt police, traitors and other threatening adversaries. In order to accomplish this through the succession of missions, the player has to look after CJ by feeding him, exercising him and dressing him in a way that will earn him respect and appeal to the opposite sex. If I neglect to take CJ to the gym, or fail to run him about the city, the avatar loses stamina points. If I combine this with overfeeding him junk from any of the fast-food chains within the city he will visibly gain weight and lose stamina (figure 95).

Figure 95: The changing body of CJ through the player's gameplay control

Once this happens, pressing the button that makes him run will only take effect for a few brief moments before CJ loses breath (audibly conveyed) and reverts to sluggish, lethargic movement. These fictional details highlight the hybridisation of alterity and background relationships, insomuch that CJ's diet and exercise regime are remembered within the background of the game, and are illustrated both hermeneutically through the avatar's appearance and haptically through the rapid ease or slow effect of the controls. These changes do not take immediate effect but are a continuous and durational reconstruction, which plays out in the peripheral background of the avatar as an *absent presence*, existing unnoticed, but all the time changing (through independent alterity) like the city's temporal day/night cycle.

The more time I spend utilising CJ like a tool in activities such as driving, running or lifting weights, the more responsive this avatarial tool becomes to these respective tasks. Rehearsal, as Grodal asserts, is thus key to victory, a notion that Ryan also maintains when she writes, "repetitiveness is an asset, since it is by performing the actions over and over again that players acquire the

physical skills necessary to excel at the game."[87] In *GTA SA* this is conveyed kinaesthetically through smoother controls, and hermeneutically through a more attractive physique. In terms of alterity it will also prompt female NPCs to comment reassuringly on CJ's appearance and earn respect points from fellow gang members.

The maintenance of casual relationships with female NPCs in San Andreas for instance, is accomplished by a combination of body sculpting at the gym and dressing the avatar in appealing outfits to raise the player's sex appeal. These qualities appear as hermeneutical data bars, which raise or descend based upon how the player chooses to dress. Dressing fashionably can lead to dates and once a date is secure, further bodily performances must be mastered to ascend the NPC to a girlfriend status. If for example the date requests to go dancing, CJ must impress her with his dance-moves. This takes the form of me as player keying in the correct button sequence rhythmically and in the right order when non-diegetically prompted to onscreen. If successful, my relationship with the female NPC is registered by the computer programme to be sexually interested with my avatar. This opens up new emergent or alterbiographical branches of the game's fictionality, where I am free to visit the NPC's house and take the character out to different parts of town. Depending on whether I take the NPC to the places she wants to go will determine as to how well the relationship will progress.

A similar system is programmed for certain male characters, who through similar coding, will respect my avatar if I wear certain outfits, drive specific vehicles or fulfill gang related tasks. Each male or female relationship within the game is superficial. These relationships serve as shallow alliances designed to

---

[87] Ryan, *Narrative across Media: The Languages of Storytelling*, 351.

keep a player at the centre of their universe, evident through the way I can use the male or female friendships to my advantage. In *GTA IV* (2008, Rockstar Games), I control an eastern European protagonist named Niko Bellic who can balance a series of friendships with both male and female NPCs. The maintenance of these friendships throughout the city enable Niko to unlock perks that help in the completion of the game. It is possible for example, to call these friends for backup when under attack. It is also possible through these friendships to receive weapons, health boosts and discounts at numerous establishments across the city such as clothing and gun-stores, which assist Niko, and the player, in their pursuit to become victorious of their environment. Niko uses game characters just as I use the controls, in order to dominate and master the city space to complete the game.

In all of these games the avatar, in terms of physicality, transcends the normal limitations of a real life body, which is restricted by sleep, food, cautionary of the unknown and a moral compass. Although some games like *GTA SA* endeavor to anchor the player in such real world realities, such as the feeding and exercising regime of CJ, the avatarial body in general allows a player to surmount these worldly limits and live vicariously through a virtual anatomy, which superficially surpasses their own. This physically improved and morally free body is key towards conquering enemies and colonising space, carried out through the two directional thumb sticks upon my controller, which respectively powers the avatar and the in-game camera. These controls help to annunciate a feel of mastery within the game space. As Timothy Crick has argued, controlling avatars in 3D games is like controlling three bodies simultaneously: my own, my

avatar's and the virtual camera of the game.[88] In playing any action adventure,

open world game, the player controls a godlike perspective of their environment

through a virtual camera, tethered to and hovering above the avatar's body.[89]

Lev Manovich has noted the significance of this camera, remarking that,

"directing the virtual camera [is] as important as controlling the hero's

actions."[90]

Control of the virtual camera within the games I have described is a form

of hand sight, which as Hansen notes, is a "transductive coupling of vision and

touch."[91] This is what helps to render my avatar as a superficial hero or master of

space. Not only do I see my avatar, which in games like *Skyrim* or *GTA,* I have

taken the trouble to design, but a virtual vantage point gives me leverage over all

other NPCs within the game to firstly defeat them and secondly to look good

whilst doing it. In battles I experience the duality of winning and seeing myself

win as I undergo a triplicated corporeal experience of RL body that branches into

avatar and virtual camera control. This in turn feeds into a narrative of

dominating and controlling the virtual world and characters that inhabit it. As

Galloway has noted, agential control through gaming enables the player to

explore "fully rendered, actionable space."[92] Something that he and Shaviro note

that film cannot achieve because of cinema's deprivation of the controller

apparatus.[93] This is how somaster fiction differentiates from hap-tech narration.

In *GTA* and *Skyrim,* the motivation of each game is to constantly seek improved

---

[88] Timothy Paul Crick, "The Game Body: Toward a Phenomenology of Contemporary Video Gaming," *Games and Culture* (2010).
[89] In many games it is also possible to switch to and from a first person perspective with a simple button press.
[90] Lev Manovich, *The Language of New Media*, Leonardo (Cambridge, Mass.: MIT Press, 2001), xvi.
[91] Hansen, *Bodies in Code : Interfaces with Digital Media*, 81.
[92] Galloway, *Gaming : Essays on Algorithmic Culture*, 63.
[93] S. Shaviro, *Post Cinematic Affect* (John Hunt Publishing, 2010), 102-03.

knowledge, skills, weapons and fighting upgrades along with new locations. For once I have visited everywhere within the world and accomplished every task that can be done, the game is at an end. Thus complete mastery and consumption of the topographical world, props and NPCs that fill it, is the one true goal of the somaster game playing body.

The Absent Avatarial Body and Spiritual Game Narrative

As demonstrated above, an avatarial body with a vast range of movement is usually exerted in story-based games to deploy some aspect of violent action, carried out rapidly and repeatedly with force upon the controller.[94] However, in recent years the ubiquity of independent games studios has ushered in a range of less action-oriented avatar games that focus more upon story through humanity and spirituality. This part of the chapter is therefore, devoted to a corpus of games where action is more measured in comparison with the violent action games discussed hitherto. Titles such as *Gone Home* (2013, The Fullbright Company), or *Life is Strange* (2015, Dontnod Entertainment) are exploration games, in which the player uses the avatar to investigate their space. The former is confined to a mansion in which the player scrutinises household objects through keyboard and mouse controls. There are no set goals but players in discovering new parts of the house are rewarded with new bits of information about their surroundings.

Life is Strange however is somewhat more creative and story-based,

---

[94] Aside from the *GTA* series, *Skyrim* or *Shadow of Mordor*, this can also be seen in narrative titles such as: *The Last of Us*, *Heavy Rain* (2013, Sony Computer Entertainment) and franchises that include *Assassin's Creed* (2007-present, Ubisoft), *Hitman* (2000-present, Eidos Interactive and Square Enix), *Splinter Cell* (2002-2013, Ubisoft) and *Tomb Raider* (1996-presnt, Eidos Interactive and Square Enix) amongst many others.

playing out like an episodic interactive movie in five parts. Player's control

Maxine Caulfield, a high-school student who has the ability to control short

segments of time. This enables players to control the protagonist, talk and

interact with other characters and rewind such interactions to experience how

alternative reciprocation with such characters plays out. In playing both of these

games, particularly the latter (which uses the same controller for the previous

action-based titles) I found that my grip upon the controller was noticeably

looser and more methodical, which was in line with the type of game experience

I was now engaging in. The action titles prior to this had me squeezing the

controller to somehow transcribe the kinetic energy of my playing body into the

avatarial body. But such force in these titles, which resist frenetic action or time-

based challenges, felt unnecessary.

The feeling of the game and pace of the fictional events became absorbed

into my physical awareness, aided by the gentle ambient soundtrack as I

methodically controlled Maxine, safe in the knowledge that any wrong decision

can be undone. Complicated button algorithms, typical of the fast-paced action

game genre, are not necessary in *Life is Strange*, as the design of interaction

becomes reduced to this time rewinding superpower. Maxine's temporal abilities

within the story became corporeally transcribed to me as a player as I

experienced an abated feeling of ease within my fingers upon the controller.

Thus elements of the story resonated within the body-technology relationship, as

both Maxine and I controlled our environments with a simple agential trigger.

Experiential games like these and recent works such as *Everybody's Gone*

to the Rapture (2015) and *Dear Esther* (2012), both developed by game studio

The Chinese Room, also employ a methodical and spiritual dimension to their

gameplay. *Dear Esther* for example is a daring piece of surreal visual interactive fiction, which contains no visible avatar or external characters. Instead the player (using an invisible avatar from a first person perspective) wanders an uninhabited Hebridean island, exploring the land. Controls are minimal, restricted only to moving around the space. Different landmarks upon the island trigger different thoughts and memories of the unseen character, which are read aloud as personal letters to Esther. During the course of gameplay, it is implied through this chain of correspondence that Esther is the unseen protagonist's wife, who has been killed in a car accident.

Fragments of this information is generated each time the player moves to a new area, stirring personal facts and memory related to such locality, creating narrative through movement. I explore the island through the movement of my fingers upon the directional stick. As I find and move towards interesting objects, such as derelict buildings, a shipwreck and a cave, so my exploration is rewarded with new information through voice over that fills in the gaps about who I am and what has led me to this place. Narrative is thus triggered by navigation upon the controller, where the slow and methodical pace of events become mirrored by the restrictive game controls, which recognises directional input but not action. *Dear Esther's* languid story is thus reverberated into a minimalistic body and technology relationship through the controller.

In a similar style, *Everybody's Gone to the Rapture* presents a story through equivalent gameplay. Users guide another unseen avatar (again from a first person perspective) through a deserted, graphically rich Shropshire village in England. Glowing orbs of light are scattered throughout the place, which when approached, morph into ethereal human shapes; spiritual reflections of the

characters that once inhabited this community (figure 96).

These apparitional beacons recreate fragments of the events and conversations that took place at this village through flashback. As I move towards a park for example, two numinous shapes (representations of two of the former residents) discuss an epidemic that has affected all the wildlife in the village, and express their hopes towards the council doing something about it. By using the controller to move towards these shapes, the audio and imagery is bought into sharper focus, strengthening the idea that I have a presence at this conversation. Sound, vision and narrative is thus enhanced through tactility of the controller, as I learn through this conversation and others like it, about the events that have already transpired in this community.

Segments of story are revealed in the order that the user happens upon them by moving around. But each event follows a through line about how a mysterious infection has spread amongst the villagers, which is primarily focalised through the spectral luminescence of a married scientific couple. From their discussions it becomes apparent how patterns of unexplained light began

316

to emerge within the sky, which slowly began to kill off all living beings, starting with wildlife and progressing to humans. Through these recreated conversations we come to understand that the scientific wife (Katherine Collins) believes that the unexplained life form is a type of intelligent alien. Katherine's belief is that the alien light has unintentionally killed all wildlife and villagers in its attempt to communicate with each living being. Katherine endeavors to study these light patterns by locking herself within the village's observatory. Her husband Stephen on the other hand, voices his recognition of how deadly these light patterns are, alluding to how other villagers have become ill, suffering from hemorrhaging caused by infection by this supernatural phenomenon. These symptoms progress to the light absorbing the body, leaving these glowing orbs as vestiges of the former life inhabitants. By approaching these orbs the player pieces together different aspects of story from different character perceptions. The end of the game raises questions of morality and mortality in which the alien form, in communication with Kate, reveals that its actions are good, insomuch that it has united everyone to be together, that everyone is now in rapture; infinite, conjoined and content.

These types of game are equivalent to a genre of film known as slow cinema, which emphasises long takes and minimal action.[95] Within both games mentioned above, action is very slight. Players cannot run, only walk, and are resigned to a single button that can open doors and gates and turn on/off light switches or radios. The rest of the buttons upon the controller are somewhat redundant, but this in fact emphasises a fictional experience in which events

---

[95] Directors such as: Béla Tarr, Ingmar Bergman, Andrei Tarkovsky and Theo Angelopoulos are renowned filmmakers of slow cinema.

have already transpired and the player is powerless to change them. The controls therefore befit the story, explaining my somewhat looser grip on the controller in comparison with the faster action based games discussed earlier. In each game title by The Chinese Rooms, narrative is composed by moving through topographical space, which is similar (in this sense only) to the avatar-based games discussed earlier. Unlike the action based games that utilise the present avatar as a site for superficial violence and dominance, the absent avatar in The Chinese Room games, channel into a higher and more spiritual experience of serious drama and emotional catharsis, conveyed through a limited level of interaction within the design of the game, mirroring Ihde's concept of amplification/reduction, discussed in Chapter 2. The characters within *Rapture* are deprived of their bodies, just as the player is of an avatar. The player is also divested from background relationships through the way energy bars, points, a clock, map or inventory are notably missing throughout the game. The absences of these game characteristics, along with the avatarial body, are relinquishments that are necessary in order to engage with a higher spiritual diegetic experience.

The invisible avatar's role as signifier for another piece of melodramatic fiction is put to use in *The Novelist*, advertised as 'a game about life, family and the choices we make.' This 3D graphical game (played with keyboard and mouse), takes place within the restricted vicinity of a bucolic holiday home overlooking an ocean. The three characters that inhabit this space are: Dan Kaplan, a novelist with a deadline working on his most difficult book to date (figure 97). His wife Linda who is feeling the strain of Dan's workload (figure 98) and their young son Tommy, who misses the attention his dad once gave him. In

playing this game I do not possess an avatarial body but do *possess* the characters and fictional setting so to speak. I have a first person view that can move and look around the home, but my image-body is invisible to me and to the Kaplan family. This is because I play a spirit, a virtual presence within the home whose job it is to read the thoughts and observe the actions of these characters and attempt to suture the family unit back together as a whole.

This involves entering the mindsets of these characters and searching their emotions, which are hermeneutically presented as pictorial memories, sometimes with dialogue. It is also important that I search the house for clues too. Dan's notes, Linda's diary, and pictures drawn by Tommy, each offer significant bits of information about the fragile mindset of each character. It is left up to me to translate these messages and feelings to each of the characters so they can see things from another's perspective. My incorporeal presence means I cannot touch the other characters or props within the game, neither do I possess an inventory or have any ability to power up. Unbeknown to me as a player though, I do have some abstractive form of physicality, as I can be detected by the characters if I do not properly conceal myself. If this happens the characters become fearful which depletes any influence I have over them. Therefore, somaster fiction in this world is achieved by staying hidden from characters rather than aggressive confrontation, as is the case in the open world action games.

To maintain manipulation, moving around the house stealthily becomes a necessary component of the gaming experience. The most effective way to carry this out is by possessing the light fixtures within the home, where I can travel like light from bulb to bulb in what could be considered a reminiscent undertone

of Marshall McLuhan's light bulb as a medium without content,[96] with me as avatar without body. This feature is also evocative of Hayles's posthumanism. Hayles's concept of the posthuman, which considers the human body in an age of rich communicative technologies, puts emphasis on the posthuman "as a set of informational processes"[97] that transcend the limitations of the material body. As Hayles states,

> living in a condition of virtuality implies we participate in the cultural perception that information and materiality are conceptually distinct and that information is in some sense more essential, more important and more fundamental than materiality.[98]

An undercurrent of this hypothesis surges throughout *The Novelist*, where information from characters is my focus, goal and key to completion, instead of repetitively practiced physical skills that are fluently finger danced into my controller. However this is not to say that some form of embodied skill is not needed when playing the stealth side of the game. As I said, being seen by any of the Kaplans reduces my influence over them. To keep out of sight I must avoid their gaze by sneaking past them through the network of lights, or distract them by causing a light fixture to flicker. This has the effect of drawing characters away from their activities to come and investigate the fault; leaving me free to explore the space they were just occupying, in order to learn their latest

---

[96] McLuhan, *Understanding Media : The Extensions of Man*, 8.
[97] Hayles, *How We Became Posthuman : Virtual Bodies in Cybernetics, Literature, and Informatics*, 4.
[98] Ibid., 18.

thoughts.

In the game I must remain hidden to read these thoughts, which present specific desires from each of the characters. These consist of the father's desire for solitude so that he can progress with his work, the mother's desire for her husband and the son's desire for the attention of his father. Each character desire conflicts and it is up to me to action one which will always mitigate the other two. Deciding whose fate will succeed and whose will fail puts me in an authorial godlike position of being above the Kaplan's and looking down. In the game this is often the case as I watch from the vantage point of the overhead lights. But in reality this is also reverberated through my physical corporeality of being situated over the keys of my computer, which have a fixed position of always being below me. This of course is in contrast to the wireless controller I used for the plethora of action games, which were constantly tethered to my every movement. During those games, where my arms instinctively shot right as if to dodge trouble through the phenomenological confusion between an onscreen enemy and my corporeal response, the controller followed me and stayed with me. It became part of every series of gestures to do and not to do with the game. If I needed to scratch my face during gameplay, the controller naturally followed me up.

The methodical pace of *The Novelist* on the other hand does not require me to be so 'umbilically' hooked up to it, to borrow Sudnow's phrase. I do not grip the whole computer; instead my hands hover over it just as my invisible presence hovers over the Kaplans. In the same way that a body is compounded of both corporeal and cultural elements, as argued by both Shusterman and Ihde, my physical control of the game is again entangled in the cultural conventions of

fictional storytelling in the game world. *The Novelist* inclines more towards a hermeneutical relationship than an embodied one. I read the game more than I play it, from an elevated position outside of a character. Reading, as Ihde claims, is always phenomenologically performed in western cultures from an elevated position. Our bodies are used to reading when we look down upon the pages of a book. As Ihde states, "normally, we sit, with book in front of and usually below our eyes, or, as was quite normal in the Middle Ages, standing, reading from above. In that respect there was already a sedimented practice regarding the reader/text position with relation to a bodily perceptual stance."[99]

This elevated posture over the book allows the reader to take on a godlike position. In *The Novelist* the godlike position is felt as the player 'reads' the events from above and subsequently manipulates the characters. Hence somaster fiction, which is at work as I do my best to try and make each character happy in a game that I read more than play, spiritually enhanced in this case by the removal of an avatarial body and replaced with bodiless, ghostlike movement. According to Ihde,

> [w]ith reading there *is always perception*, but a particularly
> structured perception. It is a perception which, normally,
> carries with it a dampening of bodily motion, a fixed place
> for its object, an enhancement of the visual, and the
> privileging of an elevated or overhead position.[100]

---

[99] Ihde, *Postphenomenology : Essays in the Postmodern Context*, 97.
[100] Ibid., 86.

322

The Novelist does reduce motility but physical controls are still necessary for the alterity (seemingly independent personalities) of the game's characters to respond to my actions. Therefore it still counts as an instance of somaster fiction. This can be backed up through the way my embodiment relationship on the controls work with and affect the alterity of the characters. I register this through hermeneutical graphics and sound, all of which is confined to the background design of the house, which conditions my movements as well as the characters. Through these combined relationships, I am able to affect in-game events in order to co-author a fictional experience.

Figure 97: Dan Kaplan in *The Novelist*

Figure 98: The Kaplan family in *The Novelist*

A final case study that I now want to consider is a game that unifies characteristics of the present/absent avatar corpuses that I have discussed so far, to offer a different type of fictional experience. *This War of Mine* (a game I played on the IPhone format) is a survival-come-strategy game in which the player controls a group of civilians sheltered within a large house, amidst a besieged war-torn city. The player has to look after these survivors by seeing to their basic survival needs, such as feeding, resting and entertaining them. The player takes on these challenges through touch screen controls, where I select a character and then choose an action. Overseeing a collective group of characters such as these is what Calleja has referred to in his book as the 'space of miniatures,' in which players are on the outside of the action looking in.[101] Calleja adopts this term for strategy-based games in which a player controls simulated personas or armies, like in the popular franchise *The Sims* (2000-present, Electronic Arts) or *Rome: Total War* (2004, Activision and Feral Interactive).

This War of Mine differs from *The Sims* by entering into darker and more precarious subject matter. The game is also dissimilar from the surfeit of war-based titles via its unique perspective through victim civilians. The game begins with the player controlling three to four characters within a large derelict house. Unlike the avatars of the action-based games, discussed earlier, the bodies of the characters are more detrimentally susceptible to their environment, which physically and emotionally drains them over the course of gameplay. Furthermore, if one of them should die they cannot be bought back, which has negative repercussions to the mentality of the other occupants.

Each survivor has unique character traits that can be put to use to aid the

---

[101] Calleja, *In-Game : From Immersion to Incorporation*, 90.

perseverance of the household, which is what the aim of the game is, to survive until ceasefire.[102] In order to do this the player must control the men and women of the household to fulfill certain tasks: craft beds and furniture from makeshift materials scattered about the house, construct a cooker and heater to prepare meals and survive the deadening weather if it should turn cold. Tools also need to be created from household materials, discoverable in each room; shovels for example need to be made in order to clear bomb damage rubble. These rubble piles restrict the characters from accessing other parts of the house. A character can clear this away using only their hands, but with a shovel the job is performed much faster.

This is important because a clock in the background of the game is constantly ticking, intensifying the background element of somaster fiction. Once it gets to nighttime the player has to choose one of their characters to venture out of the house to go to other parts of the city and scavenge for more materials, food, weapons, fuel and medication. Background relationships in the form of time and inventory are thus crucial to the gameplay of *This War of Mine* and must be mastered in order to survive. Before heading out to scavenge, the player has the option to put the other housemates to bed, keep them on guard to defend the supplies from looters, or alternatively, rest one while the other patrols. This again highlights the background relationship of the game, in which I ready the environment of the house for off-screen activity that plays out simultaneously to the scavenging segments. The background relationship in the form of a clock also governs these moments away from the house. Whilst in

---

[102] The length of this period can fluctuate. I have finished this game lasting 28 days and on another occasion 40 days. As long as a minimum of one survivor is left within the house, gameplay continues.

scavenging mode, I must leave and return to the house before dawn to avoid being shot by snipers. As darkness is the only safe time to venture out, the household work of crafting weapons, fixing furniture and preparing meals must be carried out during the day, as this is the only time it can be done. Once again, the background clock conditions gameplay by influencing me to get as much done in the day before heading out for the night.

Unlike *The Novelist*, where gameplay takes the form of hiding from characters within a house and reading their thoughts from above, *This War of Mine* compels the player to touch characters then environments in order for them to carry out a comprehensive action. While *The Novelist* is primarily about hermeneutically reading characters and choosing events to play out from afar from a spectral like body, *This War of Mine* is more about being embodied and extended through the different avatarial bodies, as the game details the meticulous practicalities of hands-on action in a realistic way. For instance, it will take certain characters a number of hours (in game time) to clear away rubble with their hands when I select them to perform this task. Therefore it is key to command each character to be doing something simultaneously, as I oversee them from a privileged position and press instructions with my fingers to sculpt onscreen actions. Consequentially, the controls in each respective title complements the content; minimum controls for the absent body reading experience of *The Novelist*, versus touch screen controls for the tactile multi-bodied and multitasking action game of *This War of Mine*.

Once I have delegated a job to an avatar, by touching them, the baton of action becomes an alterity relationship, in the sense that the avatar will continue the task independently and unsupervised (in the background), freeing me to

delegate other jobs to the rest of the household, where I make them work through until nighttime. At the end of the day I select a character to scavenge a particular area of the city. In these sections I control a single character, and the practice now conforms to a more agential, action-based style of gameplay. I enter new locations in the hopes of finding supplies to prolong my household's existence. Here I must select which character to use. Some large male characters can carry more but they are slower, while smaller female characters are quicker and stealthier but have a more limited carry capacity. Alterity through the unique attributes of the character, their virtual body size and abilities are thus factored into the fictionality of the game. I decide which body to use, and in doing so, become extended into the game through the technology of the controls and body type of the character. My own body through the controller, combined with the alterity of the virtual character body (hermeneutically presented through graphics) compounds with the game's background clock and inventory, to produce this gaming instance of somaster fiction.

Figure 99: *This War of Mine*

Figure 100: *This War of Mine*

NPCs within these scavenging locations are divided between other looters and residents. I must move cautiously to avoid detection and being killed. It is possible however to make my character kill another, especially if armed with a weapon but this will often result in my character suffering a form of post traumatic stress disorder (PTSD) once they return home. It is through this PTSD that the character's alterity comes to the fore, as they suddenly begin to lose hope and become inconsolable and uncontrollable. They do not want to eat even though a hermeneutical indicator (another instance of the background relationship) flags up they are hungry and they will not sleep despite similar readings indicating their exhaustion. They become broken avatars both as fictional characters and agential tools, which can lead to suicide or abandonment of the house. On one such occasion, having sent one of my housemates, Arica, out to rob food from a defenseless elderly couple, she returns home guilt ridden. Her anxiety triggers self-neglect and she becomes ill, torturing herself with her heinous actions, denoted via a speech bubble that portrays regret for the old couple's plight. Arica's negativity spreads outwardly to the other housemates

who worry for her, concerned that she may not make it.

The PTSD that Arica and other characters in this scenario appear to experience is again reinforced by the position of my real life playing body. Looking down upon the touchscreen, I am outside of the character's world and feelings, demarcated by the screen to their emotional torment. This is in contrast to the concept of hap-tech narration, established in Chapter 1, where the camera brings the viewer face to face with affective anguish. In the medium of computer gaming, where I occupy a space above or outside a present/absent avatarial body, anguish is less affective because survival is more compelling.

Through frequent play I am also desensitised to such emotional trauma, a concept that Pasi Väliaho discusses in *Biopolitical Screens: Image, Power, and the Neoliberal Brain*. Väliaho refers to specific military screen training programmes and simulators that are designed to help soldiers in combat and "optimize the soldier's ability to function as a killing machine."[103] Here he also refers to another game-style simulator titled Virtual Iraq which, "comes into the picture when this killing agent, overburdened with fears, anxieties, and feelings of guilt, becomes psychologically dysfunctional and needs to be readapted and recapacitated to the realities of war and its continuous state of emergency."[104] Virtual Iraq, a subjective VR experience that places soldiers into a virtual war simulator, works as Väliaho notes, by merging "computer generated animations, biological psychology and the management of affectivity and memory."[105] As such, the game experience of Virtual Iraq transfigures "the traumatic realities of

---

[103] P. Väliaho, *Biopolitical Screens: Image, Power, and the Neoliberal Brain* (MIT Press, 2014), 65.
[104] Ibid.
[105] Ibid., 66.

war [into] a matter of affective habituation."[106]

This to some degree is a feeling that I experience in my repetitive playing of *This War of Mine*, where the habituation of controls and daily tasks occupies my attention more than the trauma of a distressed game character. My feelings of frustration at having lost control of the character (and game so to speak) overshadows my feelings of sorrow and I immediately try to take back control by focusing on the other characters so that I can maintain mastery. Continuance is the purpose of gameplay, which is why somaster fiction is an appropriate term for gaming. My physical body occupies mastery over game space and avatarial bodies, a notion that also extends to my emotionality; for unlike Arica, and through desensitisation like the Virtual Iraq users, I *am* in control of my feelings.

When characters suffer from PTSD and I lose the ability to control them, I can use other characters in the house to try and make the distressed ones feel better. If successful, I may even be able to get one of the characters to encourage the perturbed one to eat, slowly steering them back on route to recovery. Thus mastery of the alterity is structured by ethical decision-making, morality and human touch. Here we are reminded of Shusterman's use of somaesthetics as a way to feel better and attain divine spirituality. The game is about more than just survival; it also delves into the elevation of hope, friendship, wellbeing and the comforts of home. The distinct attributes of characters play into the control and mastery of their alterity. Smokers, coffee drinkers or music lovers respond better to my controls if I make such stimulants or pastimes available to them. The game, which is about survival, raising sprits and making wholesome decisions is also fundamentally about the complexity of being human and engaging with human-

---

[106] Ibid.

to-human contact. This subject matter, which is becoming prevalent in independent games, [107] is reinforced through controls on a touch screen interface, where the ability to touch characters physically, reverberates into a story of how the characters within the game touch each other emotionally.

Conclusion

To conclude, this chapter has explored a new type of narrative experience through a different body technology engagement. Through the building blocks of Ihde's human-technology relationships, and Shusterman's somaesthetics, I have developed somaster fiction as a way to consider how a story is constructed through the cultivation of avatarial bodies and non-avatarial agency. Unlike hap-tech narration, which as I surmised in Chapter 1, is a restrictive and uncomfortable sensation in narrative cinema, somaster fiction is an emancipating diegetic experience in fictional games. Unlike interactive art, where, body and technology are in a more neutral relationship of co-authoring, discussed in Chapter 2, somaster fiction requires repetitive practice of the body to master controls in order to push events forward. Within somaster fiction, embodiment, hermeneutical, background and alterity relationships coalesce, enabling the player to experience control, agency, power and mastery over an avatarial or invisible body, and the environment that it exists within.

Somaster therefore accounts for the mastery of bodily controls over a controller, virtual avatarial soma and command of a topographical space. Control

---

[107] *That Dragon, Cancer* (2016, Numinous Games) a title that focuses on the terminal illness of a child is one such example of how the medium of gaming has reached into profound and traumatic human subject matter.

and mastery over each of these phenomena is what I experience when playing a role in fictional open world 3D universes that loosely look and feel like the real life one I am accustomed to. However, within this screen universe I can do things differently (through the visible present avatar) than I can from my own, where I am restricted by real life bodily obligations to feed and rest. Somaster fiction through an invisible avatarial body, like in *The Novelist* and *This War of Mine*, ascends me to the status of an incorporeal godlike presence where I command mastery over the bodies of other characters.

Somaesthetics as I have argued through Shusterman and Nielsen is relevant to computer games in the ways that: a player feels a positive sense of aliveness through the game's ergodic value, performs in order to push events forward, and has an onscreen representation that temporarily becomes a shared part of the player's identity. In line with somaesthetics, I have also highlighted how computer game playing is a meliorative process of cultivation that utilises repetitive practice to ingrain controls into the user's body, which in turn rewards the avatar with upgrades, making the controls more effective and responsive. Furthermore, I have aligned Shusterman's concepts of the body with Ihde's insomuch that the body is a multistable being in terms of sensory perception as well as a site for material representation. This is pertinent to avatar-based games where the look and feel of the character are conjoined, such as *GTA's* CJ. While in non-avatarial games, I have considered how a culturally constructed body and real life body are intermixed in both the synopsis of the game's story and method of its controller.

Conclusion

Across three different media platforms, this thesis has addressed, through the postphenomenological framework of Don Ihde, how different technologies change bodily practices and how such changeability composes new types of narrative comprehension and experiences of fiction. In the Literature Review I discussed, through Jennifer Barker, Laura Marks and Vivian Sobchack, how the technology of film has a body and in turn integrates with a spectator's own body. This was also equated with Pasi Väliaho's comparison of cinema with Jakob von Uexküll's concept of the *Umwelt*. In Chapter 1, I developed the concept of hap-tech narration to account for a familiar cinematic mode of representation that audiences experience through a bodily harmonisation with the subjective camera. As I highlighted, this subjective experience is usually reserved for and recognised as some form of negative encounter,[1] which I sustained through a respective killer and victim body filmography. Using these examples and drawing from specific case studies, I highlighted how the technology of the camera invites the spectator to become assimilated with recognisable gestures of the camera as a body.

Using Ihde's concept of human-technology relationships, particularly embodiment and hermeneutics, in which a body has an experience *through* a technology and *of* a technology, I argued that subjective films extend a viewer into the diegetic world of the fiction film *through* the camera, while the hermeneutic relationship *of* the cinematic screen restricts such access. This, as I asserted, is the rationale as to why the subjective film feels disorienting and consequentially must be used strategically for fictional experiences of distress,

---

[1] This was identified in Chapter 1 through Alexander R. Galloway's analysis on subjectivity.

such as the killer, victim or socially inept body. This was reinforced through Ihde's notion of embodiment relationships, which as he argues, also extends and limits a user in technologically specific ways. Such limitation, as I will come onto, is also revealed beyond postphenomenology, branching into the limitations of a specific body type in terms of race and gender, which will be considered in more detail below. Returning to Ihde, I noted how subjective films puts forward an echo focus which is evident by the demarcating frame of the screen, which as I have argued, strengthens the conceit of a subjectively damaged body that the viewer visually adopts by way of Sobchack's hypothesis of the cinesthetic subject and Marks's use of mimesis and haptic cinema.

Combining these ideas together with Ihde's, I developed the notion of hap-tech narration to account for the awkward, uncomfortable and disorienting feel of subjective camera filming, which was then tested through a range of subjective films from 1947 to contemporary releases up to 2015. Through these titles I considered the development of a range of different cameras and found that no matter how well newer devices perform, or how sophisticated the transparency of a device is, the principles of hap-tech narration always remain in place. This is why the aesthetics of subjectivity in fictional film is always best used to portray the shrill incorporeal sight of alienated, distanced characters. From cyborgs to killers and victims, hap-tech narration relates to the cinematic fictionality of gazing through some form of deficient body that is uncannily familiar yet different to the viewer's own experiences of bodyhood.

Ihde's concept of technology as a non-neutral entity is pronounced in film, particularly in terms of apparatus theory that posits how the cinema offers the spectator a unitary point of view. As Jean-Louis Baudry and Christian Metz have

argued (touched on in the Introduction), the cinema conditions the spectator to identify with it as if it were a mirror of reality. However, as film's recorded reality is absent from the viewer's perspective at the time of watching it, film activates an imaginary scene or mirror. As noted in the Introduction, the spectator becomes what Metz calls an imaginary signifier, a term denoting how the viewer (mis)recognises their self into the film, similar to how a child mis(recognises) their self in the reflection of Jacques Lacan's mirror stage. Such misrecognition is established in the sense that the spectator's own body is not reflected into the screen. They remain physically passive and inert in the auditorium and instead become tethered to a surrogate body, which usually, in mainstream narrative cinema, belongs to the film's protagonist.

Such a body, as Laura Mulvey has famously established in 'Visual Pleasure and Narrative Cinema', is usually male, which actively pushes the narrative events forward while subordinating female characters to a male gaze, where onscreen women serve as little more than objects of desire which are subsequently punished, saved or killed. As Mulvey states, "[w]oman then stands in patriarchal culture as signifier for the male other."[2] Consequentially a single point perspective is established in cinema as the viewers (both men and women) are made to adopt a unitary male perspective.

What is interesting within this work is that I arrived at the same conclusion but via a different route. This thesis argued something different from the physically passive viewing evoked through apparatus theory and instead considered an active viewing experience channeled by Ihde and strengthened through the feminist and phenomenological thinkers of Sobchack, Marks, Barker

---

[2] Mulvey, "Visual Pleasure and Narrative Cinema."

and Jenny Chamarette who use phenomenology to go beyond the patriarchal dominance of narrative studies in cinema. Yet despite my attempts to reinterpret the spectatorial experience through postphenomenology, Chapter 1 ultimately ended up describing a male-centric viewing position.

What has become apparent throughout this thesis, particularly in Chapter 1 is that the hap-tech body perspective (through the camera apparatus) is widely presented as that of a white male heterosexual character. This to some extent counters the work of Sobchack, Marks, Barker and Chamarette. The intention of this thesis was never to challenge the views of these phenomenological thinkers but rather to use their work as a way to reimagine the operations of narrative cinema. However the results produced from Ihde requires reinterrogation, as what is revealed throughout the filmography is a body vessel of a specific gender, demography and sexuality, in essence, a white, male heterosexual body. Such a specific body type fitted with my viewing experiences but upon reflection, could easily be resistant to the same levels of immersion or sympathy from other viewers that are different from my own. Primarily I am referring to viewers of a different race, female spectators or anyone who fits into the LGBT+ demographic, and how they would feel trying to adopt this male, white and straight perspective.

The white male hetero figure was not something that was in my mind when selecting specific case studies but has become apparent when reflecting upon the characters I ultimately discussed: Phillip Marlowe, Vincent Parry, Mark Lewis, Frank Zito, Jean-Dominique Bauby and Thomas the agoraphobic. Each body is of white descent, male and sexually interested in women, objectifying the female form, sometimes to extremity, in a manner that conforms to Mulvey's

male gaze. This is discernible in the killer films of *Maniac* and *Peeping Tom* where Zito and Lewis specifically target women in order to feel some form of sexual gratification through their phallic weaponry (Zito's hunting knife and Lewis's spiked tripod leg, that even erects before fatal penetration). Similarly, Bauby and Thomas also subject women to a sexual gaze; Thomas through the pornography websites that he visits, in addition to an online escort service that *he* is 'entitled to' as a result of his specific illness within the dystopian setting of his world.

Bauby who in a sense is somewhat humbled by a more severe illness (in comparison to Thomas) also conforms to the view of female objectification. Prior to his affliction the viewer sees this in flashback through his occupation as an author and editor of a popular fashion magazine. The viewer is given some brief insight into this world where Bauby is portrayed as a strong and admired presence on the set of a photo shoot. Fast editing and a grungy garage rock soundtrack (The Dirtbombs: Chain of Love) is used to emphasise the patriarchal importance of Bauby, juxtaposed with subordinate female models who are sexualised through the lens of the camera. In the more subjective moments of the film, Bauby's heterosexual outlook and objectification of women comes through when he comments (through thought tracking) the irony of being in the presence of beautiful female nurses and not being able to do anything about it. Heterosexuality, patriarchy and a white body vessel can therefore be seen as the 'normative' type of body vessel that viewers are invited to step into in hap-tech narration. This is a concept similar to thinking aligned with apparatus theory, particularly Mulvey's concept of the male gaze, which situates the viewer's identification with the screen.

As Mulvey argues, the viewer perceives events from the perspective of a heterosexual male character, a notion that is reaffirmed in Steve Neale's article, 'Masculinity as Spectacle: Reflections on Men and Mainstream Cinema.' Within his work, Neale asserts that when watching a mainstream film a viewer enters into a "repressed homosexual voyeurism."[3] This is because the male gaze that sexually objectifies women in Mulvey's analysis acts differently when looking at male characters. Instead of objectifying a male to a sexual gaze from a male perspective, the conventionality of mainstream cinema (the normal white, male, hetero perspective) is to assign the male to some form of violence and repress the male to a look of sexual interest. As Neale states, "in a heterosexual and patriarchal society, the male body cannot be marked explicitly as the erotic object of another male look: the look must be motivated in some other way, its erotic component repressed."[4]

This as he notes is usually presented through "a struggle between a hero and a male villain."[5] Westerns, war and gangster movies are some of the examples that are characteristic of such a structure; they are all "marked by 'action,' [or] by making something happen."[6] This is usually presented through duels, fights or battles "concerned with struggles of 'will and strength,' 'victory and defeat,' between individual men and/or groups of men."[7] As Neale explains, this is because "[t]he repression of any sexual avowal of eroticism in the act of looking at the male seems structurally linked to a narrative content marked by

---

[3] S. Cohan and I.R. Hark, *Screening the Male: Exploring Masculinities in the Hollywood Cinema* (Taylor & Francis, 2012), 13.

[4] Ibid., 14.

[5] Ibid., 16.

[6] Ibid.

[7] Ibid.

sado-masochistic phantasies and scenes."[8] The moments of contest or combat such as fighting or gun battling, "at which male struggle becomes pure spectacle"[9] helps to repress such homosexual eroticism, and in turn, places the viewer into a 'normative' heterosexual male gaze. This established set-up is something that continues in hap-tech narration, particularly when we consider how the only times we see the invisible male surrogate body is in reflections, which usually serves to remind the viewer of an attack upon the character/viewer's body vessel.

In *Lady in the Lake* Marlowe scrutinises his cut and bruised face in a mirror following a fight with another male character, while the multiple CCTV images of Zito in *Maniac* reminds the viewer of the internal struggle the protagonist is experiencing with the different voices he hears in his head. During a different scene in *Maniac* Zito is also portrayed punching a mirror, a direct attack upon his/the viewer's objectified male form, now reflected through shattered bloodstained glass. *Peeping Tom* of course demonstrates this in a more symbolic way, notably at the end of the film when Lewis turns his camera/weapon upon himself to become the spectacle of his own death, and in turn, endeavours to establish 'normal' heterosexuality and masculinity, which has been threatened from early childhood.

Neale and Mulvey's work helps to establish the prevalence of the male, heterosexual body. In terms of the pervasive white body vessel that hap-tech narration uncovers, an explanation and opportunity to extend the scope of this study can be found in the work of Richard Dyer. In his seminal work *White*, Dyer

---

[8] Ibid.
[9] Ibid., 17.

considers the prevalence and dominance of white coloured skin as the archetypal body within cinema. As Dyer asserts "photography and cinema, as media of light, [...] lend themselves to privileging white people."[10] This is because, as Dyer explains, the aesthetical technology of cinema is fundamentally the art of lighting. The majority of my case studies can be considered mainstream cinema, which employ what Dyer calls 'movie lighting'.[11] Movie lighting, according to Dyer, "has a tendency to assume, privilege and construct an idea of the white person."[12] This, as Dyer asserts, has much to do with the way subjects, particularly bodies onscreen, reflect and absorb light in different ways.[13] Fundamentally, as Dyer reasons, the lighting historically privileged those of white skin, while "photographing non-white people [was] typically construed as a problem."[14]

Movie lighting, as Dyer argues, was developed in Hollywood during the 1920s and ubiquitously set the standard for many other film productions that followed.[15] "At a very basic level, movie lighting wants to ensure that what is important in a shot is clearly visible to the audience."[16] Often it is bodies in the shot that takes precedence over the subject's surroundings. As a result, movie lighting is used to separate bodies from their surroundings through techniques of illumination. As Dyer explains, this comprises of two types of lighting: one for the setting and another for the bodies within the setting, referred to as 'figure

[10] Richard Dyer, *White* (London ; New York: Routledge, 1997), 83.
[11] Ibid., 84.
[12] Ibid.
[13] Ibid., 85.
[14] Ibid., 89.
[15] Ibid., 86.
[16] Ibid.

lighting.' Movie lighting works to prioritise figure lighting through a three-point

system that consists of

> a primary light (the *key*), giving general illumination of the
>
> figure, a second, softer light (the *fill*), eliminating some of
>
> the shadows created by the key and other set lighting, and
>
> *backlighting,* which serves to keep the figure separate
>
> from the background as well as creating, when wanted, the
>
> rim and halo effects of heroic and glamour lighting.[17]

As Dyer argues, this technological arrangement of movie lighting is what comes

to "assume, privilege and construct whiteness"[18] for it was "developed with

white people in mind."[19] What Dyer's work illustrates is that the cinematic

apparatus (considered here through lighting) presupposes the white body as the

normative and privileged body of cinema. Consequentially, such white

presuppositions of film lend themselves to other elements of cinematic

technology, which in Chapter 1 of this thesis, was established through the

camera. Dyer's concept of privileging onscreen white bodies through lighting is

of little significance to the subjective bodies I discuss in hap-tech narration, for

these POV bodies are out of sight and therefore do not need to be lit. However,

what can be argued is that the essence of Dyer's argument, that technology

privileges whiteness can be used here to consider the camera as a representation

of a white body.

---

[17] Ibid., 87.
[18] Ibid., 89.
[19] Ibid.

The configuration of the movie camera, as Dyer claims, works to prioritise the shooting of the white subject. As Dyer notes, it is not impossible for the camera apparatus, stocks and lighting to be reconfigured in favour of a dark skinned body, but this has never come to fruition because the technology was made and "developed [by] taking the white face as the touchstone"[20] or the norm for the cinematic image of the human.

> Certain exposures and lighting set-ups, as well as make-ups and developing processes, have become established as normal. They are constituted as the way to use the medium. Anything else becomes a departure from the norm, or even a problem. In practice, such normality is white. [21]

Leaving aside the lighting aspect of cinema, we can see from Dyer's work how the technical elements of the camera apparatus also presupposes whiteness through its technical modes of representation. As Dyer asserts "whiteness as race resides in invisible properties and whiteness as power is maintained by being unseen."[22] This is exactly what each subjective camera film, discussed in Chapter 1 puts forward, whiteness through an unseen, invisible body.

As I noted above, this pattern of whiteness had not occurred to me during the early stages of this work, which is testament to the ubiquity of whiteness that Dyer identifies; omnipresent to the point of concealment, which is significant

---

[20] Ibid., 90.
[21] Ibid.
[22] Ibid., 45.

through my selected filmography, which are all through the perspective of white bodies that are invisible (with the exception of hands or reflections) from the viewer. The apparatus of the camera invites viewers to step into the male, white, heterosexual bodies with familiarity, which can be rationalised through the apparatus theorists and Dyer's comprehension of white race.

Reinforcing the bond between Mulvey, Neale and Dyer, the male, heterosexual body as the typified body in cinema can once again be linked to whiteness. The overwhelming hegemony of white bodies in Western culture, recognised by Dyer, comes down to the embodiment of whiteness in the form of race and Christianity. [23] As Dyer notes, "[i]f race is always about bodies, it is also always about the reproduction of those bodies through heterosexuality."[24] Consequentially "sexual reproduction is the key to achieving whiteness,"[25] while [i]nter-racial heterosexuality threatens the power of whiteness because it breaks the legitimation of whiteness with reference to the white body." [26] The omnipresent white body in cinema is therefore an omnipresent white heterosexual body, an observation that is qualified through the filmography in Chapter 1, where white males, as noted above, respectively objectify the female through a male gaze (Mulvey), while eradicating the threat of homosexuality by punishing the male when it becomes the object of this male gaze (Neale).

Dyer strengthens the idea of the universal white body as an entity that is non-raced[27] through its significance with Christianity. As he asserts, the imagery, stories and symbolism of Christianity are all linked with the body. "Christ

---

[23] Ibid., 14. Dyer also extends this to the concept of whiteness embodied through enterprise and imperialism, particularly in in the Western film Genre: ibid., 30-40.
[24] Ibid., 25.
[25] Ibid., 26.
[26] Ibid., 25.
[27] Ibid., 2.

drinking and offering his body in the form of food and wine; miracles of bodily

transformation and corporeal nourishment,"[28] leading Dyer to conclude that,

"Christianity [...] is obsessed with Christ's Body."[29] Furthermore, Dyer goes on to

explain how whiteness has emerged from Christianity, whereupon "racialising

the idea of Christendom"[30] has transpired through "the gentilising and whitening

of the image of Christ." [31] The type of body that emerges from Dyer's

understanding of Christianity is also one that puts the reader in mind of the type

of body discussed throughout this thesis. Dyer highlights how Christianity is both

physical and body-minded,[32] epitomised through the way Jesus's body was

sacrificed to attain divine spirituality, how his temptations or pain are of the

flesh (body) while his servitude to God is non-material.

> For all the emphasis on the body in Christianity, the point
>
> is the spirit that is 'in' the body. What has made
>
> Christianity compelling and fascinating is precisely the
>
> mystery that it posits, that somehow there is in the body
>
> something that is not of the body which may be variously
>
> termed spirit, mind, soul or God.[33]

This is an idea that reverberates with Ihde's concept of bodyhood established

within this thesis, as something that is simultaneously corporeal yet incorporeal

in terms of solid and virtual, or body one and body two. Perhaps this explains, to

---

[28] Ibid., 15.
[29] Ibid., 16.
[30] Ibid., 17.
[31] Ibid.
[32] Ibid., 16.
[33] Ibid.

some extent, Ihde's position on the body, and why his work on the body and the ideas that I have generated from it lend themselves towards the overarching theme of male, white and heterosexual notions of bodyhood, taken as standard throughout this work, especially in terms of cinema and computer games, notably those games that are stylistically influenced by film.

Dyer's concept of whiteness is something that also plays into his analysis on serial killers, particularly the representation of killers in film, which this work considered in Chapter 1. In Dyer's BFI book *Seven* and his more recent work *Lethal Repetition: Serial Killing in European Cinema*, the author suggests that the cultural representations of the serial killer, particularly in cinema, are predominantly depicted as white male heterosexuals. This is the pattern that my filmography has inadvertently fallen into, and as such, prompts a rethinking of the findings that were established in this thesis, providing a foundation for future work. Dyer considers whiteness as being emblematic of the serial killer, arguing how "serial killing remains an ostensibly white male phenomenon."[34] A major part of this assertion lies in the prevalence of whiteness and the need to reestablish such importance as it becomes invisible. As Dyer states "[t]he invisibility of whiteness as a racial position in white (which is to say dominant) discourse is of a piece with its ubiquity."[35] This invisibility of whiteness is what triggers anxiety about white identity, which in turn can be read as the catalyst that causes screen killers to kill.

Mark Bernard considers this phenomenon closely through his paper "LOOK AT ME": Serial Killing, Whiteness and (In)visibility in the *Saw* Series'.

[34] *Seven* (British Film Institute, 1999), 40.
[35] *White*, 3.

Within this work Bernard uses Dyer to consider the serial killer from the *Saw* franchise (2004-17), arguing that his murders are precipitated by his invisibility as an aging and dying white male in a multicultural society. Bernard and Dyer's 'white invisible killer' is something that was uncovered in hap-tech narration, particularly in the way that the subjective body vessel of the killer (and victim) adheres to invisibility insomuch that the viewer looks through the character but not at the character. [36] Hap-tech narration thus resonates with Bernard's ideas of the invisible killer who exercises violence as a way to be seen or noticed, or to stand out from the concealment of white normality and reaffirm the importance and privilege of being a white male body.

In a lecture given by Dyer, titled 'Only White Men: Serial Killing in European Cinema'[37] he explains how the archetypal killer model of male white supremacy is divided into two factions. The first is the supreme white male or superhuman, which has a sense of misogynistic superiority over women, or a "desire to kill women [which] is often expressed quite unabashedly, with an assumption of its universality."[38] Dyer resists a direct answer as to why this is, noting how "serial killing [...], is stubbornly resistant to explanation"[39] but, like Mulvey, highlights masculine anxiety as the root of the cause. He considers this through hatred or fear of women, or feelings of gender superiority[40] (male), which in some killer films are revealed as male inadequacy in which the killer

---

[36] In Dyer's Lecture he suggests how Bernard's white invisible body could be connected with the unclaimed POV shot in horror films. In her book *Recreational Terror: Women and the Pleasures of Horror Film Viewing*, Isabel Cristina Pinedo uses the term unclaimed POV to consider the monster's gaze that the viewer adopts in certain horror films, where the camera is used as a monstrous character or killer, such as the opening of John Carpenter's *Halloween* (1978).

[37] Richard Dyer, 'Only White Men: Serial Killing in European Cinema', keynote lecture at The London School of Economics and Political Science, 04 November 2013.

[38] R. Dyer, *Lethal Repetition: Serial Killing in European Cinema* (Palgrave Macmillan, 2015), 94.

[39] Ibid., 103.

[40] Ibid., 96.

feels threatened or powerless to live up to their male supremacy. "Serial killer films may […] imply that the murderous tendency resides not so much in a sense of superiority to or hatred of women as in inadequate or damaged masculinity."[41] This appears to be the case in *Maniac*, particularly when Zito is revealed as a mannequin doll at the end of the film, confirming his nightmarish fears (from the earlier dream sequence) in which his absent penis is replaced with plastic lack. Zito condemns this weakness by murdering women.

The same structure is evident in *Peeping Tom* as Lewis, armed with "prosthetic eye and penis"[42] in the form of the camera, kills women to alleviate the torment he endured as a child, where his masculinity was stunted. Even in *Dark Passage* before learning that Parry is innocent of uxoricide, the viewer still spends the first part of the film adopting the perception of a white man who from the outset appears to hate the woman who should be closest to him. Within these titles a pattern emerges in which we can see, through Dyer's analysis, the killer murdering in order to reaffirm their identity as a heterosexual male body, and also a white body.

As well as killing those that threaten masculinity, white bodies, in accordance with Dyer and Bernard, exercise their supremacy by killing anyone that threatens their whiteness. Dyer links this to ideas around Nazism explored through the film *Children of Wax* (2007), in which a neo-Nazi kills Turkish children and paints them white in order to save the world from non-white impurity. Thus male, white supremacy is what shapes Dyer's first killer group.

---

[41] Ibid., 100.
[42] Ibid., 109.

The second group of killers, alternative to the first, consist of failed white masculinity, or as Dyer argues, killers who recognise white male supremacy but fail to live up to this superhuman idealisation and kill out of frustration. This includes the sense of invisibility that Bernard speaks of which, "construct[s] the ideal viewer position as a victimised white male."[43] Bernard's recognition of the killer as victim is supported by Dyer when he notes how "there is a reciprocal bond between killer and victim."[44] In retrospect, Dyer and Bernard's victim-killer crossover through male, white and heterosexual bodies is apparent throughout my chosen filmography and even more so in my killer and victim corpuses. As noted in Chapter 1, killer and victim are prone to crossover. Dyer through his discussion on masculinity, whiteness and the serial killer, helps us to see why this is the case, and offers rationale as to why the hap-tech body, a body that I present as a universal body, is fundamentally a white, male and heterosexual body. Of course this is also compounded with the fact that a white heterosexual male directs each of the case studies within my filmography. Moreover, each film is analysed through the philosophy of Ihde, another white, heterosexual male figure. Like the non-neutrality of his technology, discussed in Chapter 2, his philosophy could be seen to filter and mediate a particular outlook, so that his heterosexuality, whiteness and maleness is revealed through the notion of hap-tech narration, in which the viewer is simultaneously extended and limited by the mediation of the filtering camera.[45]

---

[43] A. MacDonald, *Murders and Acquisitions: Representations of the Serial Killer in Popular Culture* (Bloomsbury Publishing, 2013).

[44] Dyer, *Lethal Repetition: Serial Killing in European Cinema*, 98.

[45] Throughout this thesis I have studied many subjective films and did not come across any non-white bodies. Subjective female bodies infrequently occur in titles such as The *Blair Witch Project* or *Friday the 13th*, however this is often overshadowed with male subjectivity. The female character in *The Blair Witch Project* for example shares her subjectivity with two other male

This is interesting when we compare Chapter 1 with Chapter 2 in terms of gender. In interactive art the concept of maleness is less pronounced. The figure of the male is absent from *Artificial Changelings* (which comprises of two onscreen women). Patriarchal dominance is also played down in *A Machine to See With* as Blast Theory create a non-gendered and neutral space, that permits either a man or a woman to have a similar experience. Male supremacy is thus bypassed in favour of the female robotic phone voice that controls the user through its instructions. Dennis Del Favero's *Scenario* is equally non-gendered when we consider how the digital avatarial bodies within the AVIE are sexless bodies (bodies without genitals) including the giant baby, which as Del Favero argues, is representative of how bodies (of each gender) put themselves together.

As a result, the body (in terms of gender) in Chapter 2 is different from the male body of Chapter 1. This difference is widened also through the way that interactive narrative installations bring a user into closer physical contact through a tangible interface in comparison with cinema. In Chapter 2 I explored the concept of interfacing between a body and a technology and identified how Ihde's embodiment relation is key towards such interfacing. Through Ihde I argued that a byproduct of the embodiment relation is revealed through an amplification/reduction structure, and asserted that this structure is something that reverberates in the form of interactive narration. As I argued, interactive stories are amplified versions of linear stories insomuch that story paths are manifold depending on a user's engagement with a technology. Furthermore, I

characters, while the female killer in *Friday the 13th* inverts a cinematic trope to misconstrue the viewer into believing they are adopting the perspective of a male killer gaze. In which case, further research into subjectivity, particularly in world cinema, would be an interesting way to advance and develop this work.

contended how such liberation of amplified narrative is balanced with reduction through the way a technology conditions the body to move and behave in a particular way. This as I argued through Ihde, Karen Barad, Sarah Kember and Joanna Zylinska continues to reveal technology as a non-neutral entity.

Within the chapter I considered how different artwork technologies co-compose story through input from the human body to reveal a fictional experience. Here I used Ihde's distinct human-technology relations as the ingredients at the core of these distinct narrative artworks to argue that different mixes of these components enable different types of experiences to come to fruition. I tested this with Blast Theory's embodiment relationship through the phone interface of *A Machine to See With*. I then compared this with Dove's *Artificial Changeling*, which similar to the hap-tech films of Chapter 1 utilises an embodiment and hermeneutical relationship. Unlike the embodiment of Chapter 1 however, which was based on visual imagery and sound that engages with a viewer's distant senses, Dove's use of embodiment relates to actual kinaesthetic agency through motion sensing, which provides a different type of fictional experience from hap-tech narration in the form of a conversation between two characters.

I then turned my attention to Del Favero's agential motion sensing artwork, *Scenario* as a way to consider a different type of narrative experiencing that involves embodiment, hermeneutical and alterity elements by means of the artwork's artificial intelligence. Again amplification/reduction was prevalent in the way that the artwork has two distinct outcomes based on user corporeality, signifying an amplified sense of story. Such amplification is also evident in the way that the light-coloured avatars serve as a form of virtual mirror that extends

the user into the digital screen space of the AVIE, pluralising the body as Brian Rotman, Brian Massumi, N. Katherine Hayles and Anna Munster argue, in which the corporeal body becomes virtualised by a technological apparatus. In accordance with Ihde, this was balanced as Del Favero and Timothy Barker observed, by a simultaneous reduction in mobility as actions become more regulated with users gauging their speed and bodily rhythms from the cues of the onscreen imagery.

These three human-technology relationships in *Scenario* segued into Chapter 3, where I added Ihde's concept of background relations to this mix to consider a different type of medium and narrative experience through the body-technology relationship of the computer gamer. Once again I identified how the game-playing body is extended, embodied and virtualised by way of a controller and an onscreen avatarial body. Through a history of game controllers I identified how this avatarial body has changed and how such changes impact upon the fictionalisation of a game's story. I analysed the player positionality of through-the-screen space with present onscreen avatars in comparison with absent avatarial bodies where a player is positioned over or above the game controls. In titles such as *The Novelist* or *This War of Mine* I used Ihde to argue that such physical positionality of the player's body is reverberated into the fictional events of the game's narrative.

Within the chapter I developed the term somaster fiction to account for the repetitive and cultivated practice a player engages in, which is a cultivation and mastery of skills that are honed to aid survival in fictional worlds and push narrative events forward based on tactile movement through adept gameplay. In order to succeed in games and reach the end of a story, players have to master

their controllers, avatars, external game characters and world through rehearsal. This was something that I likened, as Henrik Smed Nielsen does, to Richard Shusterman's concept of somaesthetics. Using Shusterman's understanding of the soma as a dynamic instrument and means for perception, as well as a process of creative self-fashioning, I created the term somaster fiction as a way to consider the cultivated fictional experience and avatarial body that is put together through the engagement a player has with a controller and computer game medium.

Somaster fiction, as I argued, differs from hap-tech narration in the way that it advocates a position of strength, mastery and feeling of positivity in contrast to the weakened or uncomfortable sensation of helplessness or moral impairment that hap-tech narration denotes. The difference between the two is primarily down to agency. Cinema is unchangeable from the viewer's perspective while gaming, in contrast, is predicated on agential changes made by the player through the controller. Outside of cut-scenes, everything that occurs onscreen is through the controls of the player-body. Such agency is also what demarcates interactive art from cinema. But while interactive art is more neutral in its co-composition and gallery setting, gaming is designed for longevity and rehearsal, where the player, over a continuous span of hours practices until the controls are embodied and transparent, enabling the player to become truly mastered within the game world through somaster fiction.

In terms of gender however, a certain patriarchal and white heterosexual dominance is still prevalent within the medium of gaming, particularly within the action-based games. As I found in Chapter 3, my grip on the controller was tighter, more alert and in a sense more engaged with the action titles that

predominantly incorporate a male avatar.[46] This was in contrast to slower and more methodical exploration style games where an absent avatar (non-bodied and non-gendered) is used, such as *The Novelist* and *Everybody's Gone to the Rapture*, or games with female avatars exclusively such as *Life is Strange* or *Gone Home.* There are of course exceptions to this rule when we consider the action-based *Tomb Raider* franchise and Lara Croft avatar, but this is something that pales in comparison to the wealth of male avatars in action-based games, particularly first-person shooters.

This is significant when we consider the franchise games of *Mirror's Edge,* a first person action game through the avatarial body of a female. In contrast to shooting enemies these games focus more on free running across a cityscape while evading and disarming adversaries rather than killing them. This conforms to the idea that male characters (in computer gaming) are more accustomed to killing, just as we saw in cinema. This gendered observation perhaps begins to explain why in *This War of Mine* the female avatars break down after having killed another character, potentially because killing is a male 'thing' in gaming, just as it is in cinema.[47] The male body in cinema, as discussed through Neale and Mulvey above, uses killing or violence to assert heterosexuality or a privileging of male dominance. In this sense the game body is closer to the cinematic body than the interactive art body. Action-based computer games, like the cinema are predominantly constructed through male vs. male contests to the death. In non-avatarial games particularly the one discussed within Chapter 3

---

[46] Many games such as *Skyrim* and *Fallout* have the option to play as a female avatar. In both games the player can also change their race and construct their facial appearance and body type.
[47] In Dyer's lecture he does highlight how Italian cinema, notably 'Giallo' features more commonly female as serial killers who commit their crimes to protect the family unit. He discusses this through Pupi Avati's *La casa dalle finestre che ridono* (*The House of the Laughing Windows*, 1976).

this is not usually the case. *This War of Mine* is about survival and the ethical approach of surviving, *The Novelist* is about rekindling relationships rather than destroying. Unlike action games (usually male) non-avatared and non-gendered games possess a maturity that disavows such homosexual repression through killing and violence (in accordance with Neale). This has allowed gaming to mature into more melodramatic genres such as *The Novelist* and *That Dragon, Cancer*, which explore the harsh realities of family life. While other avatarial exploration games that relinquish the action/killing element of gameplay, such as *Gone Home*, create a space for the exploration of interesting character complexity such as homosexuality.

Kaitlin the character in *Gone Home* for example, has no set goals and no opportunity to kill anyone; instead she explores her environment (the house) and in turn allows the player to explore her gay coming-of-age feelings, adding depth to both the game and the avatarial embodiment of Kaitlin. Unlike the action game in which physical force on the controller (tight grip, button smashing) is reciprocated with similar force upon in-game characters (fighting or killing), games like *Gone Home*, which dispenses with the need for a forceful grip on the controller, takes a step back from violence to explore deeper levels of characterisation. In this sense the apparatus of the computer game and controller can be perceived as gendered, a concept that invites future critical debate.

In terms of the privileged white male body, pervasive throughout this thesis, there is also something to be said of white privileging in gaming. The majority of avatars in action-based games are white, particularly within the *Grand Theft Auto* franchise. However the body that was of most interest to me

was that of CJ's, the black character from *GTA San Andreas*. His body is the only body throughout the series that the player must constantly work at and maintain to keep in shape through exercise regimes. Although other avatars must be worked out and trained to reach new abilities and skills through repetitive rehearsal, they never aesthetically change in appearance. CJ on the other hand will visually gain weight unless he is worked out, while other white avatars will always look their best regardless of the input from the player. In this sense there would seem to be a privileging of whiteness in gaming similar to what can be seen in cinema. This notion can be further supported through Mary Flanagan and Geoff Kaufman's writings on the negative stereotyping of African-American characters in gaming, where black characters are "often […] depicted as gang members and/or criminals."[48] This too is the case for CJ in *GTA San Andreas* and more recently, Lincoln Clay, the avatar from *Mafia III* (2016, 2K Games). Within this latter game, Clay's negative stereotyping is compounded with abhorrent racism within the game world, which is set in America in the midst of the Civil Rights Movement.

Consequentially, Ihde's non-neutrality of technology, which inclines a user toward a certain type of behaviour, is to some degree matched by a non-neutral body that inclines the action-game player or mainstream cinema viewer towards a male, white heterosexual experience of bodyhood. Accordingly, this work can be considered a platform for future development and interrogation of other body vessels, such as the female 'anti-killer' I have suggested in computer gaming, and/or an investigation of other body vessels in cinema (particularly

---

[48] Y.B. Kafai, B.M. Tynes, and G.T. Richard, *Diversifying Barbie and Mortal Kombat: Intersectional Perspectives and Inclusive Designs in Gaming* (Lulu.com, 2016).

subjective films) that deviate from the normative white male body. Katharina Linder's forthcoming article 'Queer-ing Texture: Tactility, Spatiality and Kinaesthetic Empathy in *She Monkeys*'[49] is one such example that uses phenomenology to consider the ambiguity and unpredictability of touch, which Linder uses to consider the onscreen lesbian body. Future work, like Lindner's article, is invited to test how demographic bodies of other race, gender or sexuality is composed in cinema or gaming, and whether such experiences are resistant to the immersiveness that the media technologies, considered within this thesis, puts forward.

In the same way that Ihde offers his readers a new way to consider the varying and multistable ways that a human user can engage technologies through postphenomenology, the intention of this thesis has been to provide different examples of story and fictional experientiality through a postphenomenological model. On the precipice of a new technological era with new engagements of the body in the form of the Oculus Rift and Microsoft Hololens ready for release, it is important to establish the types of relationship the body has with existent technologies as a foundation that can be built upon. This, I hope, is something that this work has accomplished by identifying how the human body merges with a technology and in turn creates a fictional experience, an experience that we might identify as a postphenomenological narrative.

---

[49] Katharina Lindner, "Queer-Ing Texture: Tactility, Spatiality and Kinaesthetic Empathy in She Monkeys (Forthcoming)," *Camera Obscura* 32, no. 96 (2017).

Bibliography

Aarseth, Espen J. *Cybertext : Perspectives on Ergodic Literature.* Baltimore, Md.: Johns Hopkins University Press, 1997.

Balsamo, A.M. *Technologies of the Gendered Body: Reading Cyborg Women.* Duke University Press, 1996.

Barad, K. *Meeting the Universe Halfway: Quantum Physics and the Entanglement of Matter and Meaning.* Duke University Press, 2007.

Barker, Jennifer M. *The Tactile Eye : Touch and the Cinematic Experience.* Berkeley: University of California Press, 2009.

Barker, Tim. "Toward a Process Philosophy for Digital Aesthetics." Paper presented at the 15th International Symposium on Electronic Art(ISEA), Belfast, UK, 2009.

Barker, Timothy. "Images and Eventfulness: Expanded Cinema and Experimental Research at the University of New South Wales." *Studies in Australasian Cinema* 6, no. 2 (2012): 111-23.

Barker, Timothy Scott. *Time and the Digital : Connecting Technology, Aesthetics, and a Process Philosophy of Time.* Interfaces, Studies in Visual Culture. Hanover, N.H.: Dartmouth College Press, 2012.

Barthes, R., and R. Howard. *Camera Lucida: Reflections on Photography.* Vintage, 1993.

Barthes, Roland. "The Death of the Author." *Contributions in Philosophy* 83 (2001): 3-8.

Baudry, Jean-Louis, and Alan Williams. "Ideological Effects of the Basic Cinematographic Apparatus." *Film Quarterly* 28, no. 2 (1974): 39-47.

Bellour, Raymond. "The Pensive Spectator-Disparate Processes Used in Viewing Cinema and Photography." *WIDE ANGLE-A QUARTERLY JOURNAL OF FILM HISTORY THEORY CRITICISM & PRACTICE* 9, no. 1 (1987): 6-10.

Benjamin, W., M.P. Bullock, M.W. Jennings, H. Eiland, and G. Smith. *Selected Writings: 1938-1940*. Belknap Press of Harvard University Press, 2003.

Benjamin, Walter. "On the Mimetic Faculty." *Reflections* 334 (1978).

———. "The Work of Art in the Age of Its Technological Reproducibility [First Version]." *Grey Room*, no. 39 (2010): 11-37.

Bergson, H., N.M. Paul, and W.S. Palmer. *Matter and Memory*. Dover Publications, 2004.

Bibby, Michael. *The Vietnam War and Postmodernity*. Amherst, Mass.: University of Massachusetts Press, 2000.

Bordwell, David. "Camera Movement and Cinematic Space." *Ciné-Tracks– A Journal of Film, Communications, Culture and Politics* 1, no. 2 (1977): 19-27.

———. *Narration in the Fiction Film*. Madison, Wis.: University of Wisconsin Press, 1985.

Bowie, M. *Lacan*. Harvard University Press, 1993.

Branigan, E. *Narrative Comprehension and Film*. Taylor & Francis, 2013.

———. *Point of View in the Cinema: A Theory of Narration and Subjectivity in Classical Film*. De Gruyter, 1984.

Brey, Philip. "Technology as Extension of Human Faculties." (2000).

Brown, Neil CM, Timothy S Barker, and Dennis Del Favero. "Performing Digital Aesthetics: The Framework for a Theory of the Formation of Interactive Narratives." *Leonardo* 44, no. 3 (2011): 212-19.

Brown, Neil, Dennis Del Favero, Jeffrey Shaw, and Peter Weibel. "Interactive
　　　Narrative as a Multi-Temporal Agency." *representations* 84 (2000): 88.

Bukatman, Scott. *Terminal Identity: The Virtual Subject in Postmodern Science
　　　Fiction*. Duke University Press, 1993.

Burch, Noël, and Ben Brewster. *Life to Those Shadows*. Berkeley: University of
　　　California Press,, 1990.

Calleja, Gordon. *In-Game : From Immersion to Incorporation*. Cambridge, Mass.:
　　　MIT Press, 2011.

Calleja, Gordon, and Rued Langgaardsvej. "Experiential Narrative in Game
　　　Environments." Paper presented at the DiGRA International Conference
　　　Proceedings. Digital Games Research Association, 2009.

Cameron, J., and B. Dunham. *James Cameron: Interviews*. University Press of
　　　Mississippi, 2012.

Carver, G., and C. Beardon. *New Visions in Performance*. Taylor & Francis, 2005.

Chamarette, J. *Phenomenology and the Future of Film: Rethinking Subjectivity
　　　Beyond French Cinema*. Palgrave Macmillan, 2012.

Chatman, S.B. *Coming to Terms: The Rhetoric of Narrative in Fiction and Film*.
　　　Cornell University Press, 1990.

Clark, A. *Natural-Born Cyborgs: Minds, Technologies, and the Future of Human
　　　Intelligence*. Oxford University Press, 2004.

———. *Supersizing the Mind: Embodiment, Action, and Cognitive Extension*.
　　　Oxford University Press, 2010.

Cohan, S., and I.R. Hark. *Screening the Male: Exploring Masculinities in the
　　　Hollywood Cinema*. Taylor & Francis, 2012.

Crick, Timothy Paul. "The Game Body: Toward a Phenomenology of
Contemporary Video Gaming." *Games and Culture* (2010).

Cronenberg, D., and C. Rodley. *Cronenberg on Cronenberg*. Faber & Faber, 1997.

Damasio, A.R. *The Feeling of What Happens: Body, Emotion and the Making of
Consciousness*. Vintage, 2000.

———. *Looking for Spinoza: Joy, Sorrow, and the Feeling Brain*. Vintage, 2004.

Del Rio, Elena. "The Body as Foundation of the Screen: Allegories of Technology
in Atom Egoyan's Speaknig Parts." *Camera Obscura* 13, no. 2 38 (1996):
92-115.

Deleuze, G., F.Ì. Guattari, and R. Hurley. *Anti-Oedipus*. Bloomsbury Academic,
2004.

Deleuze, Gilles. *The Fold : Leibniz and the Baroque*. Continuum Impacts. [Rev. ed.
London ; New York: Continuum, 2006.

Deleuze, Gilles, and Abdelkrim Brahim-Bounab. *The Logic of Sense* [in Translation
of: Logique du sens.]. London: Athlone Press, 1990.

Deutelbaum, M., and L. Poague. *A Hitchcock Reader*. Wiley, 2009.

deWinter, J. *Shigeru Miyamoto: Super Mario Bros., Donkey Kong, the Legend of
Zelda*. Bloomsbury Publishing, 2015.

Dovey, Jon, and Helen W. Kennedy. *Game Cultures : Computer Games as New
Media*. Issues in Cultural and Media Studies. Maidenhead ; New York, NY:
Open University Press, 2006.

Dyer, R. *Lethal Repetition: Serial Killing in European Cinema*. Palgrave Macmillan,
2015.

Dyer, Richard. *Seven*. British Film Institute, 1999.

———. *White.* London ; New York: Routledge, 1997.

Elsaesser, T., and M. Hagener. *Film Theory: An Introduction through the Senses.* Taylor & Francis, 2009.

Enticknap, Leo. *Moving Image Technology : From Zoetrope to Digital* [in English]. London: Wallflower, 2005.

Farman, Jason. *Mobile Interface Theory : Embodied Space and Locative Media.* New York ; London: Routledge, 2012.

Favero, Dennis Del, and Timothy S Barker. "Scenario: Co-Evolution, Shared Autonomy and Mixed Reality." Paper presented at the Mixed and Augmented Reality-Arts, Media, and Humanities (ISMAR-AMH), 2010 IEEE International Symposium On, 2010.

Flanagan, Mary. *Critical Play : Radical Game Design.* Cambridge, Mass.: MIT Press, 2009.

Fludernik, Monika. *Towards a 'Natural' Narratology.* London ; New York: Routledge, 1996.

Foucault, Michel. *Discipline and Punish : The Birth of the Prison.* 2nd Vintage Books ed. New York: Vintage Books, 1995.

Freud, Sigmund, and James Strachey. *Three Essays on the Theory of Sexuality.* London: Imago, 1949.

Friedman, Ted. "Civilization and Its Discontents: Simulation, Subjectivity, and Space." (2005).

"Future Cinema: The Cinematic Imaginary after Film." *Art Documentation: Bulletin of the Art Libraries Society of North America* 23, no. 2 (2004): 56-57.

Gallagher, Shaun. *How the Body Shapes the Mind.* Oxford ; New York: Clarendon Press, 2005.

Galloway, Alexander R. *Gaming : Essays on Algorithmic Culture*. Electronic

    Mediations. Minneapolis, Minn. ; London: University of Minnesota Press,

    2006.

Garwood, Ian. *The Sense of Film Narration*. Edinburgh Studies in Film.

    Edinburgh: Edinburgh University Press, 2013.

Genette, G., and J.E. Lewin. *Narrative Discourse: An Essay in Method*. Cornell

    University Press, 1983.

Grau, O. *Mediaarthistories*. MIT Press, 2007.

Gregersen, Andreas Lindegaard, and Torben Kragh Grodal. "Embodiment and

    Interface." In *Video Game Theory Reader 2*: Routledge, 2008.

Grodal, T., and T.K. Grodal. *Moving Pictures: A New Theory of Film Genres,*

    Feelings, and Cognition. Clarendon Press, 1999.

Grodal, Torben. "Stories for Eye, Ear, and Muscles." *The video game theory reader*

    (2003): 129-55.

Grosz, E. A. *Volatile Bodies : Toward a Corporeal Feminism*. Theories of

    Representation and Difference. Bloomington: Indiana University Press,

    1994.

Gunning, T. *D.W. Griffith and the Origins of American Narrative Film: The Early*

    Years at Biograph. University of Illinois Press, 1994.

Hansen, Mark B. N. *Bodies in Code : Interfaces with Digital Media*. New York:

    Routledge, 2006. doi:9780415970167.

———. *New Philosophy for a New Media*. Cambridge, Mass.: MIT Press, 2004.

Hansen, Miriam. "Benjamin, Cinema and Experience:" The Blue Flower in the

    Land of Technology"." *New German Critique*, no. 40 (1987): 179-224.

Haraway, D.J. *Simians, Cyborgs, and Women: The Reinvention of Nature*. Taylor & Francis, 2013.

Haraway, Donna. "A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late 20th Century." In *The International Handbook of Virtual Learning Environments*, 117-58: Springer, 2006.

Hayles, Katherine. *How We Became Posthuman : Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago, Ill.: University of Chicago Press, 1999.

———. *How We Think : Digital Media and Contemporary Technogenesis*. Chicago, IL ; London: University of Chicago Press, 2012.

Hayles, N.K. *My Mother Was a Computer: Digital Subjects and Literary Texts*. University of Chicago Press, 2010.

Hayot, Eric, and Edward Wesp. "Style: Strategy and Mimesis in Ergodic Literature." *Comparative Literature Studies* 41, no. 3 (2004): 404-23.

Heidegger, M., J. Stambaugh, and D.J. Schmidt. *Being and Time*. State University of New York Press, 2010.

Heidegger, Martin, John Macquarrie, and Edward Robinson. *Being and Time*. Library of Philosophy and Theology. London: S.C.M.Press, 1962.

Herman, David. *Basic Elements of Narrative*. Chichester, U.K. ; Malden, MA: Wiley-Blackwell, 2009.

———. "Limits of Order: Toward a Theory of Polychronic Narration." *Narrative* 6, no. 1 (1998): 72-95.

Hill, L., and H. Paris. *Guerilla Performance and Multimedia*. Continuum, 2001.

Huhtamo, Erkki. *Twin–Touch–Test–Redux: Media Archaeological Approach to Art, Interactivity, and Tactility*. na, 2007.

Ihde, Don. *Bodies in Technology*. Electronic Mediations. Minneapolis: University of Minnesota Press, 2002.

———. *Embodied Technics*. Automatic Press Publishing, 2010.

———. *Existential Technics*. State University of New York Press, 1983.

———. *Experimental Phenomenology : Multistabilities*. 2nd ed. Albany: State University of New York Press, 2012.

———. *Heidegger's Technologies : Postphenomenological Perspectives*. Perspectives in Continental Philosophy. New York: Fordham University Press, 2010.

———. *Postphenomenology : Essays in the Postmodern Context*. Northwestern University Studies in Phenomenology and Existential Philosophy. Evanston, Ill.: Northwestern University Press, 1993.

———. *Technics and Praxis*. Boston Studies in the Philosophy of Science. Dordrecht, Holland ; Boston: D. Reidel Pub. Co., 1979.

———. *Technology and the Lifeworld : From Garden to Earth*. The Indiana Series in the Philosophy of Technology. Bloomington: Indiana University Press, 1990.

Jenkins, Henry, and Kurt Squire. "The Art of Contested Spaces." *Game On. London: Barbican* (2002).

Jermyn, D., and S. Redmond. *The Cinema of Kathryn Bigelow: Hollywood Transgressor*. Wallflower Press, 2003.

Juul, Jesper. "A Clash between Game and Narrative: A Thesis on Computer Games and Interactive Fiction." *University of Copenhagen* (1999).

———. *Half-Real : Video Games between Real Rules and Fictional Worlds*. Cambridge, Mass.: MIT Press, 2005.

Kafai, Y.B., B.M. Tynes, and G.T. Richard. *Diversifying Barbie and Mortal Kombat: Intersectional Perspectives and Inclusive Designs in Gaming*. Lulu.com, 2016.

Kapp, Ernst. *Grundlinien Einer Philosophie Der Tecknik*. Рипол Классик, 1877.

Kawin, Bruce F. *How Movies Work*. Berkeley: University of California Press, 1992.

Kember, Sarah, and Joanna Zylinska. *Life after New Media : Mediation as a Vital Process*. Cambridge, Mass. ; London: MIT Press, 2012.

Kiszely, Philip. *Hollywood through Private Eyes : The Screen Adaptation of the "Hard-Boiled" Private Detective Novel in the Studio Era*. Stage and Screen Studies,. Oxford ; New York: P. Lang, 2006.

Kittler, Friedrich A. *Gramophone, Film, Typewriter*. Writing Science. Stanford, Calif.: Stanford University Press, 1999.

Kluszczynski, Ryszard W. "Strategies of Interactive Art." *Journal of Aesthetics & Culture* 2 (2010).

Koops, B.J., C.H. Lüthy, A. Nelis, C. Sieburgh, J.P.M. Jansen, and M.S. Schmid. *Engineering the Human: Human Enhancement between Fiction and Fascination*. Springer Berlin Heidelberg, 2013.

Kozel, S. *Closer: Performance, Technologies, Phenomenology*. MIT Press, 2007.

Lahti, Martti. "As We Become Machines: Corporealized Pleasures in Video Games." *The video game theory reader* (2003): 157-70.

Laing, R. D. *The Divided Self*. New York,: Pantheon Books, 1969.

Laurel, Brenda. *Computers as Theatre*. Addison-Wesley, 2013.

Lefebvre, Henri. *The Production of Space* [in Translation of: La production de l'espace.]. Oxford, OX, UK ; Cambridge, Mass., USA: Blackwell, 1991.

Lindner, Katharina. "Queer-Ing Texture: Tactility, Spatiality and Kinaesthetic Empathy in She Monkeys (Forthcoming)." *Camera Obscura* 32, no. 96 (2017).

MacDonald, A. *Murders and Acquisitions: Representations of the Serial Killer in Popular Culture*. Bloomsbury Publishing, 2013.

Mader, M.B. *Sleights of Reason: Norm, Bisexuality, Development*. State University of New York Press, 2012.

Malkiewicz, K., and M.D. Mullen. *Cinematography: Third Edition*. Touchstone, 2009.

Manovich, Lev. *The Language of New Media*. Leonardo. Cambridge, Mass.: MIT Press, 2001.

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

———. *Touch : Sensuous Theory and Multisensory Media*. Minneapolis: University of Minnesota Press, 2002.

Martin, Paul. "A Phenomenological Account of the Playing Body in Avatar-Based Action Game." Paper presented at the Philosophy of Computer Games Conference, Madrid, January, 2012.

Martin-Jones, David. "Remembering the Body: Deleuze's Recollection-Image, and the Spectacle of Physical Memory in Yip Man/Ip Man (2008)." *Journal of Chinese Cinemas* 8, no. 2 (2014): 111-22.

Martins, Nicole, Dmitri C Williams, Kristen Harrison, and Rabindra A Ratan. "A Content Analysis of Female Body Imagery in Video Games." *Sex roles* 61, no. 11-12 (2009): 824-36.

Martins, Nicole, Dmitri C Williams, Rabindra A Ratan, and Kristen Harrison. "Virtual Muscularity: A Content Analysis of Male Video Game Characters." *Body Image* 8, no. 1 (2011): 43-51.

Massumi, B. *Parables for the Virtual: Movement, Affect, Sensation.* Duke University Press, 2002.

McLuhan, Marshall. *Understanding Media : The Extensions of Man.* London: Routledge & Kegan Paul Ltd., 1964.

Merleau-Ponty, M. *Phenomenology of Perception.* Routledge, 2002.

Merleau-Ponty, M., and T. Baldwin. *Maurice Merleau-Ponty: Basic Writings.* Routledge, 2004.

Merleau-Ponty, M., C. Lefort, and A. Lingis. *The Visible and the Invisible: Followed by Working Notes.* Northwestern University Press, 1968.

Metz, Christian. "Current Problems of Film Theory: Jean Mitry's L'esthetique Et Psychologie Du Cinema, Vol. Ii." *Movies and Methods. Ed. Bill Nichols* 1 (1971): 568-78.

———. "The Imaginary Signifier." *Screen* 16, no. 2 (1975): 14-76.

Mialet, H. *Hawking Incorporated: Stephen Hawking and the Anthropology of the Knowing Subject.* University of Chicago Press, 2012.

Michael, Mike. *Reconnecting Culture, Technology and Nature : From Society to Heterogeneity.* International Library of Sociology. London ; New York: Routledge, 2000.

Miller, K. *Playing Along: Digital Games, Youtube, and Virtual Performance.* Oxford University Press, 2012.

Mitcham, C. *Thinking through Technology: The Path between Engineering and Philosophy.* University of Chicago Press, 1994.

Montfort, N., and I. Bogost. *Racing the Beam: The Atari Video Computer System*.
 MIT Press, 2009.

Moran, D., and J. Cohen. *The Husserl Dictionary*. Bloomsbury Publishing, 2012.

Morse, M. *Virtualities: Television, Media Art, and Cyberculture*. Indiana University
 Press, 1998.

Mulvey, L. *Death 24x a Second: Stillness and the Moving Image*. Reaktion Books,
 2006.

Mulvey, Laura. "Afterthoughts on 'Visual Pleasure and Narrative Cinema'inspired
 by King Vidor's Duel in the Sun (1946)." In *Visual and Other Pleasures*, 29-
 38: Springer, 1989.

———. "Visual Pleasure and Narrative Cinema." In *Visual and Other Pleasures*,
 14-26: Springer, 1989.

Munster, Anna. *Materializing New Media : Embodiment in Information Aesthetics*.
 Interfaces : Studies in Visual Culture. Hanover, N.H.: Dartmouth College
 Press, 2006.

Münsterberg, H., and A. Langdale. *Hugo Munsterberg on Film: The Photoplay: A
 Psychological Study and Other Writings*. Taylor & Francis, 2013.

Murray, Janet. "First Person-from Game Story to Cyber Drama.[Ed.] Noah
 Wardrip-Fruin and Pat Harrigan." Cambridge: The MIT Press, 2004.

Murray, Timothy. *Digital Baroque : New Media Art and Cinematic Folds* [in
 English]. Electronic Mediations V. 26. Minneapolis: University of
 Minnesota Press, 2008.

Nielsen, H.S. *Playing Computer Games: Somatic Experience and Experience of the
 Somatic*. 2012.

Noland, C. *Agency and Embodiment: Performing Gestures/Producing Culture*.

    Harvard University Press, 2010.

Parikka, Jussi. *What Is Media Archaeology?* Cambridge, UK ; Malden, MA: Polity

    Press, 2012.

Pope, Norris. *Chronicle of a Camera : The Arriflex 35 in North America, 1945-1972*.

    Jackson: University Press of Mississippi, 2013.

Popper, F. *From Technological to Virtual Art*. MIT Press, 2007.

Raimondo-Souto, H.M. *Motion Picture Photography: A History, 1891-1960*.

    McFarland, 2006.

Rieser, M., A. Zapp, British Film Institute, and Zentrum für Kunst und

    Medientechnologie Karlsruhe. *The New Screen Media:*

    Cinema/Art/Narrative. British Film Institute, 2002.

Rodowick, D. N. *The Virtual Life of Film*. Cambridge, Mass.: Harvard University

    Press, 2007.

Rojcewicz, R., E. Husserl, and A. Schuwer. *Ideas Pertaining to a Pure*

    Phenomenology and to a Phenomenological Philosophy: Second Book

    Studies in the Phenomenology of Constitution. Springer Netherlands, 1990.

Rotman, B. *Becoming Beside Ourselves : The Alphabet, Ghosts, and Distributed*

    Human Being. Durham: Duke University Press, 2008.

Ruben, Brent D., and Leah A. Lievrouw. *Mediation, Information, and*

    Communication. Information and Behavior. New Brunswick, N.J.:

    Transaction Publishers, 1990.

Ryan, M.L. *Narrative across Media: The Languages of Storytelling*. University of

    Nebraska Press, 2004.

———. *Narrative as Virtual Reality: Immersion and Interactivity in Literature and Electronic Media*. Johns Hopkins University Press, 2001.

Ryan, Marie-Laure. *Avatars of Story*. Electronic Mediations. Minneapolis: University of Minnesota Press, 2006. doi:9780816646852 9780816646869.

Sageng, John Richard, Hallvard Fossheim, Tarjei Mandt Larsen, and SpringerLink (Online service). *The Philosophy of Computer Games*. http://www.columbia.edu/cgi-bin/cul/resolve?clio10045030.

Salen, K., and E. Zimmerman. *Rules of Play: Game Design Fundamentals*. Books24x7.com, 2004.

Scheer, E., and S. Sewell. *Scenario*. University of New South Wales Press, 2011.

Selinger, E. *Postphenomenology: A Critical Companion to Ihde*. State University of New York Press, 2012.

Shaviro, S. *Connected, or, What It Means to Live in the Network Society*. University of Minnesota Press, 2003.

———. *Post Cinematic Affect*. John Hunt Publishing, 2010.

Shaviro, Steven. "Regimes of Vision. Kathryn Bigelow." *Strange Days. Polygraph* 13 (2001): 59-68.

Shaw, Jeffrey, Anne-Marie Duguet, Heinrich Klotz, and Peter Weibel. *Jeffrey Shaw : A User's Manual, from Expanded Cinema to Virtual Reality = Jeffrey Shaw : Eine Gebrauchsanweisung, Vom Expanded Cinema Zur Virtuellen RealitäT* [in Parallel text in English and German.]. Ostfildern: Cantz, 1997.

Sheets-Johnstone, M. *The Primacy of Movement*. John Benjamins Publishing Company, 2011.

Shusterman, R. *Performing Live: Aesthetic Alternatives for the Ends of Art*. Cornell

    University Press, 2000.

———. *Pragmatist Aesthetics: Living Beauty, Rethinking Art*. Rowman &

    Littlefield, 2000.

Shusterman, Richard. *Body Consciousness : A Philosophy of Mindfulness and*

    Somaesthetics. Cambridge ; New York: Cambridge University Press, 2008.

Sobchack, Vivian Carol. *The Address of the Eye : A Phenomenology of Film*

    Experience. Princeton, N.J.: Princeton University Press, 1992.

———. *Carnal Thoughts : Embodiment and Moving Image Culture*. Berkeley:

    University of California Press, 2004.

Souto, H.M.R. *The Technique of the Motion Picture Camera*. Communication Arts

    Books, 1969.

Stern, Andrew. "Deeper Conversations with Interactive Art or Why Artists Must

    Program." *Convergence: The International Journal of Research into New*

    Media Technologies 7, no. 1 (2001): 17-24.

Stone, Allucquere. "Split Subjects, Not Atoms; or, How I Fell in Love with My

    Prosthesis." *Configurations* 2, no. 1 (1994): 173-90.

Sudnow, David. *Pilgrim in the Microworld*. New York, N.Y.: Warner Books, 1983.

Treske, A. *Video Theory: Online Video Aesthetics or the Afterlife of Video*.

    transcript, 2015.

Trotter, David. "Lynne Ramsay's Ratcatcher: Towards a Theory of Haptic

    Narrative." *Paragraph* 31, no. 2 (2008): 138-58.

Turkle, Sherry. *Life on the Screen : Identity in the Age of the Internet*. New York:

    Simon & Schuster, 1995.

Utterback, Camille. "Unusual Positions–Embodied Interaction with Symbolic Spaces." *First person: New media as story, performance, and game* (2004): 218-26.

Väliaho, P. *Biopolitical Screens: Image, Power, and the Neoliberal Brain*. MIT Press, 2014.

Väliaho, Pasi. *Mapping the Moving Image : Gesture, Thought and Cinema Circa 1900*. Film Culture in Transition. Amsterdam: Amsterdam University Press, 2010.

Verbeek, Peter-Paul. "Materializing Morality: Design Ethics and Technological Mediation." *Science, Technology & Human Values* 31, no. 3 (May 1, 2006 2006): 361-80.

Virilio, P. *War and Cinema: The Logistics of Perception*. Verso, 1989.

Von Uexküll, Jakob. "A Stroll through the Worlds of Animals and Men: A Picture Book of Invisible Worlds." *Semiotica* 89, no. 4 (1992): 319-91.

Wardrip-Fruin, Noah, and Pat Harrigan. *First Person : New Media as Story, Performance, and Game*. Cambridge, Mass.: MIT Press, 2004.

Watts, M. *The Philosophy of Heidegger*. Taylor & Francis, 2014.

Weibel, Peter, Jeffrey Shaw, Peter Weibel, Raymond Bellour, Glorianna Davenport, Timothy Druckrey, Ross Gibson*, et al. Future Cinema : The Cinematic Imaginary after Film* [in English]. Electronic Culture--History, Theory, Practice. Karlsruhe: ZKM Centre for Art and Media, 2003.

Wheeler, P. *Practical Cinematography*. Lulu.com, 2014.

Wilson, George M. *Narration in Light : Studies in Cinematic Point of View*. Baltimore: Johns Hopkins University Press, 1986.

Wisnewski, J.J. *Heidegger: An Introduction*. Rowman & Littlefield Publishers,

    2012.

Young, E.B., G. Genosko, and J. Watson. *The Deleuze and Guattari Dictionary*.

    Bloomsbury Publishing, 2013.

Youngblood, Gene. *Expanded Cinema*. 1st ed. New York,: Dutton, 1970.

Filmography

Dario Argento, *Il Gatto A Nove Code* (*The Cat o'Nine Tails*) (France/Italy/West Germany, 1971), Constantin Film Verleih GmbH.

Dario Argento, *Profondo rosso* (*Deep Red*) (Italy, 1975), Rizzoli Film and Seda Spettacoli.

Pupi Avati *La casa dalle finestre che ridono* (*The House of the Laughing Windows*) (Italy, 1976), A.M.A. Film.

Jaume Balagueró, *Rec* (Spain, 2007), Filmax International.

Jaume Balagueró, *Rec 2* (Spain, 2009), Magnolia Pictures.

Simon Barrett, Adam Wingard, Eduardo Sánchez and Gregg Hale, Timo Tjahjanto and Gareth Huw Evans, Jason Eisener, *V/H/S/2* (Canada/Indonesia/USA, 2013), Magnet Releasing.

Rémy Belvaux, *Man Bites Dog* (Belgium, 1992), Acteurs Auteurs Associés, Roxie Releasing and Metro Tartan Films.

Luc Besson, *Léon: The Professional* (France, 1994), Gaumont and Buena Vista International.

Kathryn Bigelow, *Strange Days* (USA, 1995), 20th Century Fox and Universal Pictures.

Robert Bresson, *A Man Escaped* (France, 1956), Gaumont Film Company.

James Cameron, *The Terminator* (USA, 1984), Orion Pictures.

James Cameron, *True Lies* (USA, 1994), 20th Century Fox and Universal Pictures.

Jane Campion, *The Piano* (Australia/France/New Zealand, 1993), Bac Films, Miramax Films and Entertainment Film Distributors.

John Carpenter, *Halloween* (USA, 1978), Compass International Pictures.

Charlie Chaplin, *Modern Times* (USA, 1936), United Artists.

Joel Coen and Ethan Coen, *No Country for Old Men* (USA, 2007), Miramax Films and Paramount Vantage.

Brandon Cronenberg, *Antiviral* (Canada/France, 2012), Alliance Films and UFO Distribution.

David Cronenberg, *Crash* (Canada/UK, 1996), Alliance Communications and Recorded Picture Company.

David Cronenberg, *eXistenZ* (Canada/France/UK, 1999), Miramax Films, Momentum Pictures and Alliance Atlantis.

David Cronenberg, *The Fly* (USA, 1986), 20th Century Fox.

David Cronenberg, *Videodrome* (Canada, 1983), Universal Pictures.

Sean S. Cunningham, *Friday the 13th* (USA, 1980), Paramount Pictures and Warner Bros.

Delmer Daves, *Dark Passage* (USA, 1947), Warner Bros.

Jonathan Demme, *The Silence of the Lambs* (USA, 1991), Orion Pictures.

Ruggero Deodato, *Cannibal Holocaust* (Italy, 1980), United Artists Europa.

Carl Theodor Dreyer, *Vampyr* (France/Germany, 1932), Vereinigte Star-Film GmbH.

Patrick Sheane Duncan, *84C MoPic* (USA, 1989), New Century Vista Film Company.

Clint Eastwood, *American Sniper* (USA, 2014), Warner Bros.

David Fincher, *Fight Club* (Germany/USA, 1999), 20th Century Fox.

David Fincher, *Seven* (USA, 1995), New Line Cinema.

Samuel Fuller, *The Naked Kiss* (USA, 1964), Allied Artists Pictures Corporation.

Abel Gance, *Napoléon* (France, 1927), Gaumont and Metro-Goldwyn-Mayer.

Dan Gilroy, *Nightcrawler* (USA, 2014), Open Road Films.

Jonathan Glazer, *Under the Skin* (Switzerland/UK/USA, 2013), StudioCanal and A24.

Alejandro González Iñárritu, *Amores Perros* (Mexico, 2000), Nu Vision.

Michael Haneke, *Caché* (*Hidden*) (France, 2005), Les films du losange.

Alfred Hitchcock, *Psycho* (USA, 1960), Paramount Pictures.

Alfred Hitchcock, *Rear Window* (USA, 1954), Paramount Pictures.

Alfred Hitchcock, *Spellbound* (USA, 1945), United Artists.

Alfred Hitchcock, *Topaz* (USA, 1969), Universal Pictures.

Rian Johnson, *Brick* (USA, 2005), Focus Features.

Irvin Kershner, *Eyes of Laura Mars* (USA, 1978), Columbia Pictures.

Franck Khalfoun, *Maniac* (France/USA, 2012), IFC Midnight.

Anthony Kimmins, *Mine Own Executioner* (UK, 1947), British Lion Films.

Stanley Kubrick, *A Clockwork Orange* (UK/USA, 1971), Warner Bros. and Columbia-Warner Distributors.

Stanley Kubrick, *Full Metal Jacket* (UK/USA, 1987), Warner Bros. and Columbia-Cannon-Warner.

Stanley Kubrick, *2001: A Space Odyssey* (UK/USA, 1968), Metro-Goldwyn-Mayer.

John Lasseter*, Toy Story 2* (USA, 1999), Walt Disney Pictures and Pixar Animation Studios.

David Lean, *Oliver Twist* (UK, 1948), General Film Distributors, Eagle-Lion and United Artists.

Barry Levinson, *The Bay* (USA, 2012), Lionsgate and Roadside Attractions.

William Lustig, *Maniac* (USA, 1980), Analysis Film Releasing Corporation.

David Lynch, *Lost Highway* (France/USA, 1997), October Films.

Rouben Mamoulian, *Dr. Jekyll and Mr. Hyde* (USA, 1931), Paramount Pictures.

John McTiernan, *Predator* (USA, 1987), 20th Century Fox.

Sam Mendes, *American Beauty* (USA, 1999), DreamWorks Pictures.

Sam Mendes, *Road to Perdition* (USA, 2002), 20th Century Fox and DreamWorks Pictures.

Takashi Miike *Ôdishon* (*Audition*) (Japan, 1999), Metro Tartan Distribution Ltd.

Robert Montgomery, *Lady in the Lake* (USA, 1947), Metro-Goldwyn-Mayer.

F. W. Murnau, *Der Letzte Mann* (*The Last Laugh*) (Germany, 1924), UFA.

Daniel Myrick and Eduardo Sánchez, *The Blair Witch Project* (USA, 1999), Artisan Entertainment.

Ilya Naishuller, *Hardcore Henry* (Russia/USA, 2015), STX Entertainment.

Andrew Niccol, *Lord of War* (France/Germany/USA, 2005), Lionsgate Films.

Mike Nichols, *The Graduate* (USA, 1967), AVCO Embassy Pictures and United Artists.

Ivan Nitchev, *Children of Wax* (Bulgaria, 2007), Cinemascope.

Gaspar Noé, *Enter the Void* (Canada/France/Germany/Italy, 2009), Wild Bunch Distribution.

Christopher Nolan, *Memento* (USA, 2000), Newmarket.

Oren Peli, *Paranormal Activity* (USA, 2007), Paramount Pictures.

Abraham Polonsky, *Force of Evil* (USA, 1948), Metro-Goldwyn-Mayer.

Edwin S. Porter, *The Great Train Robbery* (USA, 1903), Edison Manufacturing Company and Kleine Optical Company.

Michael Powell, *Peeping Tom* (UK, 1960), Anglo-Amalgamated Film Distributors.

Alex Proyas, *The Crow* (USA, 1994), Miramax Films.

Matt Reeves, *Cloverfield* (USA, 2008), Paramount Pictures.

Rob Reiner, *Misery* (USA, 1990), Columbia Pictures.

Pierre-Paul Renders, *Thomas est amoureux* (*Thomas in Love*) (Belgium/France, 2000), Sagittaire Films.

Robert Rodriguez, *From Dusk Till Dawn* (USA, 1996), Miramax Films.

Gus Van Sant, *Elephant* (USA, 2003), Fine Line Features and HBO Films.

Julian Schabel *Le scaphandre et le papillon* (*The Diving Bell and Butterfly*) (France/USA, 2007), Pathé and Miramax Films.

Martin Scorsese, *Goodfellas* (USA, 1990), Warner Bros.

M. Night Shyamalan, *The Sixth Sense* (USA, 1999), Buena Vista Pictures Distribution.

George Albert Smith, *As Seen Through a Telescope* (UK, 1900), Warwick Trading Company.

Steven Spielberg, *Duel* (USA, 1971), Universal Studios.

Steven Spielberg, *Jaws* (USA, 1975), Universal Pictures.

Oliver Stone, *Natural Born Killers* (USA, 1994), Warner Bros.

Josh Trank, *Chronicle* (USA, 2012), 20th Century Fox.

Lars von Trier, *Breaking the Waves* (Denmark, 1996), Argus Film Produktie.

Paul Verhoeven, *Robocop* (USA, 1987), Orion Pictures.

James Wan, *Saw* (USA, 2004), Lionsgate Films.