

Somaster Fiction and the Avatarial Game Body

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Abstract

In this paper, I discuss the elements of the avatarial game body. Using Don Ihde's philosophy of technology, in addition with Richard Shusterman's concept of somaesthetics, I break the avatar down into basic parts. I consider these parts through Shusterman's understanding of the soma and Ihde's postphenomenological discussions of human-technology relationships to devise somaster fiction. Somaster fiction, as I argue, is a convergence between the player's real-life body and a computer game experience, presented through avatarial onscreen bodies in games such as the *Grand Theft Auto* franchise, and invisible non-avatarial agency, discussed in games like *The Novelist* and *This War of Mine*.

This paper incorporates each of Ihde and Shusterman's main ideas about the body, which coalesce during the gameplay experience to enable players to become masters of an avatarial body and virtual topographical space. Somaster fiction discusses the different human-technology relationships that occur during gameplay and how a player is extended into the game world via controllers and avatars. This paper also touches on what a body is in accordance with Ihde and Shusterman, and how these concepts of bodyhood are reverberated within the game world.

Keywords

Postphenomenology
Embodiment
Avatar
Computer Gaming
Don Ihde



Introduction

Taking a leap of faith off the precipice of a virtual cliff edge, throwing a grappling hook and swinging onto a higher and more dangerous rock are essential elements of the action-adventure franchise games *Uncharted*¹. Throughout these games, this type of avatarial control affords a player an elevated feeling of aliveness, excitement and vertigo, which in many cases will supersede our own mortal limitations of such risky thrill-seeking corporeality and acrobatic dexterity. The avatarial adventurer, Nathan Drake, protagonist of the first four installments of the *Uncharted* series, typically carries out such maneuvers with ease in the game world. He leaps, swims, climbs, swings and rappels from one near impossible location to another, causing my hands to become slick with sweat on the game controller as I watch Drake cling onto a vertiginous ledge.

The significance of this sweat can be attributed to the high phenomenological investment of how my body is enfolded into the body of an avatar. Similar to Vivian Sobchack's renowned account of how her fingers feel the movement of onscreen hands,² a phenomenological relationship between a player and a game avatar is often at the heart of a computer game experience; particularly (but not exclusively) to when the avatar takes on a humanoid look and feel.

A player's relationship with a screen avatar is, to some extent, comparable with Jacques Lacan's concept of (mis)recognition that takes place during the mirror stage.³ This is the idea that an infant upon gazing at itself in the mirror for the first time will develop their sense of self by seeing a more complete and accomplished "I" in the mirror. Hitherto, the infant's experience of selfhood is what Malcolm Bowie describes as an "assemblage of fragmented limbs."⁴ The mirror image enables the child to mis(recognize) their reflective selves as being more complete and having greater control. This notion continues through adolescence to adulthood, in which the mirror has been replaced with the cinema screen, or in this instance, computer games, whereupon players mis(recognize) their self through the avatarial body. In gaming, players become assimilated with the avatar in what David Sundow has referred to as an "electro-umbilical hookup."⁵ As Sundow suggests, the avatar becomes an extension of the player's physical gesticulation.

Rune Klevjer's 'Enter the Avatar' puts forth a similar proposition, when he describes how the practice of avatarial control is akin to the

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mastery of a prosthetic marionette that is “hooked up to the player’s fingers by invisible strings.”⁶ As Klevjer asserts, gameplay progress is achieved by incorporating the avatar “as the on-screen extension of his or her own body, via the physical extension of the gamepad.”⁷ Consequentially the player experiences a form of shared identity that is necessary in order to progress through the game world.

In the field of computer games studies much has been written about this notion of shared identity and avatarial embodiment. James Newman’s ‘The Myth of the Ergodic Videogame’ for example considers the dichotomy of the player relationship in terms of an On-Line/Off-Line split.⁸ For Newman, On-Line pertains to the direct influence and execution of movement through haptic controls that a player exercises during gameplay. In contrast, Off-Line is used to consider any game element that disrupts this agential link. This may take the form of cut-scenes, loading screens, replays or stats about the player’s performance, such as position and lap time at the end of racing games. Fundamentally, Newman uses the idea of an On-Line/Off-Line approach to consider the complexity of the player relationship and to argue that computer games are misunderstood as a purely interactive medium. Newman’s paper foregrounds the idea that computer game players take on shifting roles as users and observers, which is a notion that this paper builds upon.

This paper also channels into other issues in game studies around embodiment, particularly Martti Lahti’s paper, ‘As We Become Machines: Corporealized Pleasures in Video Games.’ Within his work, Lahti describes videogames as a technologically enhanced other that replaces and extends a natural body. As he states, games produce a “symptomatic site of a confusion or transgression of boundaries between the body and technology that characterizes contemporary culture.”⁹ This is reminiscent of 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.”¹⁰ Similar to the work of Sherry Turkle,¹¹ Ted Friedman,¹² James Paul Gee,¹³ RT Nørgård¹⁴ and many others, Lahti’s work 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.”¹⁵

For Lahti, aesthetical developments from 2D to 3D graphics, combined with sensory apparatuses such as steering wheels, vibrating

controllers or any other haptic gaming device, enables a 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.¹⁶

The screen becomes a technologized form of vision that extends the player's body into its virtual realm, composing a hybridity between body and technology, where players rehearse the controls of their avatars until intuitively mastered.

Just as Drake in *Uncharted 4* negotiates and masters his environment through increased stamina and dexterity compared with that of a real-life body, so a player must proficiently negotiate their topographical game worlds through the mastery of an avatariar body. This mastery of the body in story-based computer games is what I call somaster fiction, a portmanteau of 'soma' and 'master', and a play on Richard Shusterman's concept of somaesthetics. Within this paper I combine somaesthetics (which I will describe in due course) with Don Ihde's postphenomenological hypothesis of human-technology relationships. Using Ihde's framework, I will parse the computer game experience into basic elements as a way to consider the core essentials of computer gaming from a phenomenological perspective. To begin this investigation, I turn to the theoretical framework of postphenomenology, set out by Ihde's philosophy of technology.

Postphenomenology

Don Ihde's postphenomenology is a philosophical concept that considers the relationship between a human body and a technology. Ihde's work considers the ubiquity of tools and how such devices shape human existence, which is pervasive across our lifeworld. Following Marshall McLuhan's *Understanding Media: The Extensions of Man*,¹⁷ Ihde's work considers how different technologies extend, limit and alter the ontology of human experience. From bicycles and automobiles that increase our bodily

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sense of speed through transport, to the extension of human vision through eyeglasses, Ihde's postphenomenology contemplates how technological apparatuses reconfigure the human body, altering natural subjectivity.

Postphenomenology follows the combined phenomenological philosophy of Martin Heidegger and Maurice Merleau-Ponty, each of whom respectively discuss concepts about the human body, primarily how it is the receptor for knowing the world around us (Merleau-Ponty),¹⁸ and how this receptor is modified and reshaped by tools (Heidegger).¹⁹ Ihde weaves these theoretical strands together to form his notion of postphenomenology, which I adopt within this paper by utilizing Ihde's human-technology relationships.

Ihde's work identifies four main human-technology relationships, which, as I am arguing, are the basic components that make up a computer game experience. These consist of: embodiment, hermeneutic, alterity and background relations. As a way to understand these relationships, beyond the description that follows, illustrations for each of these terms are presented in figures 1-4. Embodiment (figure 1) denotes a perception or experience *through* a technology as a tool becomes synthesized with a body in a particular way. Eyeglasses, writing utensils, a computer game controller 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.

A hermeneutical relation (figure 2), in contrast to the embodiment relationship of seeing or acting *through* a technology, is an experience *of* a technology. "Hermeneutic" therefore pertains to a technology that we read, such as clocks, thermometers, maps, books, computer game graphics or any other tool that marks a separation between body and technology. As I will show throughout this paper, computer games possess hermeneutic qualities, insomuch that a player always reads a screen.

An alterity relation (figure 3), 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. In computer games, adversaries, non-player characters (NPCs), complicated moving environments are all elements of the alterity relationship, which provides the pleasure of the challenge. As Ihde states, alterity is

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 me.²⁰

Finally, background relations (figure 4) are the encounters that humans have with a technology in the periphery of their awareness. Household lighting for example is a domestic instance of the “fringe awareness”²¹ that this technology has in relation to a human user. As Ihde asserts, background relations do “not usually occupy focal attention but nevertheless [condition] the context”²² for the human user. In computer games, background relations are a prime element of gameplay, particularly in the form of graphical virtual space, which plays a significant part in conditioning what an avatar can and cannot do, such as the way the locations in the *Uncharted* games condition Drake’s abilities and the player’s controls to climb, swim, drive or attack depending on the context of the level.

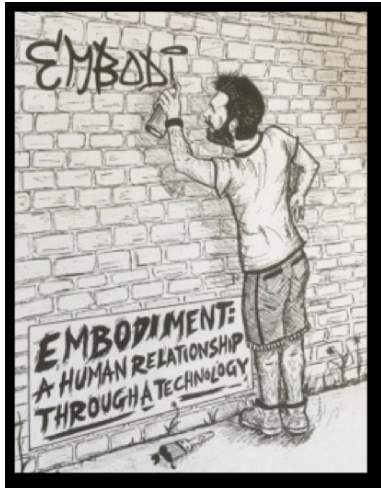


Figure 1: Embodiment Relation²³

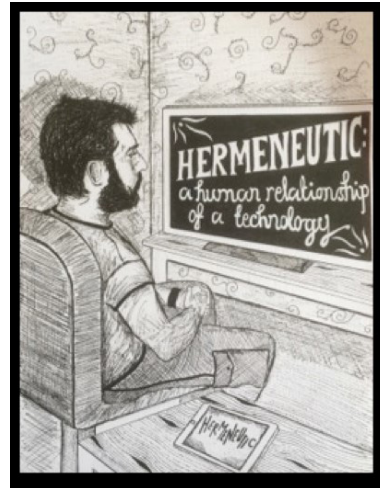


Figure 2: Hermeneutic Relation²⁴



Figure 3: Alterity Relation²⁵

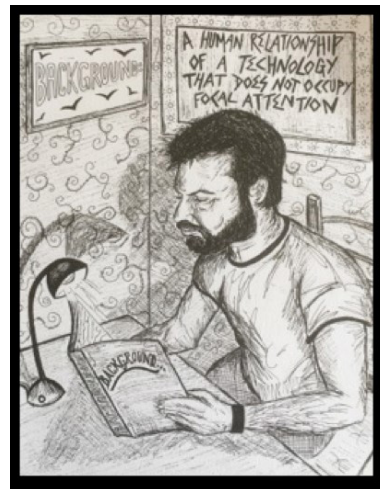
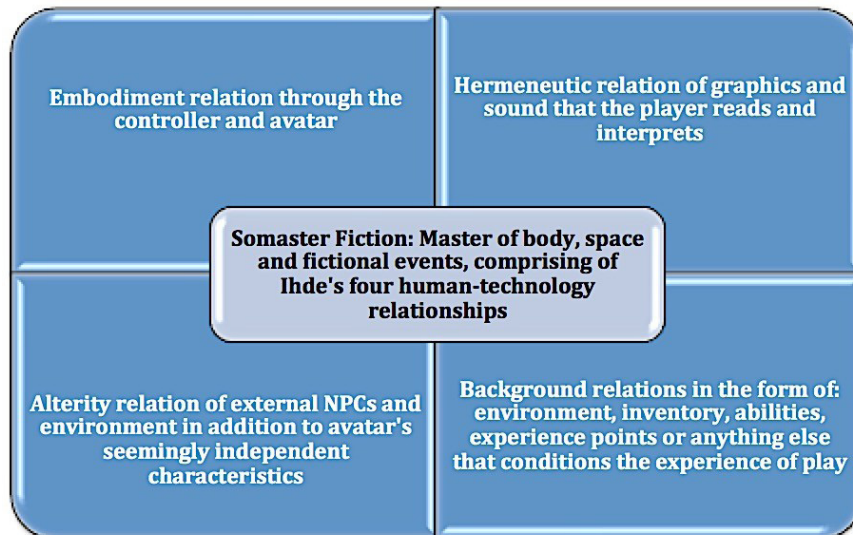


Figure 4: Background Relation²⁶

In computer gaming, all four of Ihde's human-technology relations are united, as background, alterity, hermeneutic and embodiment relations come together. The combination of these four human-technology ingredients, as I argue, structures the player to encounter the specific type of experience that I am calling 'somaster fiction'.



As noted above, Ihde's postphenomenology makes up one half of this term. The other half pertains to Shusterman's writings on the soma from his work on *Somaesthetics*.

Somaesthetics

In *Body Consciousness: A Philosophy of Mindfulness and Somaesthetics*, Richard 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.²⁷ 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."²⁸ 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.

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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 ourselves as bodies, enables us to convey values about our personhood to others. This is something particularly relevant in Rockstar's *Grand Theft Auto* franchise, where the opportunity to dress or move avatars in particular ways, such as dance challenges in *GTA San Andreas*,²⁹ will gain the player respect with other NPCs. Shusterman contends 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."³⁰ 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.

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,³¹ he argues that pragmatist aesthetics "has the purpose of bringing art and life together."³² For Shusterman, "pragmatism is a philosophy that emphasizes that the basis of thinking is acting, [and that humans] need to think and believe in order to act."³³ As Shusterman notes, wisdom, spirituality and perception is honed through cultivation of the body, a concept that is transferable to computer gaming. Within gaming, perception and knowledge of the game environment is similarly obtained through the corporeal mastery of the controller, avatar and virtual space.

Shusterman identifies three aspects in somaesthetics, consisting of the experiential, the performative and the representational dimension. The experiential is the element of experience that makes someone feel good or better through somatic practices.³⁴ 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.³⁵ 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.”³⁶ 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.”³⁷

Henrik Smed Nielsen’s book, *Playing Computer Games: Somatic Experience and Experience of the Somatic*, utilizes 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.”³⁸ 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.³⁹ He argues that such feelings of goodness are not limited to wholesome or ethical wellbeing (for most games exercise some level of violence) but rather, that such goodness resides in experiences that are “*satisfyingly rich*, through perceptual shock.”⁴⁰ 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.”⁴¹ His research is based 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’,⁴² Martins notes how such avatarial representations are presented as “systematically larger than the average American male [body], in relation to muscle mass.”⁴³ Similarly, Nielsen via Martins⁴⁴ identifies how the bodies of female avatars are usually portrayed much more thinly than the average female form.⁴⁵ This can be seen in characters such as Lara Croft from the *Tomb Raider*⁴⁶ franchise, Faith Connors in *Mirror’s Edge*⁴⁷ and Jill Valentine from the *Resident Evil*⁴⁸ series, amongst many others.⁴⁹

The performative aspect of Shusterman’s somaesthetics again translates coherently to computer games, in which motor skills through corporeal practice improve over time through haptic rehearsal. Consequentially, Nielsen highlights equilibrium between somaesthetics and computer games, a notion that is adopted and repurposed within this work. As I am arguing, avatar-based games utilize the performative, representative and experiential dimensions of the soma, which is channelled through Ihde’s concept of postphenomenological human-technology relationships.

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Through this corporeal combination of Ihde and Shusterman, players hone their gaming skills to become masters of a real and virtual soma experience. When playing an engrossing story-based computer game, I experience a feeling of excitement (Shusterman/Nielsen) and an experiential sense of anthropomorphism 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 (Ihde), which in turn permits me to access the 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 open world games such as *Skyrim*⁵⁰ or *Fallout 4*,⁵¹ all of Shusterman and Ihde's concepts are woven together, constructing a somaster style of game story. *Skyrim* and *Fallout 4* require a player to construct an avatar, choosing race, sex, gender, body type and appearance, which upon completion, spawns their avatar visibly into the game world.

In *Skyrim*, 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, who offer 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.

Experience and rehearsal within gaming become the key to somatic mastery of the topographical game space. 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. Each time I discover a new landmark, the location is automatically added to a map (enabling me to fast travel to the location whenever I choose). The map is thus filled in through my movements and actions, which by mastering, opens the game world to the player. Somaster fiction therefore equates to Ihde's embodiment, hermeneutical, alterity and background relationships, enfolded and linked into one another, uniting a virtual body (the avatar) with a real-life body (the player).

By using the controller, I embody, and am simultaneously extended by both the technological hardware of the apparatus and the virtual avatar; both become extensions of my corporeality. During gameplay 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 bar whereupon it will disappear from view, retreating into the background of the game experience. This background relation thus 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.

In *Skyrim*, 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. When picking up items, they are stored within an inventory screen within the background of the game, ready to be equipped or put to use when the player requires them. Each item is assigned a weight value offsetting a carry value that my avatar can manage. If the avatar is overladen with inventory, movement becomes strenuous, and the avatar will not be able to run, while movement on the controller will feel heavy and sluggish.

Such detail offers the player a sense of realism, where real-world gravitational rules are loosely established in the virtual. This offers familiarity while allowing the player to make bespoke decisions about what to carry and leave behind, inevitably steering the course of events into a customized experience of fictionality. The embodiment and background relationships work in relation to the hermeneutical graphics of the game and the alterity of the enemies, challenging the player through combat. 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. As Torben Grodal proclaims in his writings about computer games, the key to advancing through the experience of computer gaming relies upon the repetition of cognition and motor skills that must be practiced until mastered. Gaming is thus a process of repetitive rehearsal⁵² that is predicated on the sequence of "unfamiliarity and challenge, then mastery, and finally automation."⁵³ This investment of rehearsal, time and experience within *Skyrim* or any game, unlocks power ups, greater endurance and skills for the avatar and player's body through the combination of Ihde's four relationships.

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The somaster body is about mastery, control and improvement over an avatarial body through repetitive practice, which falls in line with Shusterman's concept 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, is enjoyable and makes a player feel good through perceptual shock in a controlled environment. 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, which to recapitulate, is mastery of the soma through the engagement between the body and technology of the controller and avatar.

Present and Absent Avatars

Now that a preliminary understanding of somaster fiction has been established (through Ihde's four human-technology relationships and Shusterman's somaesthetics), the following section will flesh these ideas out by analyzing three different types of avatarial experience. Here I will be considering somaster fiction and the playing body through present and absent avatars. I begin with the visibly present, fast-paced action avatar popularized in game franchises such as *Uncharted*, *Skyrim* and *Grand Theft Auto*. These agile and forceful avatars that require sustained input from the player will be compared with slower and more methodical types of games. As I will demonstrate, such games often utilize imperceptible absent avatars, which I explore through the thought-provoking game *The Novelist*. Finally, I combine the fast-paced present avatar with the slower methodical absent avatar to consider a different type of playing experience through *This War of Mine*. To begin, I now consider the action game and the visibly present avatar. This opens with a brief discussion about what a body is (through Ihde) and its relationship to tools (through Heidegger).

Present Avatars

In games such as *Skyrim*, *Red Dead Redemption*,⁵⁴ or franchises such as *Fallout* or *Grand Theft Auto*, to name a few, a player works their way through a world and a story by way of an avatariar body. This virtual body has undergone significant transformation through the developmental epochs from early computer consoles. Andrew Burn and Gareth Schott have addressed this idea in their work, 'Heavy Hero or Digital 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*,⁵⁵ 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 hybridized 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 avatariar 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).⁵⁶

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Gallagher's ideas resonate with Ihde's, who similarly recognizes the breakdown of the body into two components that he terms *body one* and *body two*.⁵⁷ Primarily, this is Ihde's hypothesis that the body is both a motile, perceptive, sensing being in the world, which he calls *body one*. *Body two* is the term Ihde uses to highlight how a body is also structured as 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', a concept he adapts 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'.⁵⁸

What Laing describes and Ihde adapts can be considered in relation to the avatarial game body.

When playing any avatar-based story game, 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 use the buttons on the controller. 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.⁵⁹

Heidegger's ready-to-hand affords the user praxis or a 'practical behavior' rather than a theoretical one. Praxis binds a human user and a technology in a process of withdrawal; a term that denotes a temporary fusion between a user and an external technology as one withdraws into the other. In the act of gaming, for example, the controller or avatar withdraws into the grip and actions of its user. The controller/avatar temporarily fuses with its user, tracing their corporeality whilst at the same time changing their world, which in gaming affords the player to access the virtual topography of the game world. 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."⁶⁰

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 synthesized 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, when gaming, one does not focus on the avatar or controller, but rather looks and acts through them to the task at hand. Here we are reminded of Newnan's distinction of an On-Line/Off-Line split, which draws similarities with Heidegger's ready-to-hand and present-at-hand terminology.

Present-at-hand 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 Jeremy Wisniewski notes, the act of hammering does not require the user to think about the hammer explicitly, instead focus goes *through* the hammer to the terminus of the nail. However, if the hammer should break or get misplaced, it ruptures this task, causing the user to then think about the hammer explicitly. A comparison can be made when something happens during an Off-Line moment of a computer game, such as a cut-scene, which takes the player out of the action and prompts them to view their avatar as a character rather than see through it as a tool.

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As tidy as Martin's idea is, that an avatar possesses both ready-to-hand and present-at-hand traits, 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 his range of human-technology relations, which can be dissected into embodied, hermeneutic, background and alterity relations, which as I am arguing, are the essential components that formulate somaster fiction.

This can be understood 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, while the game world acts as a background relationship, enabling the avatar to act in a particular way. As previously noted, these four relationships are also localized to the avatar itself.

In *GTA San Andreas* for example, players control a character named CJ. In order to master the game, 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.

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, which I feel through the controller. These fictional details highlight the hybridization 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 background of the avatar as an *absent presence*, existing unnoticed, but all the time changing.

The more time I spend utilizing CJ like a tool in activities such as driving, running or lifting weights, the more responsive this avatarial tool

becomes to these respective tasks. Kiri Miller's discussion of CJ in her book, *Playing Along*, considers how the multimodal two-part structure of the avatar (outlined by Burn and Schott above) works with the player to achieve goals. As Miller notes, "[t]he avatar has a programmed, unconscious repertoire of skills and behaviors, and the player must gradually acquire a parallel embodied knowledge of the commands required to animate him."⁶¹ As Miller observes, the CJ avatar has virtual 'autonomy' through the way a single button press on the controller will prompt him to carry out a complicated series of gestures. A button press near a car for example will prompt CJ to run to a car, open the door, grab and drag the driver and hurl them into the road. This single click of the button in my real-world space sparks an alterity of violence in the virtual. As Miller and James Paul Gee argue, this is an instance of surrogacy in which player, 'avatar-as-tool' and 'avatar-as-character', coalesce.

As Gee states, "the real-world player gains a surrogate, that is, the virtual character the player is playing."⁶² The player inhabits the avatar, taking on the goals of the surrogate as their own. Consequentially, "the player and the character each have knowledge that must be integrated together to play the game successfully."⁶³ Through "distributed knowledge"⁶⁴ and collaborative learning, the player and avatar acquire skills through practice. Rehearsal, as Miller and Grodal assert, is thus key to victory, a notion that Marie-Laure 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."⁶⁵

Absent Avatars

In action based gaming, avatars are usually presented as more physically resilient and morally free compared with our real-life bodies. In the game world we have infinite lives to take risks, we are also morally and lawlessly unbounded to hurt and kill other NPCs without hesitation. However, in recent years the ubiquity of independent games studios has ushered in a range of less action-oriented non-avatar games that focus more upon story through humanity and spirituality, which was significant in my playing experience of *The Novelist*.⁶⁶

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This non-avatar computer game is advertised as “a game about life, family and the choices we make.” This 3D graphical experience (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, his wife Linda who is feeling the strain of Dan’s workload 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, while attempting 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 usually 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,⁶⁷ with me as avatar without body. The ironic concept of using the lights to keep out of sight enables me to maintain influence over the Kaplans. The network of light paths allows me to move swiftly through the space, slip by the family 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 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 Kaplans 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 becomes entangled with the incorporeal (and cultural) side of what a body is, bleeding into the space of 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,

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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.⁶⁸

This elevated posture over the book, or keyboard in this instance, allows the reader to take on a superior position in which form mirrors content. In *The Novelist*, the superior position is felt as the player ‘reads’ the events from above and subsequently manipulates the characters through the combination of: embodiment (button pressing), hermeneutic (character reading) background (the house) and alterity (character reaction). The concurrence of these elements is what establishes 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.⁶⁹

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 as my embodiment relationship (through the keyboard) works with and affects the alterity of the Kaplan family. 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.

A final case study that I now want to consider is a game that unifies characteristics of the present/absent avatar games that I have discussed so far, to offer a different type of fictional experience. *This War of Mine*,⁷⁰ 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.

The game begins with the player controlling three to four characters within a large derelict house. Overseeing a group of characters such as this is what Gordon Calleja refers to as “the space of miniatures,”⁷¹ where the player is positioned outside of the action looking in at a group of characters (as opposed to the shared identity of a single avatar). In further contrast, the characters in *This War of Mine*, distinct from the avatars of action-based games, 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 perseverance of the household, which is what the aim of the game is, to survive until ceasefire. 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.

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

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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 can 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. 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.

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 their hunger 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 perturbation spreads outwardly to the other housemates who worry for her, concerned that she may not make it.

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, which is about survival, raising spirits and making wholesome decisions is also fundamentally about the complexity of being human and engaging with human-to-human contact. This subject matter, which is becoming prevalent in independent games, 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 paper has introduced the concept of somaster fiction, an avatarial game body through the building blocks of Ihde's human-technology relationships, and Shusterman's somaesthetics. Somaster fiction, as I have argued, requires repetitive practice of the body to master controls in order to push fictional game 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 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, such as the ones experienced in *The Novelist* or *This War of*

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Mine, ascends me to the status of an incorporeal superior 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 way that a player feels a positive sense of aliveness through gameplay. A player conducts corporeal input upon a controller 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 utilizes 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 a body is a dual entity 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. This was compared with non-avatarial or semi-avatarial games, such as *The Novelist* and *This War of Mine*. Through these games I considered how a culturally constructed body and real-life body are depicted through both the synopsis of the game's story, reinforced through the types and techniques of the controller. Somaster fiction thus serves as a postphenomenological approach to consider the elements that make up an avatar through the complexity of being a body and the body's engagement through human-technology relationships.

Notes

- 1 Sony Interactive Entertainment, 2007-2017.
- 2 Vivian Carol Sobchack, *Carnal Thoughts: Embodiment and Moving Image Culture* (Berkeley: University of California Press, 2004), 53.
- 3 Lacan's mirror stage is a concept in which an infant (mis)recognizes their own reflection for a more complete and proficient self in terms of motor-skills. In gaming it metaphorically provides an opportunity for a player to (mis)recognize their self into a game through an avatar.
- 4 Malcolm Bowie, *Lacan* (Harvard University Press, 1993).
- 5 David Sudnow, *Pilgrim in the Microworld* (New York, N.Y.: Warner Books, 1983), 21.
- 6 Rune Klevjer, "Enter the Avatar: The Phenomenology of Prosthetic Telepresence in Computer Games," in *The Philosophy of Computer Games, Philosophy of Engineering and Technology*, edited by John R. Sageng, Hallvard J. Fossheim and Tarjei M. Larsen. London: Springer Science & Business Media, 2012). Accessed 20 May, 2017.
- 7 Ibid.
- 8 James Newman, "The Myth of the Ergodic Videogame," in *The International Journal of Computer Game Research*, volume 2, issue 1 (2002), <http://gamestudies.org/0102/newman/>. Accessed 15 November 2017.
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- 10 Scott Bukatman, *Terminal Identity: The Virtual Subject in Postmodern Science Fiction* (Duke University Press, 1993), 196-97.
- 11 Sherry Turkle, *The Second Self: Computers and the Human Spirit*, 20th anniversary ed. (Cambridge, Mass.: MIT Press, 2005).

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- 12 Ted Friedman, "Civilization and Its Discontents: Simulation, Subjectivity, and Space," in *On a Silver Platter: CD-ROMs and the Promises of a New Technology*, ed. by Greg Smith (New York: New York University Press, 1999).
- 13 James Paul Gee, "Video Games and Embodiment", *Games and Culture*, volume 3, no. 3-4, (2008).
- 14 Rikke Toft Nørgård, "The Joy of Doing: The Corporeal Connection in Player-Avatar Identity." *Philosophy of Computer Games* (2011), available online at https://pure.au.dk/ws/files/36570060/The_Joy_of_Doing_The_corporeal_connection_in_player_avatar_identity.pdf.
- 15 Martti Lahti, „As We Become Machines: Corporealized Pleasures in Video Games,“ *The video game theory reader* (2003): 159.
- 16 Ibid., 163.
- 17 Marshall McLuhan, *Understanding Media; the Extensions of Man*, 1st ed. (New York,: McGraw-Hill, 1964).
- 18 Maurice Merleau-Ponty, *Phenomenology of Perception* (Routledge, 2002).
- 19 Martin Heidegger, J. Stambaugh, and D.J. Schmidt, *Being and Time* (State University of New York Press, 2010).
- 20 Don Ihde, *Technology and the Lifeworld: From Garden to Earth*, The Indiana Series in the Philosophy of Technology (Bloomington: Indiana University Press, 1990), 100-01.
- 21 Ibid., 109.
- 22 Ibid., 111.
- 23 © Sandy East Art.
- 24 Ibid.
- 25 Ibid.
- 26 Ibid.
- 27 Richard Shusterman, *Body Consciousness: A Philosophy of Mindfulness and Somaesthetics* (Cambridge, New York: Cambridge University Press, 2008), 1.

- 28 Ibid.
- 29 Rockstar Games, 2004.
- 30 Shusterman, 2008, 1.
- 31 R. Shusterman, *Pragmatist Aesthetics: Living Beauty, Rethinking Art* (Rowman & Littlefield, 2000).
- 32 Interaction Design Foundation, Interview with Richard Shusterman—'Somaesthetics – Ancient Culture' at <https://www.youtube.com/watch?v=Uxe73YY56Zg> (accessed 05 June 2016)
- 33 Ibid.
- 34 Shusterman, *Body Consciousness: A Philosophy of Mindfulness and Somaesthetics*, 27.
- 35 Ibid., 26.
- 36 Ibid., 28.
- 37 Ibid., 29.
- 38 H.S. Nielsen, *Playing Computer Games: Somatic Experience and Experience of the Somatic* (2012), 3.
- 39 Ibid., 98.
- 40 Ibid., 99.
- 41 Ibid., 101.
- 42 Nicole Martins et al., "A Content Analysis of Female Body Imagery in Video Games," *Sex roles* 61, no. 11-12 (2009).
- 43 Nielsen, *Playing Computer Games: Somatic Experience and Experience of the Somatic*, 102.
- 44 Nicole Martins, Dmitri C Williams, Kristen Harrison and Rabindra A Ratan, "Virtual Muscularity: A Content Analysis of Male Video Game Characters," *Body Image* 8, no. 1 (2011).
- 45 Nielsen, *Playing Computer Games: Somatic Experience and Experience of the Somatic*, 101-02.
- 46 Eidos Interactive and Square Enix, (1996-present).

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- 47 Electronic Arts, (2008-2016).
- 48 Capcom, (1996-2016).
- 49 The representation of gendered bodies in computer games is a vast field of study and something that is beyond the scope of this paper. Regardless of gender my argument is that the avatarial body is something that pluralizes 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 10 May 2017).
- 50 Bethesda Softworks, (2011-2016).
- 51 Bethesda Softworks, 2015.
- 52 Torben Grodal, "Stories for Eye, Ear and Muscles," in *The Video Game Reader*, ed. Mark J.P Wolf and Bernard Perron (New York: Routledge), 148.
- 53 Torben Grodal, "Stories for Eye, Ear, and Muscles," *The video game theory reader* (2003): 148. Emphasis in original.
- 54 Rockstar Games, (2010).
- 55 Square, (1997).
- 56 Shaun Gallagher, *How the Body Shapes the Mind* (Oxford, New York: Clarendon Press, 2005), 24.
- 57 Don Ihde, *Bodies in Technology*, Electronic Mediations (Minneapolis: University of Minnesota Press, 2002), xi.
- 58 R. D. Laing, *The Divided Self* (New York,: Pantheon Books, 1969), 67.
- 59 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).
- 60 J.J. Wisniewski, *Heidegger: An Introduction* (Rowman & Littlefield Publishers, 2012), 41.

- 61 Kiri Miller, *Playing Along: Digital Games, Youtube, and Virtual Performance* (Oxford University Press, 2012), 45.
- 62 James Paul Gee, "Video Games and Embodiment", 258.
- 63 Miller, *Playing Along: Digital Games, Youtube, and Virtual Performance*, 45.
- 64 Ibid.
- 65 Marie-Laure Ryan, *Narrative across Media: The Languages of Storytelling*, *Frontiers of Narrative* (Lincoln: University of Nebraska Press, 2004), 351.
- 66 Orthogonal Games, (2013).
- 67 McLuhan, *Understanding Media; the Extensions of Man*, 8.
- 68 Don Ihde, *Postphenomenology: Essays in the Postmodern Context*, *Northwestern University Studies in Phenomenology and Existential Philosophy* (Evanston, Ill.: Northwestern University Press, 1993), 97.
- 69 Ibid., 86.
- 70 11 bit studios, (2014).
- 71 Gordon Calleja, *In-Game: From Immersion to Incorporation* (Cambridge, Mass.: MIT Press, 2011), 90.

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