

The Realist Video Game as Performative Text

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Abstract

The medium of the video game has emerged at the end of a long history of realist representation spanning various media types. The disciplines of literary theory, semiotics, and visual culture have all sought to demystify how reality is depicted and how the arbitrary relationship between signs and their referents seem natural. Video games portray the real world in a complex way that incorporates processes of meaning making developed in image production and literature, but ultimately creates new processes of representation in itself. In particular, contemporary realist video games represent spaces in a way that use techniques of visual perspective that stretch back to Renaissance painting. The realist mode of video game representation seeks to portray bodies as seamlessly inhabiting their spaces through the scripting of performances through the game's own framework of movement and action.

This thesis uses the theoretical frameworks of game studies scholars Daniel Golding and Darshana Jayemanne to understand the video game as a performative text. *The Last of Us* is used as a case study for how the player character's continuous movement is broken up into discrete states that frame a specific relation between body and space. This case study is contrasted with the works of video game designer Robert Yang to explore the unique way the procedural animation technology of the ragdoll simulates bodies to challenge and denature assumptions about conventional video game representations of bodies in spaces.

Declaration

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I certify that except where due acknowledgement has been made, the work is that of the author alone; the work has not been submitted previously, in whole or in part, to qualify for any other academic award; the content of the thesis is the result of the work which has been carried out since the official research program; and any editorial work, paid or unpaid carried out by a third party is acknowledged.

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“Of course it's to do with Time, . . . everything that we imagine is real, living and still, thought and hallucinated, is all on the way from being one thing to being another, from past to Future, the challenge to us is to show as much of the passage as we can, given the damnable stillness of paint.”

– Thomas Pynchon, *Against the Day*

Introduction

Realism is a word that gets used a lot when we talk about video games. It is a word that has a history in the Western arts, referring to similar yet unique aesthetic phenomena across media forms such as visual art, literature, film, and animation. Aesthetic movements of realism across these art forms have played specific social functions, from the theological splendour of Renaissance painting, to the revolutionary motives of the French realist novel developed in the eighteenth century. The word realism gets used much more loosely when talking about video games, not referring to a specific genre or an eponymous aesthetic movement, but rather as an under-scrutinised and erroneously measurable concept (Wages et al.) which gives way to the design and marketing rhetoric that video games are getting more realistic over time. This straightforward, linear forecast becomes destabilised when considering the numerous ways realism in video games can manifest. As such, it is unsurprising that discourses of realism in video games has its ambiguities. When referring to realism in games, are we talking in terms of graphics or gameplay? This thesis takes the position that such a divide is not so easy to make. This thesis proposes a lens to interrogate the concept of realism

that reads the realist video game as a text which represents bodies and spaces with a lifelike orthodoxy. Such games inevitably take an attitude towards the social reality of what is represented, whether it is perfunctorily echoing a status quo or making a radical statement.

The research question this thesis explores is this: what are the techniques that contemporary realist video games use to represent reality and how can these representations acknowledge a social reality outside the game? To answer this question, this thesis looks to disciplines such as literary theory and visual culture to see how theoretical concepts re-emerge in the realist video game text. My research is situated in the emerging subfield of game studies which place video games in a continuity and convergence with media history. The doctoral theses of Daniel Golding and Darshana Jayemanne provide the frameworks I use to understand the video game as a remediation of existing technologies of perception, and as performances produced by a heterogeneous set of framing devices.

'Chapter 1: Realism on the screen' gives an overview of what realism has come to mean in literature and visual art and then traces the introduction of the video game into this media history. Representation is argued to be a culturally coded process rather than an intuitive effect of the reader or observer. A semiotic reading of how signs produce meaning and J.L. Austin's speech act theory complicate the notion that mimetic representation in literature can refer to an antecedent reality that exists outside the text. Visual culture theory is consulted to make a similar claim for the conventions of pictorial representation with regards to

perspectivist portrayals of depth. A brief history of computer graphics introduces the unique, simulated nature of pictorial representation in video games. A distinction is outlined between a game's graphics and the game's diegesis, using Dominic Arsenault and Audrey Laroche's model of Axial-Spatial Play to illustrate the various conventions video games use to map their simulated space onto the surface of the screen. Representation of bodies and space in video games are shown to have an inevitable model of abstraction.

'Chapter 2: Bodies in space' uses the video game *The Last of Us* as a case study to scrutinise the abstraction of bodies and space in realist video games. Daniel Golding's theory of video game space is used to show how video games remediate our perception of physical reality, in particular, through the technology of the railway and the architectural strategies of the 'script'. Darshana Jayemanne's taxonomy of video game performances and the productive effect of the framing device are identified in *The Last of Us* with respect to the abstraction of inventory systems, the broken continuity of space, and movement states. The portrayal of human bodies interacting with bodies of water in *The Last of Us* is used as an example of how realism is characterised by a selective acknowledgement of space.

'Chapter 3: Mimetic metamorphosis' illustrates the variety of ideologies and attitudes that realist representations in video games can have. The denaturalising movement of the game *QWOP* is contrasted with the typical framework of movement in realist games. The paternal nature of protective relationships in *The Last of Us* is tethered to the reverence for bodies in realism as according to animation theory. The

procedural animation technology of the ragdoll is contrasted in two uses: signifying death of bodies in the game *Far Cry 2*, and signifying the live metamorphosis of bodies in the work of art-game creator Robert Yang. The ragdoll is analysed as a salient device that disrupts the stereotypes of video game's serial aesthetics.

CHAPTER 1

Realism on the screen

Mimesis

There are many different types of realism. We can broadly define realism as a mode of artistic representation which seeks to show the world as it really is. But the premise of this definition has been largely contested in discourses of realism across art forms as various as literature, visual art, cinema, animation, and video games. Even within each of these individual media types, the concept of realism can be further specified depending on which associated aesthetic movement or theoretical framework is used to understand it. For instance, the classic realism of the nineteenth century French realist novel emerged contemporaneously with the July Revolution (Petrey 2005) and opposed itself to the conventions of idealism and romanticism, emphasising the particular over universal truth, and focusing on individual characters that characterised the conflicts of social forces and the contradictions of the historical era (Morris, 55). The formal differences between media types has fuelled debate

about representation. Literature represents through language and images represent through pictorial illusion. Video games inherit many of these forms of representation while at the same time creating something new. What is common throughout each of these media forms and aesthetic modes is that realism refers to an antecedent reality that exists outside of the text. Realist representation is characterised by *mimesis*, a term that derives from classical Greek drama and referring to actor's direct imitation of words and actions. Mimesis has developed a wide meaning to encompass the general idea of close artistic imitation of social reality and the representation of the real world in visual and verbal art (Morris, 5).

Can literature represent reality? Literary critic Sandy Petrey outlines two opposing sides to the argument: "From the point of view of critics like [Erich] Auerbach and [György] Lukács, realism represents a world ontologically independent of the terms in which it is represented; for Barthes and Johnson, ontological independence is a myth concealing the fact that representation can never depict anything except its own artifices" (Petrey 1987, 156). Petrey focuses on the verbal structures which make up language and claims that such verbal rules "cannot possibly represent, faithfully and reliably, what exists independently of those rules" (Petrey 2005, 144). The realist novel has developed a multitude of artistic conventions in different historical epochs and in different nations. Critics like Auerbach say that literary realism always responds to earlier styles of realism, rather than each realist work striving to represent the same, objective, perennial reality.

Can visual art represent reality? Studies of 'vision' and 'visuality' and 'ways of seeing' have developed significance since the publication of Hal Foster's edited collection *Vision and Visuality* in 1988. Since then, the discipline of visual culture has sought to understand the relationship between vision and sight. Such a relationship is similar to the distinction between nature and culture. The distinction visual culture makes is between the physical properties of how humans see and 'visuality' as a social fact (Mirzoeff, 89). Perspectivism in Western visual art has defined our internalised, cultural judgement of pictorial representations of reality through the illusion of depth. Various artistic movements that can be described as modernist have abnegated modes of naturalist visual representation in favour of abstract or non-representational figures and spaces. As art critic James Malpas says, even the most extreme form of abstract art has been called realistic; "No artist refers to their work as unreal, or anti-real" (Malpas, 6). However, breaks from a classical understanding of realism have occurred before modernism. In *The Art of Describing*, Svetlana Alpers makes a distinction between the styles of perspective in Italian and Dutch painting of the seventeenth century. Italian Renaissance painting utilised the mathematical modelling of linear perspective in the tradition of René Descartes to express an alleged natural experience of sight determined by monocular vision and a single, subjective viewpoint (Jay, 11). By contrast, Dutch painting of the period depicted depth through the observation of images created by the camera obscura and had an emphasis on surface detail. According to Alpers, Italian painting was a narrative genre and Dutch painting was a descriptive genre. There was never any

singular, empirical technique for creating the illusion of depth in painting. Each of the Dutch and Italian perspectival traditions were merely conventional. Erwin Panofsky famously criticised perspectivism as a ‘symbolic form’, as opposed to achieving a faithful mimesis. In the 1830s, the privileging of the body as a visual producer began to collapse the Cartesian distinction between an internal mind and an external reality viewed from a single viewpoint. An exemplary acknowledgement of the corporeality of the art of this period can be seen in “the piercing confrontation of eye and sun in the late works of [J.M.W.] Turner” (Crary, 34). Westerners have taken fifteenth-century perspectival techniques as a natural vision even though, for instance, Chinese artists had developed their own representations of depth as early as the tenth-century, depicted on long scrolls that didn’t have a singular viewpoint (Mirzoeff, 29).

Denotation and connotation

Literature and visual art both share a gap between their conventions of representation and the reality they seek to depict. The field of semiotics seeks to explain how meaning making occurs in the movement across this gap. Semioticians have laboriously detailed the arbitrariness of the relation of sign to signifier. Originally, in his writing on photography, Barthes made an analytical distinction between *denotation*, a sign’s literal or ‘commonsense’ meaning, and its *connotation*. Later, in *S/Z*, Barthes collapsed this distinction: “denotation is not the first meaning, but pretends to be so; under this illusion, it is ultimately no more than the last of the connotations (the one which seems both to establish and close the reading), the superior myth by which the text

pretends to return to the nature of language, to language as nature" (9). From this perspective, denotation is no more 'natural' of a meaning than connotation is. Rather, denotation is 'naturalised' in a way that Louis Althusser says hides the ideological process, and Theodor Adorno says hides the production that goes into making the sign. Despite Panofsky's claims that with visual perspectivism, anybody could look at the same realist image, no matter what their culture or literacy, and see the same thing, semioticians argue that no sign is purely denotative. A similar collapsing of an analytical distinction can be seen with the opposing notions of description and narration, or mimesis and diegesis, from literary theorist Gérard Genette:

"One may certainly (indeed one must) challenge this distinction between the act of mental representation and the act of verbal representation, between logos and lexis, but it amounts to challenging the very theory of imitation. . . . Literary representation, the mimesis of the ancients, is not, therefore, narrative plus "speeches": it is narrative, and only narrative. Plato opposed mimesis to diegesis as a perfect imitation to an imperfect imitation; but (as Plato himself showed in the Cratylus) perfect imitation is no longer an imitation, it is the thing itself, and, in the end, the only imitation is an imperfect one. Mimesis is diegesis." (Genette 1982, 133)

Performative realism

J.L. Austin's 'speech-act theory' of language use, outlined in a series of lectures later collected in the book *How To Do*

Things With Words, has been used by multiple theorists to think of realist texts as performative. Austin begins with the premise that language has more than merely a descriptive or constative function; words can be performances themselves. Through a speech act, one can “do things with words” like marrying, apologising, purchasing, naming, for example. The judgement of performative utterances goes beyond the ‘truth value’ of words; Austin refers to the term ‘felicity’ as the criteria of judgement of such acts which rely less on interpreting the meaning of the utterance and more on the social protocol which governs an interaction. For a policeman to say “you’re under arrest” while the suspect is not nearby, then such an utterance fails, because it fails to ‘secure uptake’ as Austin puts it, which is to say the proper criteria of authority, competence, and occasion are not met. This policeman’s utterance is considered infelicitous. For an official to say “court is now in session” and for a news reporter to comment on the fact that “court is now in session” are two different types of speech. The first produces while the latter merely describes. The official’s speech act can only succeed because of the conventions accepted by the socio-linguistic community in which it performs. By the end of his lectures, Austin has determined that his inaugural distinction between performative language and constative language is indefensible. For a description to be valid, it must be assessed by the same system of socially-specific conventions that empower verbal performance. The socio-linguistic codes which govern ‘uptake’ of a speech act are the same codes which determine whether a speech act is successful or not. Literary critic Sandy Petrey uses Austin’s speech-act theory to claim that “[a] speech-act vision of representation thus

imposes redefinition rather than abandonment of concepts like truth and reality. Instead of being evaluated on the basis of its conformity to the extra-verbal world, the truth of a statement can be determined only through the milieu in which it is made“ (1987, 155). If realism is characterised by representation, something which implies a distinction between referent and signifier, it is Austin’s speech act which destabilises this distinction.

Computer graphics

Realism in literature and art is codified through meaning making that ‘secures uptake’ through socio-linguistic cues and video games can be easily understood as performative. Realism in video games inherit the pictorial construction of vision, but are uniquely mediated through simulated graphical models. Video games create images, but these images are the result of a computational process of graphical rendering. Computer graphics initially developed in the 1960s and 1970s as a modernist artistic production characterised by abstraction. Formative computer graphics artists such as Lillian Schwartz and John Whitney of Bell Laboratories were part of discursive practices which constitute modernist art, like painting, sculpture, and experimental filmmaking (Darley, 42). In the 1980s, and in subsequent decades, computer graphics developed as a commercial enterprise where the strive for realistic visual representation through simulation became the main driver and graphics came to be described in terms of photorealism. The concept of photorealism was contemporaneous with the American art movement of the 1980s of the same name. The Photorealism art movement in painting sought to look like photography by reproducing the

conventions of the photographic apparatus: cropping, focus, film stock, and lighting. The Photorealism movement colluded with Pop Art's cult of the ironic, modern manufactured object. Often the objects portrayed in Photorealism signified escape and leisure (Malpas, 70). Photorealist paintings were distinguishable from photographs because they were different media and differently exhibited, and would only be confused for a photograph if there was a photographic reproduction of a painting. The Photorealism of computer graphics are different in that they are moving images, akin to film, television, or animation. Photorealist games are reproduced on the surface on a screen where film, television, and animation are also conventionally exhibited. It is not uncommon to judge photorealistic games in terms of how distinguishable they are from cinema. This leads to a similar effect that Andy Darley identifies in the realist animation in the style of Disney, in which aesthetic codes of narrative cinema are mobilised and integrated into hand-drawn cartoon forms (1997, 19).

In terms of video games becoming more graphically realistic, I identify this, as Andy Darley describes the fruits of technological advancement of computer graphics, as a greater impression of plasticity, texture, look, weight, and movement; a fidelity of 'surface accuracy' (Darley 1990, 18). Realistic graphics are characterised by real-time rendering techniques such as textured polygons and normal maps; methods of representation that simulate our understanding of physical properties of light. Darley claims that the computer is a technology designed for simulation and "its capacity for both manipulating existing images and generating *non-indexical* ones mark it as a technology crucial to the

increasing autonomisation of the sphere of representation” (1990, 59). Darley claims that rather than being a return to the perspectivalist tradition which has dominated representation and since overthrown by modernism, the computer’s capacity for simulation creates a new area of image production.

The relationship between video game graphics and video game images can be formally likened to the relationship between musical notation and sound. A process of transformation must take place from the non-visual symbols to their visual interpretation. The role that simulation plays in computer graphics is an important one that aids the game designers and artists. A common technique video games use to render trees, for instance, is a Lindenmayer System, typically called an L-system for short. The video game middleware engine SpeedTree uses L-Systems to simulate the rendering of trees to suggest forests. Forests rendered with SpeedTree are often a luxury of detail. A 3D artist could model a unique tree in a 3D modelling program but technology like SpeedTree is used to offload the labour needed to create dozens or hundreds of unique trees to represent the notion of a whole forest. Christopher Kelty and Hannah Landecker’s article “A Theory of Animation: Cells, L-Systems, and Film” provides a useful description of the relationship between a computer’s simulation and the visual image that results from it:

“L-systems, as designed by Lindenmayer, do not by themselves generate visual images. They are only strings of numbers or letters. In order for an L-system to look like an organism, layers of “interpretation” must be applied to turn them into graphical images.

First the symbols must be given an interpretation as graphs (points, lines, and nodes with particular directions or angles); then these graphs must be given a visual interpretation (a cylinder for a filament or a stem, a disc for a cell, an angle of branching, etc.)." (Kelty & Landecker, 54-55)

When players parse realistic video game images, not only is there a learned and subjective way of seeing reality, there is also a naturalised and arbitrary relationship between the image and the game's simulation which lies beyond it. The realist video game tends to collapse the two processes of perception together.

Axial-Spatial Play

It is undeniable that advancements in computer technology have produced ways of simulating space but, much like the heterogeneity of perspectival techniques in painting, spatial simulation is varied and subjective. Video game images are ultimately rendered on the two-dimensional surface of the screen. Video games have always sought to make a three-dimensional reality intelligible on the surface of the screen, even in so-called two-dimensional games. At the 2013 DiGRA conference, Dominic Arsenault and Audrey Larochelle presented a paper called "From Euclidean Space to Albertian Gaze: Traditions of Visual Representation in Games Beyond the Surface" in which they propose what they call a model of Axial-Spatial Play to account for how a representation of three-dimensional space is mapped onto the two-dimensional surface of the screen. Arsenault and Larochelle adopt the term 'diegesis' to refer to "the perceptual impressions of the

represented fictional space" (9) and outlines some of the ways various games produce a tridimensionality of diegetic space. The various spatial conventions in games have developed common labels such as "side-scrolling," "top-down," and "isometric." In top-down games, the X-Y axes of the screen imply X-Z diegetic movement, sometimes with limited, vertical Y movement implied with shadows or scaling of sprites. In a side-scrolling game like *Super Mario Bros. 3*, the player moves from left to right in the X axis of the surface of the screen, but the character is moving forward and backward with no diegetic lateral axis, as though on a narrow strip. Rather than portraying a cross-section of a three-dimensional world, the player is "presented a space whose third dimension cannot be worked out in any meaningful way" (Arsenault and Larochelle, 10). In the sequel, *Super Mario World*, there are levels in which Mario and enemies can cling to and climb on grates on either side of the grate's implied Z-axis. In a side-scrolling game like *Double Dragon*,

"The spatial structure of these games could be said to feature an explicit X-Z diegetic playfield space, with the X-axis being projected on the Y (vertical) axis of the X-Y surface space of the screen; as gamers move their characters up on the screen, they are led to imagine their characters receding farther away from the viewpoint. The diegetic Y-axis is often minimized to the fact that characters can jump, or fall down in pits. Where the playfield in parallel projection ends on the surface Y-axis, a backdrop usually presented in perspective projection stretches out across the upper region of the screen, and is typically made up of city buildings or a skyline carefully orchestrated depth cues to stimulate an immersive gaze into a coherent-looking space." (Arsenault and Larochelle, 12)

Arsenault and Larochelle's framework accounts for simple, conventional models of mapping movement onto the surface of the screen. A more complex framework is required to account for the simulated, polygonal 3D space with a wandering viewpoint that has become default, particularly in the studio-produced, commercial video games typically identified as 'AAA' games. Such an analysis will be taken up in Chapter 2. Before I turn to the frameworks which account for perception and performance of 3D realist space, Arsenault and Larochelle address a crucial gap between representation and simulation. In the case of representation of bodies in video game spaces, the rendered polygons of the image aren't abstracted in the same way that bodily collisions are.

"The 3D polygons used in creating a video game world do not have real physical substance, but are merely visually displayed objects. Their immaterial nature allows them to intersect and pass through one another without hindrances; hence, sculpting a 3D model world does not by itself result in a navigable space or physically sound world. The hundreds and thousands of polygons that make up a detailed 3D character or object must be doubled with invisible polygons that make up a considerably simplified "collision box" or "bounding box", which the programming will use to manage the positions of objects and prevent any unauthorized collisions – namely, to save characters and objects from falling through the floors or going through walls." (Arsenault and Larochelle, 15)

The gap between a 3D video game's visual mimesis and its actionable diegesis alludes to the complex relation between representation and simulation.

Video game realism

Bodies are more than just spatial entities. When bodies are represented in video games, their abstraction between mimetic representation and the simulated diegesis comprises aspects of the body beyond the spatial. For instance, abstractions of bodily health are common in action games. In the first-person shooter game *Far Cry 2*, the heads-up displays (HUD) displays a health bar which depletes when the player takes damage. If the bar depletes past a certain threshold, it will begin to actively drain, representing the character 'bleeding out'. If the bar empties, the player will die. To stop the 'bleed out', the player must seek cover and press a button to make the character perform a context-sensitive restorative manoeuvre. This manoeuvre is portrayed by one of many context-sensitive animations, viewed from the game's first-person perspective. The game selects from a pool of animations to play, corresponding to whatever source damaged the player most recently. If the player took fire damage, the character will pat out a fire on their pants. If it was a car exploding, the character will yank out a shard of metal embedded somewhere in their body. If the animation plays out successfully without being interrupted by any further damage, then the player's health will be partially restored and they will be back in action.

This is obviously an abstraction of how bodies behave in the real world. Video game models of player health are abstracted

in many ways across various games with varying degrees of under- or over-explanation. A science fiction game like *Mass Effect* can give its healing system a magic name like 'medikit' to explain how the player is able to magically heal their body. A fantasy game like those in the series of *The Elder Scrolls* games can explain it away using a 'magic potion'. *Far Cry 2*, on the other hand, isn't science fiction or fantasy. Each of the aforementioned games share similar graphical techniques of visual naturalism and are supposed to be believable worlds. Each of the games must also handle a similar abstraction of bodies in a flux of ability and disability.

Far Cry 2's restorative animations end up with the effect of being a necessary artifice dressed up in a veneer of realism. The artifice that characterises contemporary realism is something that has slowly crept up on us. Systems that represent the health of a body have been around for a while but realistic, AAA games have adopted the single-value, numerical abstraction of health from earlier games that portrayed diegetically identical bodies but in a pictorially abstract visual field. Habituation to the representation occurs in *Space Invaders* as it does in more recent games like *Far Cry 2*, but since the latter represents the body with a lifelike orthodoxy, the artifice is more pronounced. If such conventions are so ingrained that game genres are stuck with them, video games are increasingly required to take an attitude towards what they depict. Earlier games might have 'gotten away' with their portrayals of bodily violence and gore but contemporary games find themselves in a position where the artifice of their bodily representations are increasingly visible and untenable.

A friend of mine once anecdotally described the effect of the healing animation from *Far Cry 2* along the lines of: “it doesn’t explain why you’re all of a sudden able to shrug off all those wounds, but it does something so shockingly visceral that it *shuts you up*.” This is how, I claim, realism in contemporary video games functions. Video game realism doesn’t need to prove the fidelity of its simulation. Higher simulation often requires more framing devices, more encumbering artifice, whether that’s a larger range or combination of button presses to account for, or prolonged processes of habituation. Neither does video game realism need to create a visual illusion that would make the game optically indistinguishable from reality. Realistic video games need only to ‘shut you up’.

Bodies in space

Introduction

Realistic video games are realistic in many ways. Representations of *the body* and *space* are key to realism. The two notions are closely intertwined. This thesis will focus on a specific definition of realistic games in which the player directly controls a body moving through space. In Arsenault and Larochelle's article mentioned in Chapter 1, they contrast games which use parallel projection to those which use perspective projection. Parallel projection is "object-centered and tries to simulate the actual physicality of an object in its representation", for example the game *Sim City 4*, in which the player has a disembodied managerial role, viewing the city from above, rendered according to exact angles and measurements of an ideal space, rather than that of an actual gaze of a human floating from above. By contrast, perspective projection is "subject-centered and tries to simulate human vision" (7) and is common to most contemporary AAA games that feature prominent characters. Such games, like Arsenault and Larochelle's example, *Red Dead Redemption*, use perspective projection "because it invites an immersive stance toward the game space, and gameplay revolves around

exploring and inhabiting that space rather than managing it from a removed position" (9). The realistic games I focus on use perspective projection which, like Italian Renaissance art, implies a unique human viewpoint, and as such, the games are typically focalised through a player character. The games I identify as realistic take a specific attitude towards the way that body inhabits the space.

Perception of space informs the movement and transformation of bodies, both in video games and in the real world. I will look at the intertwining of video game representations of bodies and spaces through two theoretical frameworks. Daniel Golding's PhD thesis "Moving Through Space and Time: A Genealogy of Videogame Space" comes from the field of research that looks at the convergence of contemporary media forms and understands how a perception of space in video games is constructed from similar 'ancestors', to use the Foucauldian genealogical metaphor. One such media 'ancestor' that video games and cinema share is the technology of the railway, which will be discussed. Darshana Jayemanne's PhD thesis "'Sins Against Video Time': Gaming, Performance, Experience" provides a framework to understand of video games as performative texts. Rather than isolate individual performances into discrete units, Jayemanne acknowledges the discrete and continuous modes of performance involved with play.

As a case study for these frameworks, I will examine the 2013 action game *The Last of Us*. *The Last of Us* is primarily a game about chaperoning bodies through space and it is through the way it represents this that we can understand how contemporary video games make claims of realism. The

player controls the character of Joel, an old man accompanied throughout the game by a teenage girl, Ellie, through a zombie apocalypse. Despite the absurd and unrealistic premise of a zombie outbreak, critics often spoke about *The Last of Us* in terms of its realism. The game was described by Chris Suellentrop in a review for *The New York Times* as “nearly photorealistic”. The notion of realism framed some of the game’s most common critiques, both positive and negative. The game has relatable characters which are built up over the course of the game’s play as well as its story. The game’s achievement in marrying story and play to establish a relationship to the characters garnered the game a common criticism that the emotional thrust was discordant with the perfunctory, overzealous murder committed by the player characters, a trope of the game’s action-adventure genre mapped awkwardly onto a story about empathising with its very human protagonists. Sometimes this would go as far as to test the limits of the game’s claims to realism, as Kirk Hamilton in a review for *Kotaku* writes: “No man, not even one as fearsome as Joel, could realistically take down as many dozens of armed hunters as he does”. And as Tom Bissell in a review for *Grantland* says: “For all its simplicity and mechanically meaningful tedium, however, for all its attempts to ground its mechanics in something that could be described as video-game realism (which is reality shorn of 93 percent of what makes it real), *The Last of Us* does have its *gameisms*.” The term ‘gameism’ points to the emerging gap between the game’s representation and reality, and signifies that these gaps are understood as inescapable conventions of video games at large, rather than unique to a specific genre or to *The Last of Us* in particular.

Mediation of space

While Arsenault and Larochelle's framework outlined in Chapter 1 accounts for how projection techniques create vision on the two-dimensional screen, a perception of fully simulated 3D space in games requires looking beyond perspective to other technologies. Daniel Golding's thesis shows that our perception of video game space is created through the remediation of machines like the railway: "Each media form utilises the perception of railed travel to allow audiences to engage with the screen as a mediator, and as a frame for understanding mediated movement. The railway may offer a framework for mediating space and movement, but it also contains and limits spaces of travel" (33). While it is tempting to claim that video games simulate a cinematic visual style, it is more useful to understand both video games and cinema as having a shared visual language. Golding compares Thomas Edison's short film *Panoramic View of the Golden Gate*, to the opening of the video game *Half-Life*: "The landscape is passed over with a disinterested consistency in both journeys—through the railed movement of the train, the viewer and player are allowed some distance from the exterior of their containing carriage. Observation is privileged above all" (38). The railway, which theorist Wolfgang Schivelbusch held as a symbol of modernity, had a "transformative force on space and time of the culture of the nineteenth century" (Golding, 39) in which landscapes became "viewed through a window with a relatively fixed frame and associated apparatus."

Golding traces the significant influence of *Half-Life* on how games create narratives in contemporary AAA games. Half-

Life pioneered the 'scripted sequence' in which cutscenes play out inside the diegetic space of the game. A scripted sequence is a piece of high-level, modular code that executes as the player plays, which the player experiences, but whose logic and code is hidden from the player. Golding draws a connection between the video game scripted sequence and Theodor Adorno's critique of the Wagnerian 'phantasmagoric': "in the staging of Wagner's operas, particularly his four-opera long *Der Ring des Nibelungen* cycle, at his custom-built opera house in Bayreuth, the orchestra was hidden beneath the stage, the theatre was darkened to a greater degree than usual, and all visual emphasis was placed on the stage" (Golding, 92). Adorno identifies the phantasmagoria as the "systematic concealing and mystification of the processes of production" and Golding quotes theorist Jonathan Crary who says that "[b]y making the orchestra invisible, Wagner made the source of the music unidentifiable and hence mystified" (Crary 1999, 251). Golding identifies this same phantasmagoric effect in the scripted sequence of the video game in which the product is stressed over the production of the work. Golding's uses the example of the game *Bioshock Infinite*, in which not only are there key scripted sequences that play out identically every time for each player, but the actors and environment are all concerned with "shaping the player's vision, and by extension, their movement" (120).

The ability for the player to act in a space is intrinsically tied to and structured by their sense of perception. Golding uses the idea of the 'script' to describe an active sense of looking. In games like *Bioshock Infinite*, the player's motility must be produced by a set of architectural strategies (84). Golding

cites Michael Nitsche's theoretical modes of video game environment. One of these is the 'tracks and rails' mode. This mode is not limited to placing the player on a literal rail where only one-dimensional movement is possible, like a racetrack, or the opening of *Half-Life*, but the 'tracks and rails' mode also occurs when a video game space obfuscates the rails with visual distractions like an impenetrable forest, or with narrative devices which render mono-directional gameplay logical, for instance, a character giving a military advancement move. In the case of *Bioshock Infinite*, objects that are well lit are the ones that must be interacted with to advance; "the scripted path is the illuminated path" (87).

Speech acts and ludic acts

Darshana Jayemanne's framework in "Sins Against Video Time" allows us to understand video game texts as what he calls 'performative multiplicities'. Jayemanne takes philosopher J.L. Austin's theory of language use as having a performative function, as outlined in Chapter 1, and makes a connection to how player performances in video games are framed through the use of 'framing devices' and judged on a criteria which determines the performance's 'felicity'. After distinguishing speech acts from descriptive language, Austin makes a further typology of speech acts. *Locutionary acts* are the producing of intelligible sounds, which make the basis of all speech acts. *Illocutionary acts* are locutions that carry a certain force in themselves because they structurally conform to a convention accepted by a particular speech community. *Perlocutionary acts* achieve some given aim by the informal performance of various locutions and illocutions. To say "I warn you..." is illocutionary, but to give someone a

shocked expression is perlocutionary, even though both act might accomplish the same preventative goal. Jayemanne maps this distinction onto David Myers' semiotic distinction between two major game genres: action and adventure games. The action game is characterised by its use of first-order, denotative signs. The adventure game is characterised by second-order connotative signs. Combining Austin's locutions with Myers' semiotic game genres, Jayemanne creates a taxonomy of performances that is made up of 'illudic' and 'perludic' acts. Illudic acts are interactions *in* which something playful is done and tend toward tactility and an identification with of audiovisual experience with the field of action. It is *in* pressing a button that Mario jumps. Perludic acts are interactions *by* which something playful is done and are primarily associated with connotative semiotic processes and 'hypermediate' framing devices, such as HUD elements. It is by selecting an item from a menu that the player equips a weapon in *Final Fantasy VII*. Illudic acts, as Jayemanne says, "tend toward tactility and an identification of audio-visual experience with the field of action" and "tend to . . . manipulate or destroy virtual bodies" (187). The significance of illudic acts to virtual bodies and the immediate visual habitation of space makes illudic acts important to video game realism.

What Austin's 'broadly legalistic' framework, as Jayemanne describes it, fails to take into account are utterances which are poetic in nature like those performed on a stage, utterances which Austin refers to as 'parasitic', are classified as "those that are 'framed' as being artistically mediated, ironic or in some other sense not to be taken in earnest" (39). The 'frame' is Jayemanne's contention that for such

utterances to be parasitic, there must be some signifier to distinguish it from the ordinary. “The class of signifiers that signify the difference between earnest and playful or artistic performances are *frames*: a title, a proscenium arch, a ticket price, a gallery or exhibition space, and so on” (26). Jayemanne argues that a frame does more than just signify whether a performance is ‘parasitic’ or not. Jayemanne introduces the concept of the ‘framing device’ from Angela Ndaliansis’s book *Neo-Baroque Aesthetics and Contemporary Entertainment*. Ndaliansis characterises contemporary media forms such as video games as being linked with baroque art which has a “lack of respect for the limits of the frame.” In baroque art and neo-baroque, the relation between viewer and artwork is disturbed as the artwork creates “the illusion of the merging of an artificial reality into the phenomenological space of the audience while simultaneously inviting the spectator to recognise this deception and marvel at the methods employed to construct it” (Ndaliansis 158-159). The frame has a productive effect as it can “place performative demands upon those encountering the work in question” (Jayemanne, 27).

Framing devices in *The Last of Us*

The most apparent framing device in *The Last of Us* is the antirealist visual elements that refer to the inventory of objects the player can hold. Superimposed icons that prompt a button press emerge over the game’s realist images whenever the player is close enough to an item to pick it up. Joel wears a satchel on his back which is visible in the third-person camera framing in which most of the game takes place. Every weapon the player is able to equip

is represented by a 3D modelled object that sits on the character's person when not in use. Each time the player discovers a new weapon there is a scripted animation which plays out of Joel picking up the weapon in a much slower and deliberate manner than he picks up other, familiar items. When Joel looks at the weapon, a HUD prompt appears with the message "New Weapon" and a tutorial window pops up to show how to use it. By distinction, collectable items that the player can pick up that are used to craft consumables such as shivs and health-kits, are transferred into the off-screen space of the satchel in a much looser representation. The 3D model simply disappears and is represented by a number increment in the inventory menu. Joel's animation is a rough hand grab which almost never lines up with the object. Items in the player's inventory disappear from the game-world into off-screen space, with the player's omnipresent satchel as a visual signifier to frame this.

Continuity of space in *The Last of Us* is constituted by articulated breaks punctuated with framing devices to facilitate the player's motility through diegetic, or what Jayemanne calls 'actionable' space. Continuous monoplanar movement is ruptured with vertical movement in the cases of water and ladders or sidling across a narrow gap. Doors and cutscenes constitute breaks. Driving a car and getting on horseback change the player's movement, most particularly with the level of acceleration and turning speed. In the case of mounting animals and vehicles, the input of tilting the control stick, which governs and abstracts the proprioception of Joel's body, changes to map onto Joel's coercing of the horse's movement or the driving of a car. Sometimes literal filmic montage is used to communicate that time is passing,

or a journey has been made. In contemporary realistic video games, not only must mimetic, three-dimensional space be portrayed on the two-dimensional surface of the screen, but the forms of movement and space must map onto the game's various abstractions and models of actionable space. *The Last of Us* also features movement states that change with no vehicular explanation: The distinction between moments of safety and moments of danger has a number of cues, including throttling your movement as characters talk to each other. The game signifies some scripted sequences with a montage-like scripted editing of movement states. Rather than cutting up space and time like a filmic montage, the game is cutting up states of movement. States of movement permit varying degrees of control. The game slows the player's movement speed to pace sequences where there is only scripted dialogue and no combat. Movement states are heterogeneous to account for diegetic frameworks of movement, like vehicles or moving ladders, but movement states are also heterogeneous to account for extra-diegetic breaks when the game's narrative requires strict pacing of the characters.

In *The Last of Us*, there is no framing of space with a map or compass, so the game is dedicated to communicating where the player must go with architectural tricks like those Golding identifies in *Bioshock Infinite*. The player spends all of *The Last of Us* with an understanding of the space at the human level without any greater framework of space. By comparison, Jayemanne raises the example of two open world games in *The Elder Scrolls* (TES) series. In *TES IV: Oblivion*, a compass and quest marker was added to the HUD, effectively

'digitising' the space that was perceived as primarily analogue in the previous game *TES III: Morrowind*:

"While these developments have ameliorated the tendency of Morrowind players to get lost and frustrated as to how to proceed in their quest, the ability to snap between locations and a compass that marks the direction to the next goal can make the sheer size of the Oblivion game world seem modest by comparison. Similarly, the compass indicator reduces the incentive to spatial exploration given that players are presented with the most direct way to their destination." (Jayemanne, 34)

The Last of Us relies on the environmental design to guide the player, often featuring landmarks in the distance that orient the player, and utilises actors such as Ellie to move ahead so that the player can follow.

Submerged bodies

Movement through space seems continuous but it is actually a discontinuous space constituted by movement in and between a number of framing devices. In *The Last of Us*, Joel has an analogue freedom of monoplanar movement across flat terrain. The player becomes habituated to the range of movement available and becomes habituated to a 'visual dictionary' of objects which can be climbed on and over, as well as doors and gates which can be opened. Jayemanne uses the example of movement on a ladder in FPS games, an example that is also pertinent to *The Last of Us*, "moving between vertical elevations by means of such a convenience often involves awkwardly toggling discrete on/

off states rather than a continuous spatiality” (89). The way bodies move into water has the effect of being continuous and free but it is more useful to conceptualise the framework of movement of water as what Jayemanne would call “an articulated break which is . . . punctuated by multiple other framing devices” (126).

Opening a door is a self-contained act, whereas moving into a ladder or sidling across a narrow gap shifts the avatar into a new movement state; player can move analogously up and down the ladder or across the ledge. This new state is signified with a shift in camera angle and movement becomes one-dimensional. The default movement state can only be returned to when the player moves to either end of the one-dimensional interval. While in this state, the rest of the world, including enemies, continue to function but the player’s ability to shoot is redacted. The performance persists with the rest of the world.

Another example of broken movement is when the player is submerged into water. Like the break which occurs to allow for vertical movement with a ladder, the player’s seemingly continuous monoplanar movement is interrupted with multiple movement states, quantising submersion into three states: fully out of the water, swimming on the surface of the water, and fully beneath the surface of the water. The third state, complete submersion, is signified by the camera dipping under the water surface, depicting the aquatic environment with a clarity as though seen through goggles, and muting the soundscape with an aural sensation of being underwater. This tripartite relation of bodies and water simulated in *The Last of Us* is not a universal or even

entirely conventional structure. The first-person game *Half-Life 2*, for instance, is more continuous in its movement into water. *Half-Life 2* has no visual representation of the player character's body, and features a silent player-character.

A graphical technique held over from Naughty Dog's previous *Uncharted* series, which carries over a lot of core technology to *The Last of Us*, depicts the characters' clothes as saturated and glistening with specular light whenever they have been in water. The shader effect depicts a pictorial plasticity of wet denim and it is the type of visual detail which contributes to a grounding of the character into the world. The visual illusion of wet clothes imbue a sense of corporeality; that the player might almost feel the extra weight the character pulls around with the water soaked clothes. The effect is so nice that one might even fail to notice that all of Joel's weapons and items remain entirely functional, gunpowder unsoiled, after being submerged. Would Joel's arsenal truly stop working if it was submerged underwater? Or, for that matter, and at risk of getting into debates about Hollywood gun logic, would all the paper notes Joel is carrying remain legible, as they are to the player when navigating the inventory system? There is no narrative reason why Joel's gun should jam up and were the game's diegetic narrative and systems to acknowledge it, it would be a nuisance for the player, who must frequently navigate flooded environments throughout the game. It is enough that the game requires the player to float wooden palettes around to transport Ellie across bodies of water, something sufficiently explained by the narrative logic established with nothing more than three words from Ellie: "I can't swim."

Joel's satchel is unaffected by external forces. Joel can dive into the water without taking the satchel off. The satchel is attached to Joel as much as the player is, divorced only from Joel with a hectic ephemerality. The satchel only comes off his body when entering a crafting menu, which seizes player motility entirely without putting the rest of the game-world in stasis. The game-world may at any point include encroaching enemies or local crossfire. The effect, in fact, emphasises the localised sensation of passing time all the more. The player might hold their breath as a timer ticks by until a crucial health-kit is crafted so that they might expire when the satchel is back on.

Performative realism

The first thing to acknowledge about representations of bodies in video game space is what we generally refer to as the inevitable level of abstraction. As Golding says, even when video game spaces resemble real world ones, the characters do not have the same 'affordances' that people in physical real-world space do. A video game's framework of movement produces the player's perception of space. In the realist video game, such a framework is made to be seen from its ultimate, phantasmogoric experience. Due to the phantasmogoric nature of the player's scripted performances, it is tempting to describe video game frameworks of movement and action as being 'limiting' or 'restrictive' when they fail in achieving a realistic effect. A symptom of this can be seen in the marketing rhetoric of technological progress that strives for more realism in video games which conflates 'more realism' with a strive for 'more freedom'. As Jayemanne identifies, game design and game marketing rhetoric "are

often devoted precisely to covering over infelicitous breaks, failures, lacunae, towards presenting a coherent world that ‘immerses’ players in the actuality of a single performance” (105). Another symptom is Sullenthorpe’s use of the word ‘gameisms’ as an acknowledgement of the conventions which emerge from the gap between game and reality. Golding and Jayemanne’s frameworks allow us to understand the production of space and action in positive terms; as having a productive, rather than restrictive effect.

The Last of Us uses a lot of complex animation to make the characters feel as though they inhabit the immediate space they are in. Techniques of animation in video games tends to be contextless; a character’s animated walk cycle in one area is typically the same animation as a walk cycle in any other area. Over time, game developers have developed more techniques to diversify this homogeneity of movement and to have characters react in ways players haven’t anticipated in conventions in video games. *The Last of Us* is ripe with such techniques, layering audio-visual techniques on top of the typical video game animation. When the player moves into cover, Joel will rest his hand against the obstacle he is hiding behind. Pulling the trigger to snap Joel into “iron-sights” mode will cause him to make the noise of a sharp intake of breath. When Joel and Ellie are talking to each other, each of the characters will turn their heads in the direction of each other even when the player has the freedom to move and orient Joel’s body in the game’s general play. In this micro performance, the game’s simulation solves the compromise between the player’s and character’s gazes.

As much as *The Last of Us* sets out to achieve a 'seamless' bodily spectacle with its inhabitation in the world, it has inevitable breaks. There are times where Joel does not react to his environment. There are some supplementary objects littered throughout the game-world like gumball machines that the player can walk into. The gumball machines will fall over in a physics simulation colliding with the world geometry and the character's hitboxes. However, Joel won't react when knocking them over. Unlike when taking cover, he will exhibit no animated bodily reaction, just as though the gumball machine didn't exist. Video game realism is selective. A game's mise-en-scene and movement states alike draw attention to certain things and ignore others. The gumball machine exists in the game world, but it isn't important. On the one hand, these seams don't break the experience. As Jayemanne says, games are highly and uniquely robust in the face of error (102). On the other hand, it is the very nature of the aforementioned seams which highlight the 'framing devices' at play in games.

Mimetic metamorphosis

Alternative realisms

In the previous chapter I have described the artifice of realist game conventions of bodily and spatial representation. These conventions come off to most players as natural. But so far I haven't addressed the ideological function of the naturalisation of these conventions. The word naturalisation was originally used against the ideology of realist representation. Theodor Adorno and Max Horkheimer in their book *Dialectic of Enlightenment* argued that the realist novel was a product of consumer culture that was complicit with the functional rationalism of the Enlightenment. According to the Frankfurt School, of which Adorno and Horkheimer belong, in showing the world 'as it really is', realism insisted that it showed the world 'just the way things are and will always be', becoming a deception of the masses, enclosing human existence within a capitalist system (Morris, 19). This negative approach to realism sees realist texts as recreating an existing reality without changing it; what Adorno would

call “merely existing reality” (2000, 38). But realism can have a socially productive effect and game designers can use the conventions of realist representation to denaturalise as much as they are used to naturalise. The initial neutrality of my approach does not have the intention of pretending the concept of realism isn’t complicit in perpetuating stereotypes, for instance, but to provide a way of understanding realism that can account for the realist games that take a radical and counter-hegemonic attitude.

Jayemanne claims that gaming’s metamorphic bodies relate to certain problematic tendencies in representations of difference:

“Bodily differences tend to appear as a rigid set of binary oppositions (male/female, black/white), as denoting a certain ‘class’ of being and so on. . . . The very advantages that serial aesthetics offer for designing metamorphic bodies that are highly oriented towards performativity and tracking dynamic movement through space are also liable to carry with them unexamined essentialist assumptions. . . . the serial aesthetic acts as a stark binary that snaps gender and performativity together in complete accordance with sexist stereotypes and imagery promulgated by the culture industries. . . . In games with realist graphical ambitions, player character models that differ from the ideals promulgated by consumer culture (young, fit, able, heterosexual, cis, white) remain comparatively rare”
(Jayemanne, 138)

The way video games script player performances and create space is always abstracted, no matter how lifelike the graphical representation may be. Video game players know about the necessary artifice of simulation evidenced by how it is highlighted and elaborated into parody in some games. For example, the web game *QWOP* is a running simulator in which movement is controlled not by simply tilting a control stick or pressing a directional button, but by orchestrating presses of the Q, W, O, and P keys on a keyboard to contort and contract the muscles of the character's legs. *QWOP* deliberately readjusts the illudic act of movement in most games to a per ludic one that is only felicitous when the unnatural contortions of muscles are pulled off. Jayemanne's reading of *QWOP* points to its denaturalisation of player movement: "By thematising the hundred metres dash event and the Olympiad, often considered an apogee of athletic prowess and human movement, *QWOP* denatures assumptions about the proprioceptive relation between player and avatar (which is usually conceived – or at least marketed – in terms of vehicular embodiment and empowerment)" (128). *QWOP* deliberately pulls the lens of simulation in too fine in what could be called a hyper-simulation.

Paternal protection

The design of *The Last of Us* aims to create an emotional bond between Ellie and Joel and the player by developing the relationship not just in the cutscenes but in the gameplay. The protective nature of this relationship has a paternalism that is archetypal of AAA games. In an article called "Stay Close to Me: Performing Paternal Masculinity in Videogames," Mark Pajor identifies *The Last of Us* as

exhibiting the identity of 'paternal masculinity' of the traditional video game hero, taxonomising the game alongside its contemporaries *The Walking Dead* and *Heavy Rain*. *The Last of Us* uses its apocalyptic scenario for traditional paternal masculinity to emerge as a necessity (Pajor, 139). Pajor references the fact that Joel doesn't let Ellie defend herself when in danger because such self-sufficiency would put the paternal male status as protector in peril. Joel gradually acquiesces to Ellie's demands that she be permitted to wield a weapon and Ellie indeed proves to be capable at defending herself, even moreso than many of the adult characters. Pajor goes on to say that Joel's subsequent impalement by a pipe at a late point in the narrative is an example of how "[t]he unsustainability of paternal protection is emphasized . . . by showcasing the fragility of the male body" (140). *The Last of Us* follows Joel's impalement with a sequence of play where the player stumbles out of danger to Ellie's lead in Joel's fragile state. Joel's movement is slow and when the player walks near any object, Joel leans onto it to support him. The game also makes the player's ability to aim and fire a weapon clumsy and ineffective while still prompting the player to fire on enemies. Ellie ultimately has to protect Joel during this entire sequence. The next act of the game is predominantly played from the perspective of Ellie, who has to care for an inert Joel.

The reverence of bodies is important to *The Last of Us*, particularly because the plot is about zombie infection which is shared through the mutilation of a bite from a zombie. The plot device which drives the characters across cities and country is Ellie's uniquely zombie-immune body, which must be taken to a group of survivors called 'The Fireflies' so that

they might discover a cure. David Surman, in his Masters thesis “CGI Animation: Pseudorealism, Perception and Possible Worlds”, cites animation theorist Paul Wells when he identifies the importance of the body in realist animation, something inherited from the Disney tradition. Late Disney animations, particularly those of the Disney-Pixar studios, take a realistic attitude towards the body that allows bodily mutilation to be treated as horrific, and can sustain this even in films like those of the *Toy Story* series where the characters are toys, rather than humans. This is distinct from the slapstick, non-realist animations of the Warner Brothers tradition, like the work of Tex Avery, in which the characters’ bodies can be exploded, dissected, or corrupted, and then be fine in the next scene, without breaking the flow of the cartoon (Surman, 40).

The Last of Us’s acknowledgement of the instability of paternal protection is undermined by its ending in which Joel refuses to sacrifice Ellie for the sake of finding a cure to the zombie mutation infection and then lies to Ellie about it. The game invites speculation from its audience as to whether Joel made the right or wrong decision, a decision that is left out of the player’s control. Answering this question isn’t in the scope of this thesis, but I bring it up only make the point that the reverence of bodily representation throughout the game’s multiplicity of performances is crucial to provide the means for this debate to occur.

Ragdolls and death

One technique that many video games use to signify the death of bodies is the use of ragdoll physics. Ragdolls are

form of procedural animation that physically simulates the bones of a 3D animated character to collapse their body to the ground. When a human or animal dies, the animations that govern the transformations of the body are replaced by a simulated ragdoll behaviour so that they can die in a way that reacts to the geometric context of the body. The ragdoll is a recent technological technique that was predated with canned death animations, often pantomimic 1980s movie-style collapses. The canned animations, although subject to clipping into the geometry of the environment, look more realistic than their simulated analogue counterpart; ragdolls often ignore the body's instinctual lunges to protect their fall, for instance.¹ Bodies don't tend to turn immediately to jelly when pushed around, like the ragdoll does. Both the ragdoll and canned animations typically signify the same thing: the death of a body and its removal from the game's diegetic simulation.

I shall return briefly to my inaugural example, *Far Cry 2*, as a foil for how simulation of bodies in AAA games treat death. When anything in *Far Cry 2*'s game-world hurts an animal, all of which are herbivores and harmless to the player, the animal will immediately stop its animation and drop to the ground in a physical simulation of how bodies collapse; a ragdoll. Clint Hocking, the creative director of *Far Cry 2*, said this was to give “no feedback” and to discourage any perlocutionary conditions that might make the game glorify the killing of animals (“Tone Control”). Here, ragdolls represent a lack of feedback. Subsequent *Far Cry* games, of which Hocking was

1 However, recent technological advancements are able to blend these two approaches, moving towards hybrids of authored and simulated animation (Zordan et al.).

not involved in the development, feature carnivore animals which attack the player. *Far Cry 3* encourages the player to skin animals and collect their hide to craft them into satchels which allow the player to carry a larger inventory. This has the opposite effect of “removing from the simulation” and the peruludic acknowledgement of animal slaughter in providing inventory upgrades effectively digitises the performance of killing animals, since something diegetic is now accomplished by the act. Mimetic representation of the animal’s death remains a constant between the games. The ragdoll in *Far Cry 2* is used to represent negative feedback, whereas in *Far Cry 3* it represents positive feedback. But both of these representations treat the ragdoll as signifying death.

While ragdolls signify a ‘removal from the simulation’ of the broader systems of the game, ragdolls are themselves a simulation of physics. Such exemption from simulation doesn’t extend to the way the parts of the body are moved by gravity to collide with the physical geometry of the game world, and even to collide with the player character. During my play of *The Last of Us*, and many other games, I find myself walking into dead ragdolls and kicking them around which makes them react spasmodically, distracting and sometimes shocking me into thinking a body is still ‘alive’, and hence still a threat. After all, such a gotcha jump scare is not uncommon for horror games. But the simulation of inert, ragdoll bodies bopping down staircases isn’t necessarily an infelicitous performance. The work of Robert Yang uses procedural animation as a productive diegetic representation that extends beyond using the ragdoll to signify death.

Ragdolls and life

Robert Yang is an independent game developer who has developed a salacious oeuvre of small alternative art-games. Yang's "sex games" are short, interactive vignettes with explicit themes that explore homoerotic or masculine bodies. Yang's games use the graphical techniques of AAA games and feature a common, realistic-looking 'hunk' character model that is typical of the generic AAA while male protagonist. To date, Yang's games include *Succulent*, an interactive music video where the player guide's the hunk character to lick a suggestively phallic ice-cream; *Hurt Me Plenty*, a game where the player consensually spansks the hunk character's bottom; *Stick Shift*, a game where the player strokes the gear stick of a moving car as though pleasuring it to sexually excite the driver; *Cobra Club*, a game where the player uses an interface similar to that of a typical video game 'character creator' to customise the appearance of the hunk character's penis so as to take photos of it on a camera phone to send to other fictional users; and *Rinse and Repeat*, a game where the player showers with other hunk characters to clean their bodies.

In a companion essay to *Hurt Me Plenty*, Robert Yang asks the question "How do bodies change?" and more specifically with regards to how video games tend to portray the metamorphosis of bodies. To begin his answer, he looks to the keyframe animation of animated bodies in 3D games in which human artists author the keyframes and the computer interpolates between them: "game engines loop through these sequences of poses to transform bodies along predictable trajectories. When you walk in a game, you're

basically looping over those same 2 choreographed steps over and over.” The structure of *Hurt Me Plenty* is split into three consecutive performances, each of which involve the player using a LeapMotion controller or a mouse to perform gestures which animate some bodily interaction with their hunk partner. First, a hand shaking motion negotiates the boundaries with the partner, revealing a safeword. Next, the same gestural input maps onto a violent slap which shudders the partner’s body. The player can slap as much as they like but their partner will eventually give the safeword. Afterward, the same gestural motion is used to stroke the partner’s back as an ‘emotional checkup’ and ‘aftercare’. The animation that responds to the spanking is driven by a ragdoll-like procedural animation, not an authored keyframed animation or motion-captured performance. Where the ragdoll in other games, including *Far Cry 2* and *The Last of Us*, is used as a salient cue to signify death or “a removal from the simulation,” Yang asks “What if we used ragdoll simulation to simulate life?” The significance of the ragdoll in this case is only felt because of the reappropriation of ‘AAA aesthetics’, as Yang calls it, or what I would simply call realism as understood by contemporary video games. *Hurt Me Plenty* is a game that deliberately sexualises the white male body and turns it into something salient where it is usually treated as a default in video games. The use of realistic graphics in this game is crucial because it is a detournement of the way procedural animation technology characteristic of AAA games is typically used. Yang: “The only . . . gay husbands I know are from ads depicting Highly Successful Gay Husbands strolling on white sands after their krav maga class, wearing tasteful pastel prints and smiling

stubbled open-mouth smiles. It's difficult to take that gay male ideal—white, rich, muscular masculine—and reconcile it with my increasingly schlubby student-loaned Asian beer belly.”

As Daniel Golding says, the way we understand space and motility is directly tied to our perception of it. Space is mediated through a game's own framework. Yang says that the ragdoll can give us a unique understanding of space: “Player-made glitch videos of combusting skater boys in *Skate 3* transform the game's benches, lampposts, and awkward crawlspaces into opportunities for transcendence. The mannequin sliding downward in *Stair Dismount* makes each step felt, unlike many 3D games where the stairs are secretly plastered over into invisible ramps. What better way to talk to the world than by planting your face into it?” The ragdoll in *Hurt Me Plenty* is a living body, unlike the ragdolls of *Far Cry 2* or most contemporary action games like *The Last of Us*. When the player does slap the submissive partner into exhaustion, it collapses. “Does the performance ever end? Is this body happy and elated, or is it tired and all used-up?” asks Yang. The end of a video game performance is difficult demarcate. This questioning of the body's performance is not unsimilar to the uncertainty I discover when trawling into corpses in *The Last of Us*, unsure if their response is that of a ragdoll or a coming-back-to-life. But unlike *The Last of Us*, or *QWOP*, the hyper-simulation of *Hurt Me Plenty* takes an attitude towards its representation of bodies which enables the statements and questions of social reality of gay bodies that Yang raises.

Conclusion

Games are a muddle, as Jayemanne says to commence his thesis. Realism is also a muddle. Video game representations of spaces and bodies are far from natural; they are remediations of ways of seeing and communicating that are bound by socio-linguistic structures.

Video games are divorced from reality in many ways. Video games exist on the screen. The impossibly complex behaviours of bodies are ultimately mapped onto the arbitrary controls of a gamepad. Video games are about fictional characters and fictional worlds that will never be as detailed or accurate as their physical counterparts. And yet, video games still strive for realism.

Rather than lament that video games can never be real, we can understand the gaps between the game's representations and our perceived reality as productive in their own right. Not only are the images produced by video games an abstraction of something in real life, but they are abstractions of the game's own simulation and understanding of space. Our perception of these two concurrent abstractions collapse into each other through the course of play.

The pictorial illusion of so-called photorealistic games only holds steady in screenshots. As soon as games show movement, any resemblance to a photograph is forfeited. When playing video games, the frame of the screen that separates the game from reality gives way to a multitude of internal framing devices, constantly collapsing into each other. Arsenault and Larochelle's model of Axial-Spatial Play shows how a game's diegetic sense of space is mapped onto the surface of the screen. With such a reading, so-called 2D games can still represent realistic physical space: the 3D space we all live in. Games which fully simulate navigable 3D space might seem to come closer to reality than 2D games, but the way we perceive the space is always mediated by the way we can move through it.

The Last of Us simulates fully three-dimensional space but focalised with a human body. Movement in *The Last of Us* is therefore limited by the ways humans move. But the interaction between bodies and space is more than simply a geometric phenomenon. The portrayals of human bodies traversing and engaging with bodies of water in *The Last of Us* are abstractions that must be designed selectively. The fact that Joel can swim and Ellie cannot has ramifications on the paternal power structures that the game must acknowledge. It is impossible to be realistic without being political.

What distinguishes realist video games from ones which eschew realistic representation in favour of abstract and anti-realist aesthetics is precisely the social reality that video games cannot get away with when depicting the real world. This is not to say that deliberately abstract and anti-

realist games cannot engage with a social reality or make political commentary. Rather, this is to show how the specific conventions that video games as a medium have developed inherit the baggage of many aspects of the Western art canon and the media landscape of today. Robert Yang's sex games wouldn't have 'gone viral' or had the same artistic thrust if the games didn't adopt the visual language and technologies of AAA games and their archetypal characters.

Within the scope of this thesis, it has only been possible to engage with a limited set of theories that try to understand realism, and an equally limited set of video game examples with which to study them. The concept of realism is as blank and open as the hollow polygonal geometry that makes up most AAA games. Video games are performative texts, just like literature and visual art is performative. A reader, observer, or player existing in a social context fills the emptiness of realism. This blank nature of realism leaves it open to be abused as a veil of an apolitical stance. For instance, in an article called "The Tyranny of Realism", Adrienne Shaw points out *Assassin's Creed III's* selective faithfulness to historical accuracy through the game's omitting of the city of Philadelphia, the site of many major events in the American Revolution. The designers of the game blamed the "wide street, grid system plan of the city, arguing that it was too boring to navigate compared to more European-like cities of New York and Boston" which were included in the game presumably because they were more agreeable to the game's framework of movement and action.

Contemporary game studies is grappling towards understanding how video games can have aesthetics

that can change something about our social reality. Ben Abraham's article "Video Game Visions of Climate Futures" points to the game *ARMA 3* and its portrayal of renewable energy installations. The game-world is littered with wind farms, solar panels, and tidal power buoys, and an absence of any structures associated with fossil fuel power generation. These iconic architectural and landscape signifiers collude with the game's military-realist, near-future setting to create positive visions of a future in which resistance to low-carbon and renewable economies have been overcome. Abraham compares the game favourably against games like *Fate of the World* and *Anno 2070*, which try to engage the player with didactic and persuasive game mechanics.

Further study of aesthetics and representation in video games is becoming increasingly pertinent. Realism is subjective, diverse, culturally specific, and anything but natural. Rather than simply showing the world as it is, the realist video game can have the power to change the world it seeks to depict.

Bibliography

Works cited

- Abraham, Benjamin. "Video Game Visions of Climate Futures: ARMA 3 and Implications for Games and Persuasion." *Games and Culture* (2015): n. pag. Web. 21 Sep 2015.
- Adorno, Theodor W. "The Actuality of Philosophy." *The Adorno Reader*. Ed. Brian O'Connor. Trans. Benjamin Snow. Oxford: Blackwell, 2000. Print.
- Alpers, Svetlana. *The Art of Describing: Dutch Art in the Seventeenth Century*. Nachdr. Chicago: The Univ. of Chicago Press, 2009. Print.
- Arsenault, Dominic, and Audrey Larochelle. "From Euclidean Space to Albertian Gaze : Traditions of Visual Representation in Games Beyond the Surface." *DiGRA 2013: DeFragging Game Studies*. 2013. Web. 8 Oct 2015.
- Austin, John Langshaw, and James Opie Urmson. *How to Do Things with Words*. Cambridge, Mass: Harvard Univ. Press, 2009. Print.

- Barthes, Roland, Richard Howard, and Honoré de Balzac. *S/Z*. Trans. Richard Miller. Oxford: Blackwell, 1990. Print.
- Bissell, Tom. "True-Ish Grit." Grantland. 12 June 2013. <<http://grantland.com/features/tom-bissell-naughty-dog-latest-game-last-us/>> Web. 9 Feb 2015.
- Crary, Jonathan. "Modernising Vision." *Vision and Visuality*. Ed. Hal Foster. Seattle, WA: Bay Press, 1988. Print.
- ---. *Suspensions of Perception: Attention, Spectacle, and Modern Culture*. Cambridge, Mass.: MIT Press, 2001. Print. October Books.
- Darley, Andrew. "Second-Order Realism and Post-Modern Aesthetics in Computer Animation." *A Reader in Animation Studies*. Sydney: John Libbey & Company (1997): 16-24. Print.
- Darley, Andy. "From Abstraction to Simulation: Notes on the History of Computer Imaging." *Culture, Technology and Creativity in the Late 20th Century*. Ed. Phillip Hayward. London: John Libbey. 1990. 39-64. Print.
- Edison, Thomas. *Panoramic View of the Golden Gate*. Edison Manufacturing Company, 1902. Film.
- Foster, Hal, ed. *Vision and Visuality*. Seattle: The New Press, 1998. Print.
- Gaynor, Steve. "Tone Control Episode 4: Clint Hocking." N.p. Audio Recording. Tone Control. Web. 12 Oct 2015.

- Genette, Gérard. "Frontiers of Narrative." *Figures of Literary Discourse* (1982): 127–44. Print.
- Golding, Daniel. "Moving Through Space and Time: A Genealogy of Videogame Space." The University of Melbourne, 2014. Print.
- Hamilton, Kirk. "The Last of Us: The Kotaku Review." Kotaku.com. 29 July 2014. <<http://kotaku.com/the-last-of-us-the-kotaku-review-511292998>> Web. 9 Feb 2015.
- Horkheimer, Max, Theodor W. Adorno, and Gunzelin Schmid Noerr. *Dialectic of Enlightenment: Philosophical Fragments*. Stanford, Calif: Stanford University Press, 2002. Print.
- Jayemanne, Darshana. "'Sins Against Video Time': Gaming, Performance, Experience." Diss. The University of Melbourne, 2013. Print.
- Jay, Martin. "Scopic Regimes of Modernity." *Vision and Visuality*. Ed. Hal Foster. Seattle, WA: Bay Press, 1988. Print.
- Kelty, Christopher, and Hannah Landecker. "A Theory of Animation: Cells, L-Systems, and Film." *Grey Room* 17. Fall (2004): 30–63. Print.
- Lasseter, John. *Toy Story*. Walt Disney Pictures, 1995. Film.
- Malpas, James. *Realism*. London: Tate Gallery Publishing Ltd, 1997. Print.

- Mirzoeff, Nicholas. *An Introduction to Visual Culture*. 2nd ed. New York: Routledge, 2009. Print.
- Morris, Pam. *Realism*. London: Routledge, 2003. Print.
- Ndalianis, Angela. *Neo-Baroque Aesthetics and Contemporary Entertainment*. Cambridge, Mass.: The MIT Press, 2005. Print.
- Pajor, Mark. "Stay Close to Me: Performing Paternal Masculinity in Videogames." *Re: Search, The Undergraduate Literary Criticism Journal at the University of Illinois at Urbana-Champaign* 1.1 (2014): 126–145. Print.
- Petrey, Sandy. "Castration, Speech Acts, and the Realist Difference: S/Z versus Sarrasine." *Publications of the Modern Language Association of America* (1987): 153–165. Print.
- ---. *In the Court of the Pear King: French Culture and the Rise of Realism*. Cornell University Press, 2005. Print.
- Shaw, Adrienne. "The Tyranny of Realism: Historical Accuracy in Assassin's Creed III." *First Person Scholar*, 29 Oct 2014. <<http://www.firstpersonscholar.com/the-tyranny-of-realism/>> Web. 15 Oct 2015.
- Surman, David. "CGI Animation: Pseudorealism, Perception and Possible Worlds." Diss. University of Warwick, 2003. Print.
- Wages, Richard, Stefan M. Grünvogel, and Benno Grützmaker. "How Realistic Is Realism? Considerations

on the Aesthetics of Computer Games.” *Entertainment Computing–ICEC 2004*. 216–225. Print.

- Yang, Robert. “Bodies, I Have In Mind.” *Zeal*. Medium, 15 Aug 2015. <<https://medium.com/mammon-machine-zeal/bodies-i-have-in-mind-d84fe23afe13>> Web. 15 Oct 2015.
- Zordan, Victor Brian, et al. “Dynamic Response for Motion Capture Animation.” *ACM Transactions on Graphics (TOG)*. Vol. 24. ACM, 2005. 697–701. Print.

Games cited

- *Anno 2070*. Ubisoft Blue Byte. 2011.
- *ARMA 3*. Bohemia Interactive. 2013.
- *Assassin's Creed III*. Ubisoft Montreal. 2012.
- *Cobra Club*. Robert Yang. 2015.
- *The Elder Scrolls III: Morrowind*. Bethesda Game Studios. 2002.
- *The Elder Scrolls IV: Oblivion*. Bethesda Game Studios. 2006.
- *Far Cry 2*. Ubisoft Montreal. 2008.
- *Far Cry 3*. Ubisoft Montreal. 2012.
- *Fate of the World*. Red Redemption. 2011.
- *Half-Life*. Valve Corporation. 1998.
- *Half-Life 2*. Valve Corporation. 2004.

- *Heavy Rain*. Quantic Dream. 2010.
- *Hurt Me Plenty*. Robert Yang. 2014.
- *The Last of Us*. Naughty Dog. 2013.
- *Mass Effect*. BioWare. 2007.
- *QWOP*. Bennett Foddy. 2008.
- *Red Dead Redemption*. Rockstar Games. 2010.
- *Rinse and Repeat*. Robert Yang. 2015.
- *Sim City 4*. Maxis. 2003.
- *Skate 3*. EA Black Box. 2010.
- *Space Invaders*. Taito. 1978.
- *Stair Dismount*. tAAat. 2002.
- *Stick Shift*. Robert Yang. 2015.
- *Succulent*. Robert Yang. 2015.
- *Super Mario Bros. 3*. Nintendo. 1988.
- *Super Mario World*. Nintendo. 1990.
- *The Walking Dead*. Telltale Games. 2012.