Space and place as expressive categories in videogames

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Abstract

This thesis sets out to explore some of the ways in which videogames use space as a means of expression. This expression takes place in two registers: representation and embodiment. Representation is understood as a form of expression in which messages and ideas are communicated. Embodiment is understood as a form of expression in which the player is encouraged to take up a particular position in relation to the game. This distinction between representation and embodiment is useful analytically but the thesis attempts to synthesise these modes in order to account for the experience of playing videogames, where representation and embodiment are constantly happening and constantly influencing and shaping each other. Several methods are developed to analyse games in a way that brings these two modes to the fore. The thesis attempts to arrive at a number of spatial aesthetics of videogames by adapting methods from game studies, literary criticism, phenomenology, onomastics (the study of names), cartographic theory, choreography and architectural and urban formation analysis.

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0. Introduction

The first videogame I can remember playing was a top-down racing game for a PC clone my friend had some time in the mid-1980s. The aim was to manoeuvre the little car sprite around the oil slicks and road works littering the ribbon of road that ran vertically up the screen. Every so often a crossroads would appear, sending traffic across the little car's path. My friend and I were curious about where these crossroads led and, after much practice, managed to time our turn to send the car down one of these blind alleys. The game crashed.

Years later my brother and I convinced our parents to buy a Sega Megadrive. I played *Sonic 2* (Sonic Team, 1992) at every opportunity for many months. After beating the game several times I started replaying the game's first level, the Emerald Hill Zone, on its own, and continued replaying it long after I had located every ring and secret area and got my speed run down to 21 seconds. The off-screen space of the racing game had awoken the explorer in me, but this was something different. Sonic's speed, the arrangement of loops, springs and enemies, the obstacles and ramps: Sonic was under my control – but always seemed to be threatening to get away from me. It was a level perfectly crafted to unlock a pure joy of movement.

As a teenager I stopped playing videogames, and several generations of hardware upgrades passed me by before an interest in interactive theatre and hypertext fiction led me, via writers like Janet Murray, Espen Aarseth and Gonzalo Frasca, to reconsider the games I had played as a child. I bought an Xbox 360 and started playing the games that came with it: *The Elder Scrolls IV: Oblivion* (Bethesda Game Studios, 2006; hereafter *Oblivion*) and *Forza Motorsport 2* (Turn 10 Studios, 2007). It was clear that games had changed, but I recognised the sense of a world to be explored and the vertiginous thrill of movement from the first phase of my life with games. What drew me into these games was the way they used their spaces not only to represent different places but also to radically transform my sense of bodily presence. By this I do not mean that I ever felt that I was driving a racing car or that I was in *Oblivion*'s Tamriel any more than I felt present in Emerald Hill Zone during my *Sonic 2* marathons. I had no illusions about *where* I was; it was my way of being there that had changed.

Each of my encounters with game space has brought with it its own set of emotions, identifications and pleasures. This thesis is an attempt to consider the provenance of these

responses in terms of game form. Put simply, how do videogame spaces offer opportunities for aesthetic, emotional and intellectual response? This is the central question of the thesis, but it has a range of answers, only some of which will be tackled here. This range of answers is due not only to the variety of videogames and videogame spaces, each with their own set of aesthetic effects, but also to the variety of videogame players, each with their own set of motivations, competencies and interests.

What seems to be a point of agreement amongst all of this variety is the importance of space to the experience of games. This has long been recognised by game designers and academics. Shigeru Miyamoto has described the making of *Zelda: Ocarina of Time* (Nintendo EAD, 1998) as 'nurturing a miniature garden called Hyrule' (Kushida, 1998). Will Wright, creator of *The Sims* (Maxis, 2000) has discussed the influence of the theories of architect Christopher Alexander in its development (Rouse III, 2005), and architecture is a frequent touchstone for books on game design (e.g. Rollings & Morris, 2000; Schell, 2008). Early in the development of the discipline of games studies Espen Aarseth (2000) identified spatiality as 'the defining element in computer games' (p. 154) and architecture was explored as a narrative device in Henry Jenkins' (2004) influential article 'Game Design as Narrative Architecture.' There are several reasons for the importance of space to the design and understanding of videogames. Objects in videogame screen space are not only visible and audible, but many of them are also manipulable, either directly or indirectly. Worlds and environments represented in videogames can often be traversed in a number of different ways, and may develop and evolve according to a player's decisions. Games require players to match their own movements in space to these objects and worlds represented on screen. Videogames can also provide a space in which communities may take shape: through multiplayer games online, professional and amateur competitions, formal and informal gatherings in homes, arcades and internet cafés, or activities like hacking and modding.

This thesis will not account for how all of these different kinds of spaces function, nor will it synthesise them into an overarching theory of game space. One of the hallmarks of games – of great games at any rate – is how they challenge the player's conception of videogame space and sometimes of space more generally, and this undermines the attempt at such a comprehensive theory. I will restrict myself to discussing particular games, endeavouring to describe a range of the most interesting or striking effects that these games make available and the role that space plays in their generation. I have broadly categorised these effects as representation and embodiment. Space as a means of representation includes how real and imaginary places are represented and how features of spatial presentation can

play a rhetorical or expressive role. Space as a means of embodiment includes how aspects of the game can structure player behaviour and movement and can give players a sense of presence infused with particular cultural meanings.

This is a formalist approach to games in that it looks at the design of videogame spaces and asks where design decisions may have come from and how they function to make certain effects possible. A different, more empirical social sciences approach would be necessary to investigate the social spaces that these games can lead to and the range of different uses to which players put videogame space. I am not equipped to do justice to such an empirical investigation, nor is there room in the thesis for it. In lieu of this investigation, a disclaimer: There are as many meanings to a game as there are players of it. A game mechanic that is highly original to one player may be a feeble cliché to another. A play style that one person sees as cheating, another sees as a creative strategy. It is valuable work to engage with a wide variety of players to understand the range of these meanings, but there is also a role to be played by the critic who reflects deeply on his or her own relationship to games. This critic's role is not to provide the final gloss on a game's meaning but to think about how a game fits into a larger cultural context, to think about how a game provides pleasure, and to think about how promising aspects of a game that are less than wholly successful may be refined in the development of the form. Any suggestion that these goals – particularly the last two – may be achieved from an objective standpoint is untenable. In this kind of enterprise, what is more important than objectivity is an awareness of one's own subjectivity; of the theoretical milieu in which one is writing and of the values and assumptions that are being brought to bear.

If one of the goals of this thesis is to understand the relationship between game form and pleasure, then it is necessary to be clear on what is meant here by pleasure. Pleasure is often used in theories of art to denote a general sense of positive feeling in relation to the work. The theory then attempts to account for how this feeling arises in the art experience. Aristotle, for example, argues that people naturally take pleasure in learning through imitation, and this process is what is compelling and valuable in art (2008, p. 6). Walter Pater suggests that art is pleasurable – and therefore of aesthetic value – to the extent that it bears 'fruit of a quickened, multiplied consciousness' (1980[1893], p. 190). In each case, pleasure itself is taken for granted, as the critic hones in on the structure of the work of art. This is not to say that there is no need for aesthetic theory that grapples with the concept of pleasure. We see this in Immanuel Kant's *Critique of Pure Judgment* (1987[1790]), for example, or in much aesthetic theory based in a psychoanalytic context.

This thesis, however, follows the former line in focussing on the relationship between how a game is put together and the potential resonances of the game for the player, whether these resonances be termed pleasure, agreeableness, fun, enjoyment, engagement or some other similar term. One important point to make early on is that pleasure is not intended to suggest that videogame play is a kind of smooth or merely pleasant experience. Videogame pleasure, as with pleasure in great works of art, involves an encounter with emotions and ideas that can be troubling. Seeing a tragedy on stage may not be pleasant in itself, but reflecting on this tragedy as an audience can nonetheless lead to aesthetic pleasure. Similarly, videogame play may involve frustration, compulsion and a host of other broadly negative reactions on the part of the player. However, in the best games these troubling aspects can be incorporated within an overall pleasurable experience.

The arguments and interpretations put forward here have been developed through my engagement with videogames and so bear the stamp of my personal history with games and my own taste. However, my research question has brought me to games that lie outside my usual fare. I have also attempted to consciously engage with games that I am not naturally drawn to, particularly in the third chapter, which contains a broad survey of a large number of games. That said there are some obvious omissions. This thesis was written between 2008 and 2011, a period in which Microsoft and Sony both followed Nintendo in the development of major gestural control interfaces. While the Wii, Kinect and Move have been important in developing new ways of using space in games there is little emphasis on them here. Similarly, the particular spatialities found in online gaming, handheld computer games, and augmented reality games are not treated. The centrality of space to games makes spatiality a large theme, and a treatment of all of these topics lies beyond the scope of a single thesis. With this in mind I have tried to walk a line between variety of examples and depth of analysis.

The general frame of the thesis and the lens through which I view the question of videogame space is a function of my academic background in literature, particularly theatre. However, the games I have played have led me to questions that lie outside a literary criticism type approach. Indeed, one of the most challenging aspects of this thesis for me, and perhaps the thesis' most useful contribution to the study of games, has been in establishing appropriate ways of thinking about videogame space. It became clear to me early in the project that while literary criticism is a useful starting point to think about games, it must be complemented by other methods. This has led me to the development of theoretical approaches to games that are drawn from phenomenology, onomastics (the study of names), cartography, and architecture. These different approaches are not synthesised into a 'how to

read games' manifesto but are given their own space, where they can be utilised to look at the question of space in games from different angles.

Chapter 1 lays much of the theoretical groundwork made necessary by the separation of expression into representation and embodiment. Issues of interpretation are discussed in relation to representation and definitions of the body drawn from phenomenology are used to frame a discussion of embodiment in games.

The next two chapters of the thesis look at space and place as representational. Chapter 2 investigates how a particular sample of games represents a range of different real and imaginary places. This chapter attempts to put the representation of space in videogames into a broader context, thinking about how the context of production and consumption of games as well as conventions of genre affect the prevailing representations we find in big budget games. Chapter 3 looks at how aspects of space and place can be used in games for particular aesthetic effects. Here, space is approached not as a means of representing place but as an expressive or rhetorical strategy in deepening or complicating themes, motifs and ideas with which the games are concerned. The first part of this chapter looks at the way in which the landscape function in *Oblivion* in relation to the game's overarching theme of good versus evil. The second section focuses on how toponymy, or the study of place names, can be put to satirical use in *Grand Theft Auto IV* (Rockstar North, 2008; hereafter *GTA IV*). The final section examines how the cartographic viewpoint in the *Civilization* series (Microprose, 1991-1996; Firaxis Games, 2001-2008) can be interpreted as celebration or parody of the imperial gaze.

The following two chapters of the thesis look at how spatial form structures action, which in turn creates aesthetic effects. These sections are concerned with how videogame spaces embody the player in different ways, how these embodiments can structure pleasure in games, and how they can be seen as representations that might reflect upon 'the body' as a concept. Chapter 4 uses space syntax, a method of architectural and urban analysis, to describe the relationship between spatial morphology and player experience in two games: *Castle Wolfenstein 3-D* (id Software, 1992) and *Splinter Cell: Double Agent* (Ubisoft Shanghai, 2006). Player experience is here understood both in terms of player movement in complex environments and less tangible aspects of spatial configuration such as atmosphere. The final chapter, Chapter 5, looks at the aesthetic effects of action in *Tony Hawk: Project 8* (Neversoft, Tony Hawk's Project 8, 2006), *Skate 2* (EA Black Box, 2009) and *Castlevania: Symphony of the Night* (KCE Tokyo, 1997). The skate games demonstrate how action games

embody the player in relation to the game and in so doing provide an opportunity to inhabit a novel body that reflects upon the body as it exists in everyday situations. The final section on *Castlevania* attempts to link together representation and embodiment by describing the way in which movement through the game environment – which is structured by its morphology on the one hand and the various levelling and key and lock strategies on the other – gives rise to aesthetic effects that help to establish and reflect upon the central character and aspects of the game's story. This final chapter seeks to marry the representation and embodiment modes of expression described and exemplified throughout the thesis in a coherent reading of the game.

Fun; delight; emotional, visceral and intellectual engagement: At their best, videogames provide these in ways unique to the form. These are the aspects of games that most appeal to me, and that underpin each of these chapters. If this thesis achieves its aim, it will contribute to an understanding of how these pleasures come about.

1. Two kinds of expression in videogame space: representation and embodiment

This thesis is motivated by a curiosity about how games work and how they mean, both formally and as part of a wider cultural and political context. Specifically, it looks at the expressive possibilities made available by games through their uses of space and place.

The term 'expressive' is used here in a broad sense. Generally, it speaks to an attempt to connect formal elements of games to effects on or responses by the player. This project bears resemblances to the 'mechanics, dynamics, aesthetics' or MDA framework put forward by Hunicke, LeBlanc and Zubek (2004) in that it approaches the question of videogame form from the perspective of the player but attempts to account for the player's experience by thinking about the affordances of the game. For Hunicke et al. the mechanics of a game represent 'the various actions, behaviors and control mechanisms afforded to the player within a game context' (2004, p.3). Dynamics are how these mechanics are enacted together with the game's content in real time. Aesthetics is the set of 'emotional responses' by the player resulting from the player engaging in these dynamics (2004, p.3). I would extend this definition of aesthetics beyond the emotional to take in the range of emotional, cognitive, behavioural and physiological effects that a game can create.

Two modes through which these effects are processed are of particular interest here and together they define the term 'expressive' as used in this thesis. These modes can be thought of as representation and embodiment. Through the first mode 'expressive' refers to the ways in which space and place can be used to make a specific point, communicate a message that can be more or less paraphrased, or establish a theme. Through the second mode expression refers to a less cerebral processing of space and place on the part of the player. The fact that some game spaces feel claustrophobic or intimidating and others feel expansive or empowering speaks to this aspect of expression. While the representational kind of expression requires a fairly sophisticated understanding on the part of the player, this form of expression requires the player to understand only to the extent that it is necessary to inhabit the game space. Rather than dealing in messages and themes this form of expression deals in embodiments. By embodiment I mean here the way in which the game organises the player's body. This may be physical, for example in the way different kinds of control interface require the player to assume different bodily positions in relation to the screen and computer, but may also take place in the imagination. An action game requires the player to assume a

different imagined bodily schema than does a strategy game, though this cannot necessarily be observed by an onlooker. In both registers a game space may reflect, reinforce or undermine the attitudes toward particular places and the ways of thinking about and being in space that it is based upon.

These two modes of expression – representation and embodiment – feed back into each other and combine to set up the experiences available to the player during the game. Take the example of the game *Alan Wake* (Remedy Entertainment, 2010). Its setting in a small, secluded American town immediately makes available themes of the contemporary metropolitan American's troubled relationship to nature that will be familiar to many of the game's players. This setting, together with the abundant references to the novels of Stephen King, TV shows like *Twin Peaks* (Lynch & Frost, 1990-1991), and films like *Deliverance* (Boorman, 1972), put in motion a process of representation, in which the player understands the game's themes in terms of the motif of the city-dweller in the small American town. This reading has the protagonist Alan leaving the safety and comforts of New York City and becoming overwhelmed by nature, represented by the sublime landscape of the Rockies but also by the supernatural forces at play there. At the same time the game's use of space and place embodies the player in certain ways. The player's place in the game is established through several aspects of spatial form: for example, the arrangement of levels within the game; the layout of these levels and the placement of enemies, friends and other objects; the control mechanisms and avatar actions available; and the effects of these actions in the game. The overriding embodiment in the game it is one of powerlessness and anxiety. This is primarily mediated through the arrangement of dark (unsafe) and light (safe) places, their relative proximity to enemy spawn points and weapon caches, and Alan's movement repertoire and (lack of) speed.

Representation and embodiment can be described independently but are inter-related during play. How a particular theme is interpreted may influence a player's sense of embodiment and *vice versa*. The nervous embodiment that *Alan Wake* sets up may be exacerbated if the player buys into or is already familiar with the theme established by the setting of the other-worldly small American town. Of course, it may be that the player is familiar with the small-town motif and understands it as cliché, in which case a dismissive or mocking attitude toward the theme may undermine the effectiveness of the embodiment process. Similarly, at moments when level layout makes the sense of dread and suspense particularly acute even a jaded player may momentarily go with the embodiment that the game is trying to establish and may even invest in the hackneyed plot.

Aspects of the game that immediately make themselves available in terms of embodiment may also be interpreted in relation to the game's themes. The game mechanics establish bright areas as safe and the torch as a means of making enemies vulnerable. We might go further and link this association of light with the benign and darkness with the dangerous to Alan's confrontation with nature. Invariably the gameplay takes place at night. Darkness is associated with nature, since it is the trappings of civilization that are relied upon for light – batteries, torches, generators, street lamps. The game therefore associates the mechanic of light and dark with the two spaces – civilization and nature – that are central to a particular reading of the game in the representational mode, and it does this through conventional associations of light and darkness that are familiar from horror films. But the function of light and dark as part of the game mechanic that keeps the player-character alive gives these metaphorical associations a particularly urgent quality for the player. The player has a stake in how much light there is in a level and how that light is arranged as it is not only Alan's means of survival, it is also the player's means of success. The arrangement of light and darkness in a level *embodies* the player in a particular way; it positions the player in the game space and shapes their attitude toward it and behaviour in it. Any expressive power that the *representation* of light and darkness has is redoubled by this embodiment of the player through light and darkness. Light does not just *represent* hope, as it would in, for example, a film. It actually *gives* the player hope.

Particular spatial mechanics can simultaneously give rise to particular embodiments for the player and flesh out aspects of a player-character's personality. The lithe prince of *Prince of Persia* (Ubisoft Montreal, 2008), springing from wall to wall, might be contrasted with the corporeal grunts of *Gears of War* (Epic Games, 2006), who remain resolutely stuck to their environment. Body types, dialogue, story – these all serve to represent these characters in certain ways, but it is perhaps in this spatial, embodied realm that their characters are most keenly felt by the player.

The set of potential effects in both registers will generally exceed the effects picked out, acknowledged, or felt by any particular player, and just because it is possible for a particular effect to be experienced does not mean it necessarily will be. Effects in both registers are mediated by the player's own experiences, competence, knowledge, expectations and relationship to the game and the game's genre. It might be better for this reason to think in terms of 'uses' rather than 'effects,' with the former term acknowledging both the active role of the player in forming his or her experience with a game and the motivated or directed nature of player-game interaction, where the player approaches the game in order and

equipped to have experiences of interest both in terms of the messages he or she will encounter in the game and embodiments he or she will adopt. At the level of representation, a fan of western movies may derive more pleasure, or a different kind of pleasure, from exploring the wide open plains and narrow passes of *Red Dead Redemption*'s (Rock Star San Diego, 2010) open world environment than a player who is less familiar with these generic settings. Similarly, the embodiments made available in a game like *Call of Duty: Modern Warfare 2* (Infinity Ward, 2009) will have different resonances for a games scholar who has never held a gun than it will for an experienced Marine. Different players may also experience different parts of a game's space. A player may 'complete' a game without visiting certain hidden or locked areas, thereby missing out on the effects or uses associated with these areas that may be an important part of a more thorough player's experience of the game. For these reasons in describing the expressive role of space and place the discussion will necessarily be about various *potential* effects that a game space makes available. The analyses in this thesis rely heavily on my own personal experience with the games discussed alongside game reviews and analyses from game magazines, journals and websites.

Potential uses will also exceed those predicted by the game's makers. At the level of embodiment, players are often very good at putting game space to unforeseen uses and thereby creating new embodiments. This is well-documented with respect to how surprising gameplay can emerge through players' creative use of space, rules and mechanics in some games (Pearce, 2007; Juul, 2005, p. 81).

At the level of representation, designers may use representations of space and place that already carry with them expressive baggage which, when used as part of a game, combines with other aspects of the game and with the context of consumption to give rise to unpredicted possibilities of interpretation. One player may experience a particular game's representation of its setting as reproducing national stereotypes, whereas another may see it as ironically commenting on them. Both of these players are using the game environment in ways that are based on and validated by their own interests and judgments and neither can be invalidated by an appeal to the designers' intentions any more than can rocket-jumping in multiplayer *Halo* (Bungie, 2001) or proximity-mine-climbing in *Deus Ex* (Ion Storm Inc., 2000). Games are particularly prone to taking characters, images and generic conventions from different media and combining them in sometimes unusual ways. Each of these images carries with it its own political and interpretive baggage. This baggage is not jettisoned due to its new context, though it is transformed as it sparks off and reacts to the other images, themes and mechanics that make up the game. What emerges in this process is the potential

for readings that the designers may not have intended and may or may not subscribe to, but are no less legitimate for that.

Tomohiro Nishikado's decision to set his seminal arcade shooter *Space Invaders* (Taito Corporation, 1978) in space may have been in large part due to the necessity of having a memory-cheap black background, with the space setting explaining this black background in an aesthetically satisfying way. But if the prevalence of space in the slew of shooters that followed *Space Invaders* was in part determined by technology, this was not the only determinant. We might rather say that the nature of the gameplay and the technology available presented a certain number of possible themes from which the theme of space invaders was frequently selected. The space setting not only explained the use of black, but it was also suitable to an action genre, and was a prevalent and therefore instantly recognisable and embraceable theme from popular culture, especially in the wake of *Star Wars* (Lucas, 1977), which was released the year before *Space Invaders*. The intention of the designers with respect to the theme of alien invasion may have been to explain the black screen, trade on the popularity of space, and motivate gameplay. But bound up with the theme of space are meanings which the designer may have had no desire to implement but that nonetheless cannot be shaken from it; themes like immigration and Cold War politics. This is not to say that the designer intended to make a game about the Cold War but by choosing this theme these resonances have necessarily been imported and are available to players familiar with these associations. A designer may anticipate and purposefully close off, make less likely, or inflect in some way certain meanings, but in the case of *Space Invaders*, where the choice of theme is in some ways an afterthought, such closing off is not a concern of the designer. The theme retains its associations and presents itself, independent of the designer's intention. This is what Northrop Frye means when he argues that the critic should be 'concerned only with ritual or dream patterns which are actually in what he is studying, however they got there' (1957, p. 109).

It seems perfectly acceptable that the designers' intentions are not the sole source of relevance to how a player uses the game space in terms of gameplay. What matters is how the space actually presents itself to the player. But even here some arbitration is required. If I discover a way of exploiting a bug or design flaw that allows me to easily defeat a boss or quickly level up I may use it. But if I do then I have implicitly marked this unintended use as a legitimate strategy. Alternatively, I may not use it, arguing with myself (again perhaps implicitly) that using this exploit would be in some way unsatisfying. In multiplayer games

this kind of arbitration may go on much more publicly, since it is not only my experience of the game that is at stake but also that of other players (Taylor T. L., 2009).

There is also arbitration that goes on concerning the legitimate 'use' of game space in terms of interpretation. Again the intention of the designer may be an element of this arbitration, but other factors are also at play. Some examples from literary criticism give an idea of the ways in which interpretations may be contested and defended.

In *Interpretation and Overinterpretation*, Umberto Eco (1994) discusses some of the readings of his own novels that have surprised him. He suggests two possible responses on the part of an author to these surprising readings: to admit them as possibilities or to deny them. While he initially dwells on the idea of 'economy' in judging the validity of these kinds of interpretation, where the reading should explain the text in an elegant way, he dismisses it as a criterion in favour of a judgement based upon what the reading adds to the richness of the text (Eco, 1994, p. 73).

In the same volume, and approaching the problem from the reader's perspective, Richard Rorty claims that there is no difference between interpreting a text and using it to support some pre-existing interpretive grid that the critic brings to the text:

> Interpreting something, knowing it, penetrating to its essence, and so on are all just various ways of describing some process of putting it to work. (Rorty, 1992, p. 93)

Rorty's pragmatist argument that texts are simply objects to be used allows a parallel to be drawn between the player engaging in creative strategies in a game and the player engaging in creative readings of a game. Rorty suggests that each interpretation that a reader can make is valid simply by the fact that it can be made. However, each of these interpretations is not equally acceptable and, since we live in a community of fellow readers, the acceptance of our interpretation is always of importance to us. This acceptance is guaranteed by nothing more or less than plausibility, and the plausibility of a reading is determined by the values established over time in the community to which the critic is selling his or her interpretation.

Stanley Fish (1976) similarly points to the importance of what he calls the 'interpretive community' to which the critic belongs. Nothing in the text can determine the legitimacy of a reading, but only the approval of a fellow member of the community. For Fish in *Interpreting the Variorum* interpretations are created through reader response. But he goes on to argue that

‘reader response’ is really shorthand for a set of legitimate interpreting strategies that have been sanctioned by a particular interpretive community. It is this set of legitimate strategies that creates the formal characteristics of a work ‘by creating the conditions in which it becomes possible to pick them out’ (Fish, 1976, p. 477). In other words, the interpretive strategy is judged by the interpretive community and a given interpretation is correct as long as it follows this strategy.

Discussing interpretation of videogames Jesper Juul (2005), while seeming to reject Fish as paving the way for a ‘blanket subjectivity,’ in fact reaches much the same conclusion without seeming to acknowledge the importance that Fish gives to the interpretive community:

> I do not think [Fish’s concept of reader response analysis] should be followed to a conclusion of blanket subjectivity; I think that having the tools for discussing games, and remembering how we interpret other cultural forms, can prevent us from making naïve, literal interpretations of games. (Juul, 2005, p. 193)

The casual ‘we’ is the key word in this paragraph. Juul seems to be suggesting that there is a common sense of interpretation; that consensus has been reached in other cultural forms, and that game studies can share in this consensus. But how ‘we’ interpret other cultural forms depends largely upon the interpretive community to which ‘we’ belong. A naïve interpretation in one community may be a fresh reading in another.

Work on game interpretation and operational logics emerging especially at UC Santa Cruz through the work of Michael Mateas, Noah Wardrip-Fruin and others seems to be an attempt in game studies to establish an interpretive community in Fish’s sense. The interpretive strategies advocated by this community privilege those features of games that are unique to or most associated with games. These are the ‘operational logics’ that games make use of. A formal definition of operational logics is given by Wardrip-Fruin and Mateas (2009):

> An operational logic defines an authoring (representational) strategy, supported by abstract processes or lower-level logics, for specifying the behaviors a system must exhibit in order to be understood as representing a specified domain to a specified audience. (p. 5)

Within the current crop of commercial games, it is graphical logics, which include such operations as movement and collision detection, that predominate and that carry most of a game's expressive potential for these theorists. From this perspective Treanor, Schweizer, Bogost and Mateas (2011) criticise three creative interpretations of games: Janet Murray's reading of *Tetris* as 'the perfect enactment of the overtasked lives of Americans' (Murray J. , 1997, p. 144), Doris Rusch's reading of the grappling hook sequence in *God of War* as illustrative of safety and risk in general (Rusch, 2009), and Steven Poole's reading of *Pac-Man* in terms of consumerism (Poole, 2000). These interpretations are each seen as problematic for two reasons. Firstly, they fail to differentiate between action, representation and sensation. Secondly, they only work through the omission of certain central aspects of each game. These two criticisms implicitly establish the cornerstones of the interpretive community that is forming around the idea of operational logics. The first attempts to untangle the various ways in which meaning in all its senses emerges in games. It seems to resist or at least investigate the possibility of a kind of interpretive synaesthesia, where engagement in one mode can be smoothly transformed into another. Because action, representation and sensation are not the same thing it cannot automatically be assumed that, even if they are each potentially meaningful, the same methods of interpretation can be brought to bear for each of them. In order to disentangle these three modes, Treanor et al. explicitly distinguish code-based components (action) from interpreted components (representation). Drawing on the MDA framework, aesthetics is seen as 'how it feels to play' (sensation).

The argument against omission can be positively framed as an argument for coherence and comprehensiveness and is explicitly stated as such later in the paper:

> Video games uniquely combine operational elements (code) and interpretable elements (theme, culture and experience). It is our belief that any claim about a game's internal meaning must take all elements into consideration. (Treanor et al., 2011, p. 2)

This appeal to coherence rests on an assumption that a work ought to hang together and can be seen in many interpretive communities. The most influential argument for coherence in literary interpretation was put forward in the New Criticism of Cleanth Brooks and Robert Penn Warren (1938). But the importance of coherence is also seen in various strands of

structuralism and post-structuralism. Stein Haugom Olsen (1978), for example, puts coherence and comprehensiveness at the centre of his theory of literary interpretation. This centrality is due to 'the convention that all the identifiable parts of a literary work should be artistically relevant' (Olsen, 1978, p. 146). Olsen admits, however, that this convention, rather than being a necessary rule of literary interpretation, emerges as part of 'the literary institution' (1978, p.146). The implication seems to be that other 'rules' are possible in the context of other institutions. K.M. Newton (1985) sees the importance of coherence and comprehensiveness across disciplines, from Barthes's structuralist phase, in which he talks of integration as the goal of interpretation, to the post-structuralism of Derrida, in which weak and strong interpretations are differentiated according to their 'power,' that is their ability to 'account for more meaning' (p. 208).

But coherence is not a universally accepted criterion in literary interpretation. Christopher Herbert (2004) sees coherence in all academic fields as a 'conundrum' in that it undermines the scientific rigour to which it aspires (p. 186). Similarly, Newton argues that even amongst the most text-driven critics it is the literary institution that finally arbitrates on the relative strength of particular interpretations (1985, p. 207).

This is not to argue against operational logics as a useful approach to game interpretation but rather to acknowledge its status as a particular interpretive community with its own concerns and agendas rather than as a royal road to authentic videogame interpretation. Indeed, there are clear parallels between work on graphical logics as expressive and the approach taken in this thesis. Fundamental to much that follows is the assumption that game mechanics are available for expression. Certainly in terms of the representational mode many of the analyses in this thesis rely on interpretive strategies developed through a lens of operational logics.

In terms of embodiment other theoretical lenses are employed; particularly important here is the phenomenology of Maurice Merleau-Ponty. I have defined embodiment as the means by which a game organises the player's body. Let us look further into this. Game space is here conceived not as the space that is shown on the screen – what I will call the game environment – but as the total space that comes into being in the moment of play. Game space does not precede the relation between player and game but is rather a product of it. That is, it arises through the player-game interaction and can only be described in relation to a *playing-body* that also comes into existence in the moment of play. The emergence of a game space and corresponding playing-body in the moment of play is what is meant by the

idea of a game embodying the player. That is, in order to inhabit the game space the player must organise his or her body appropriately; must take on a playing-body that is inferred by the game. The playing-body as defined here is not, then, the body as it is represented in the game environment. However, as we shall see, the avatar has an important role to play in the structuring of the playing-body. Nor is the playing-body a direct intervention in telepresence research; that strand of virtual reality and game studies that has concerned itself with the extent to which a mediated environment is understood by its user as non-mediated. In fact, the playing-body is a concept that is prior to telepresence. It is not concerned with the illusory sense of (tele/virtual) presence that a game may stimulate, making players think they are really in the world simulated by the computer and represented on screen, but the real presence of the player in the world structured as it is by that player's encountering of the game as object and activity.

Central to this process through which the playing body emerges in the encounter between player and game is the control interface. In many games an on-screen avatar is also used to mediate this re-organisation. Here I will put forward a theory of how the control scheme of a game and the avatar might play a role in allowing the player to take on a playing-body that is suitable to a particular game's game space.

Common in much writing on space in videogames is an implied or explicitly stated distinction between two kinds of space. On the one hand is posited a space that precedes the game and stands somewhat outside the game throughout play as a physical venue for the player's body and for the machine. This is variously called user space, physical space or player space. On the other is a space that is represented on screen, through the speakers, and in the various interactions that the game's code, hardware and interface make possible. This I have called the *game environment*. The game space is then seen as a coming together of these two spaces – the physical space and the game environment – through the action and imagination of the player.

In his keynote address at the 2008 *Philosophy of Computer Games* conference, Jesper Juul suggested two ways of doing game studies that makes use of this spatial distinction. Games studies practitioners can pursue a 'game-centric' approach, in which 'the game determines everything that goes on in game-playing,' a 'player-centric' approach, in which 'everything that goes on in game-playing is determined by the player,' or some integrated approach between these two extremes (2008). As Juul suggests, it is difficult to find game studies research that is either entirely game-centric or player-centric, however the distinction

is a useful one in describing the foundational principles and broad trajectory of different approaches to the analysis of games.

A couple of examples should be sufficient to demonstrate this difference. In *The Medium of the Video Game* Mark J.P. Wolf's (2003) analysis of eleven spatial structures in videogames is found in the section entitled 'Formal Aspects of the Video Game.' This chapter distinguishes between different kinds of formal presentation of space, for example 'single screen games' such as *Space Invaders* as opposed to 'interactive three-dimensional environments' such as that encountered in *Battlezone* (Atari, 1980). However, even this formal approach takes into account the relationship that these different forms have on the player and how the player engages with them, with different structures requiring different levels of concentration and different possibilities for navigation and choice. Florence Chee's (2006) ethnography on South Korean internet café's or 'PC bangs' lies at the other end of the spectrum. Rather than looking at space as represented on screen, Chee's article considers the physical location of the technology itself, arguing that 'elevated participation in a gaming environment has just as much, if not more, to do with the cultural and geographical life context than the actual game itself' (Chee, 2006, p. 226).

This sense that game space can be characterised in different ways has led some writers to suggest models of game space that describe different categories of space at play in videogames. Axel Stockburger (2006) distinguishes five modalities of space that contribute to a 'heterotopic' game space (p. 9). The term heterotopia is drawn from a 1967 article by Michel Foucault, in which 20th century space is seen as fundamentally heterogeneous – a juxtaposition of the adjacent and the dispersed through networks that gives a non-hierarchical distribution of spaces (1998). In the context of this heterogeneous space there emerge 'heterotopia,' which are 'other spaces' that are different from but reflect back upon all of the real places in a society. Foucault lists four principles of the heterotopia, but Stockburger particularly focuses on the third of these. This is that 'the heterotopia has the ability to juxtapose in a single real place several emplacements that are incompatible in themselves' (Stockburger, 2006, p. 181). Three examples of heterotopia indicative of this principle are the theatre, the cinema, and the garden. Stockburger sees this principle of the juxtaposition of different 'emplacements' as relevant to the juxtaposition of different modalities of space in the videogame.

As Peter Johnson (2006) has pointed out, Foucault's concept of heterotopia is underdeveloped, ambiguous and, as a result, has been used inconsistently to describe spaces that seem to have little in common (p. 8). For Johnson the central point about heterotopia is

that they ‘draw us out of ourselves in peculiar ways; they display and inaugurate a difference and challenge the space in which we may feel at home’ (Johnson, P., 2006, p. 84). Foucault emphasises the heterotopia as a ‘counter-space’ that both reflects the real space and contests it. By focussing on the third principle outlined by Foucault, Stockburger alters the significance of the term. Stockburger’s focus seems to lean on ‘hetero’ not as ‘different from other spaces’ but as ‘different from itself’ or ‘constituted by different spaces’; that is, heterogeneous. But for Foucault, heterotopia is first and foremost a different place. As Johnson explains, heterotopia is originally a medical term for tissue that grows at an unusual location in the body. It is ‘a dislocation’ (Johnson, 2006, p. 77). Stockburger seems less interested in heterotopia as ‘counter space’ and more as a formal description. Indeed, he describes heterotopia at one point as an ‘accurate metaphor’ for game space, which suggests that game space is not for him ‘fully’ heterotopic (Stockburger, 2006, p. 9).

The first of Stockburger’s five modalities of space is user space, defined as ‘the material, physical space’ in which the player and the game device are located (Stockburger, p. 87). Narrative space, rule space and audio-visual representational space, on the other hand, all result chiefly from the design of the game. For Foucault (1998), access to the heterotopia requires certain rites or gestures (p. 26). In Stockburger, kinaesthetic space is the means by which the body of the player – preceding the game and therefore belonging properly to user space – is brought into contact with the game, or rather inserted into the game and made capable of being amongst its several modalities.

Michael Nitsche (2008) also begins his analysis of game space with a partitioning of what he calls ‘conceptual planes’ (p. 15). Again, this partitioning distinguishes between the space of the game as a designed artefact and the space of the player as a pre-existing consciousness, while also attempting to account for the connection between these two realms. The mediated plane and the rule-based plane correspond closely to Stockburger’s audio-visual representational space and rule space. Stockburger’s user space does not have a direct correspondent in Nitsche’s system, but Nitsche does use the term ‘the physical world’ to describe this space that precedes the game and contains the player and the game hardware. In the moment of play this physical world acts as venue for the ‘play plane’ and the ‘social plane.’ Nitsche’s ‘fictional plane’ leans more toward the player than does Stockburger’s narrative space, with Nitsche emphasising the role of the player in creating narrative. Indeed, the fictional plane seems to do the job of Stockburger’s kinaesthetic space, in that it acts as the bridge between the game and the player. The fictional plane ‘lives in the imagination, in other words, the space “imagined” by players from their comprehension of the available

images' (Nitsche, 2008, p. 16). Without the fictional plane, the player would have no way into the code that makes up the rules plane or the flickering images and sounds that make up the mediated plane.

If videogames involve these different 'spaces' and 'planes,' then what are the processes by which they are integrated or by which they inter-relate? The avatar is analysed here as an important means by which the player – who primarily exists in 'user space' or 'the physical world' – and the game environment are related. The avatar is an unusual object in that it is both a powerful image in itself and a means by which the player exercises control over the game environment. As an image we might look to the presentation of the avatar on screen and to the player's perception and aesthetic response to this presentation. Work on the relationship between audience and performance or work in areas such as film, dance and theatre that comes under the general category of 'empathy' will be relevant here.

Much work on empathy is founded on the separation of audience and performer. This can be for one of two reasons. It may be due to the supposed inference on the part of the audience of intention to action, as we find in dance critic John Martin's (1939) theory of 'inner mimicry.' Alternatively, it may be due to the pleasure that is located in the inability either to control the action or to know how an action will proceed, as we see in the work of choreographer Ivar Hagendoorn (2004). But the separation between player and avatar is of a different kind from that between audience and performer in other spheres and so it will be necessary to adapt the literature on empathy drawn from art, sculpture, dance and theatre accordingly. A second approach is needed that focuses on the avatar as a means for the player to exercise control over the game environment. This casts the game as a set of tasks and the avatar as a tool for the completion of these tasks. Here, the avatar is not primarily an image. A description of it deals less with what it looks like and more with how it is mapped at one side to the control schema and on the other to the game environment. Espen Aarseth's (2004) comment that when playing *Tomb Raider* the dimensions of Lara Croft's body are 'irrelevant to me as a player' (p.48) distinguishes between the avatar as something for the player and as something for the non-player; the film theorists who, as Aarseth complains, analyse Lara's body 'to death' (p. 48). Aarseth's distinction draws a clear line between Lara as image and as tool and these two modes are determined by the identity of the user – viewer or player. Of course, it is clear that a person familiar with *Tomb Raider* can both see Lara's body and look past it, though it is not clear whether this can happen simultaneously. In other words, is Aarseth's distinction between treating Lara's body as an image or as a tool for playing a real

temporal one or a useful analytical one? The first position would claim that while playing the game Lara's body becomes transparent and it is only during hiatuses in play – when the game is paused or during cut-scenes – or outside of play altogether – while watching the *Tomb Raider* films or looking at the box art – that her body becomes visible. The second position would suggest that the user is capable of occupying two different roles simultaneously – that of player and that of viewer – but that it is useful to separate these roles for the purposes of analysis. This latter position is closer to the multi-modal approach to games put forward by Stockburger.

The avatar as performing image and as means of performance: we will need to synthesise these two approaches – the one concentrating on Stockburger's audio-visual modality of space, the other on the kinaesthetic modality; the one taking place in the representational mode the other through embodiment – in order to look at the mapping between the two realms of the screen presentation and the player's body. This will help to think around questions of how particular kinds of mappings between player input and on-screen presentation mediate emotional, intellectual or otherwise aesthetic responses.

As a means of performing actions the avatar can be considered equipment as theorised by Martin Heidegger (1962) in *Being and Time* and defined as 'those entities which we encounter in concern' (p. 97). To encounter entities 'in concern' means to use or produce these entities as part of some kind of project. Heidegger gives a number of examples: 'having to do with something, producing something, attending to something and looking after it, making use of something, giving something up and letting it go, undertaking, accomplishing, evincing, interrogating, considering, discussing determining ...' (Heidegger, 1962, p. 83). Equipment is 'something in-order-to' (Heidegger, 1962, p. 97). A piece of equipment does not exist independently but rather as part of an arrangement of equipment. In using equipment we encounter it in a specific way:

> In dealings such as this, where something is put to use, our concern subordinates itself to the "in-order-to" which is constitutive for the equipment we are employing at the time; the less we just stare at the hammer-Thing, and the more we seize hold of it and use it, the more primordial does our relationship to it become, and the more unveiledly is it encountered as that which it is – as equipment. (Heidegger, 1962, p. 98)

Here, Heidegger distinguishes two ways of encountering the hammer. In the first case we 'just stare at' it. This is to look 'theoretically'; a kind of looking in which the hammer is 'present-at-hand.' In the second case we put the hammer to its use – hammering. This is to look 'in-order-to'; a kind of looking that Heidegger calls circumspection (*umsicht*) and in which the hammer is 'ready-to-hand.' In the above quote, however, these two ways of encountering equipment are not entirely separated. Equipment is not *either* present-at-hand *or* ready-to-hand but some mixture of the two depending on how much we 'just stare' and how much we 'seize hold.'

The avatar proves an interesting element of game equipment in this respect. There are several characteristics of the game avatar that encourage the player to 'seize hold.' It is one of the chief means by which the player can access and perceive different areas of the game environment and accomplish game tasks through the controller/keyboard. But as well as being the *means* of perception it is also a main *object* of perception, encouraging the player to 'just stare.' Unlike hammers, pens, or other kinds of equipment, the avatar is represented to a greater or lesser extent as a sentient being with its own character, awareness and intelligence and this encourages, or at least provides the possibility of, an empathic as well as a practical relationship for the player.

Calvillo-Gamez and Cairns (2008) draw on Heidegger to demonstrate this doubleness not with respect to the avatar but with respect to the game itself (pp. 310-11). They compare the gaming experience to puppetry, suggesting that the player is both puppeteer who controls and manipulates the game and audience who experience the game as real. Citing Steve Tillis's (1992) work on puppetry they contend that the latter role of audience involves a 'double vision' where the player as audience is able to see the game both as game and as real.

The present approach might be considered a special case of Calvillo-Gamez and Cairns' thesis, taking the avatar rather than the game itself (or the sum total of the player's agency) to be the puppet. But if we focus just on the avatar then the player-audience's 'double-vision' is more like that of the puppet show audience where the doubleness comes from an oscillation between a human-shaped object and a human character. This oscillation is not that between the avatar as tool and as spectacle. Rather, it is between the avatar as two different kinds of spectacle. The use of the term 'spectacle' here and throughout the thesis is used to emphasise the way in which the avatar as image actively displays itself to the player and commands attention. With respect to the avatar, then, there is a double-doubleness; on the one hand between the avatar as image and as tool and on the other as human (or at least sentient) and as object.

The doubleness of the avatar specifically is considered by several writers (Barr, Biddle, & Brown, 2006; Burn & Schott, 2004; Linderoth, 2002; Taylor, 2003). This often comes down to the rules/fiction duality developed most fully by Juul (2005). Barr et al. (2006), for example, distinguish the avatar as 'fictional character' on the one hand and 'interface to gameplay' on the other (p.2). Discussing the role playing game *Final Fantasy VII* (Square , 1997; hereafter *FFVII*) Burn and Schott (2004) see the avatar as 'a two-part structure, partly designed in conventional narrative terms as a protagonist of popular narrative, and partly as a vehicle for interactive game-play' (p. 2). The former they call the 'heavy hero' and characterise as an 'offer act,' where the game offers an image or character type to the player. The latter they call the 'digital dummy' and characterise as a 'demand act,' where the game requires particular actions on the part of the player. We 'read' the 'heavy hero' but we 'play' the 'digital dummy' (Burn and Schott, 2004, p. 11). These two acts become integrated through gameplay.

Burn and Schott draw on Linderoth's (2002) distinction between the 'system' and the 'guise' of the game. Due to the importance of the fictional element in *FFVII*, the guise is almost synonymous with 'fiction,' with its overtones of character and narrative. However, Burn and Schott do define guise as 'the visible game-world, narrative and characters' (p.215), allowing for a broader sense than just narrative and characters would. They analyse a player's description of *FFVII* and identify the slippage between second and third-person descriptions of the avatar in the moment when respondents move from discussing the game's protagonist Cloud in the guise of the game – *his* character, *his* backstory, how *he* looks etc. – to discussing Cloud in the system of the game – what *you* have to do to get through the game. They see this as indicative of a constant movement for the player between different modes of engaging with the game. It is possible that different games, and different kinds of games, have different rhythms of oscillation between presenting the game primarily as guise and system (Burn and Schott, 2004, p. 17).

Some writers see the avatar as disrupting a smooth or immediate form of telepresence that is otherwise possible by introducing a confusing middle term between the player and the virtual environment. Denise Doyle (2009), for example, distinguishes between virtual reality as practiced by Char Davies, in which there is no avatar representation, with virtual worlds such as *Second Life*. In *Second Life*, due in large part to the avatar, there is for the user a mix of 'objective "looking" and a subjective sense of "being"' (Doyle, 2009, p. 138). This leads to a bifurcation of the body into, drawing on the work of Don Ihde, a 'here-body' which is

multi-dimensional, and an ‘image-body,’ which is a less rich form of presence through the body of the avatar.

Laurie Taylor (2003) makes a similar point in differentiating first-person from third-person videogames, with the former, by removing the avatar, circumventing the ambiguities involved with ‘the paradox of the subject’s own perception of self’ (para. 19). In the same article, Taylor identifies this doubleness of the avatar in suggesting two kinds of identification in videogames. The first is ‘the extension of ability to access objects within the screen’ (2003, para. 14). This is the avatar as instrument. The second is ‘identification with the role and position within the other space’ (2003, para. 14). This is the avatar as character or spectacle. However, the term ‘identification’ is used by Taylor in a stronger sense than the sympathy that a character in a film may precipitate when we say ‘I identified with that character.’ Taylor sees videogame identification as ‘narcissistic projection,’ without which ‘the player remains outside the screen and can operate on the screen, but not from within the screen.’ (2003, para. 16).

James Newman (2002a; 2002b) employs a multi-modal approach in describing games as containing sequences of greater or lesser player control and as encountered by people who exercise different levels of control, from primary controlling players to onlookers. Newman argues that for the primary controlling player at times of high control the avatar is a means toward ‘vehicular embodiment’ (2002a, para. 3). In these conditions it is constituted as ‘a set of potentials, available techniques, opportunities and capabilities which can be embodied, expanding the abilities of the player and equipping them for the task at hand’ (Newman, 2002b, p. 418). But the character is also partly a character as we conventionally think of this in terms of stories in other media. This is particularly true for people with less direct control and during sections such as cut-scenes when control is reduced.

While Newman denies or plays down the role of empathy for the primary player, Diane Carr (2003) draws on the work of Lesley Stern on corporeal empathy in film to describe corporeal empathy in games. However, she acknowledges the differences between cinema and games, making a direct mapping of cinematic identification into what she calls ‘ergodic identification’ problematic. Specifically, the necessity for players to ‘take action’ during games contrasts with the different demands placed on the cinema audience. Carr also suggests that the multiple modes through which the player and avatar are linked – different ‘perspectives, modes, channels, menus, inputs and outputs’ – require several different models to account for player-avatar relations (Carr, 2003, p. 68). Carr does not, however, attempt an exhaustive treatment of these models but rather focuses on the avatar as the player’s double

in a Freudian sense. She cites Freud's distinction between the double as 'insurance against the extinction of the self' and the double as 'uncanny harbinger of death' (Freud 2003, p. 142; quoted in Carr, 2003, p. 68), citing the avatar in the team-based RPG *Planescape Torment* (Black Isle Studios, 1999) in the former and the avatar in the survival horror game *Silent Hill* (Konami, 1999) in the latter category. This use of the avatar as Freudian double, however, is not offered as a general model of the player-avatar relationship but as a means of characterising this relationship in two specific games. While some formal elements of the avatar-player relationship in each game are evidenced, it is clear that the idea, for example, that the avatar in *Silent Hill* is an uncanny double of the player, has more to do with the game's horror genre than with these formal elements, which are present in many games where this Freudian reading does not seem to apply. What can be taken from this is that the access that the player is afforded to the game space is determined by multiple factors. Understanding this process requires the critic to focus on the specificities of the game in question.

Focusing on *Lego Star Wars* (Traveller's Tales, 2005), Giddings and Kennedy (2008) see the avatar as both character, where the player delights in playing as Chewbacca or Yoda from the Star Wars films but also, and primarily, as 'the affordances of the chosen characters, that is what can be done with that character within the demands of the game world' (p. 23). These two senses of the avatar – as vehicle and as character – are 'articulated' (Giddings and Kennedy, 2008, p. 24). That is, we cannot associate kinaesthetic pleasures or corporeal empathy solely with the avatar as vehicle nor can we associate visual pleasures and psychological empathy solely with the avatar as character.

Gregersen and Grodal (2009) suggest two separate systems for how the player's body and the game world inter-relate. Empathy caused by the response of mirror neurons to the game's audio-visual information activates the player's motor systems, re-creating the conditions of the virtual world in the body. At the same time, tool use activates the somatosensory and proprioceptive systems, extending the player's body into the virtual world (p. 69). Here, empathy for the avatar is associated with the avatar as image, while placement of the player in the game environment is associated with the avatar as tool.

The avatar's relationship to the player, then, can be considered in two ways. Firstly, it is an instrument of perception and action. It is, in Heidegger's sense, ready-to-hand. But unlike other instruments of perception (spectacles, microscopes, hearing aids) or other instruments of action (hammers, canes, weapons) it is also one of the objects of perception. As an object of perception it is an image of some kind. This image may entail or point to human

characteristics, identities, personality traits, and personal history or may be an object with few or none of these features. Here, the avatar-tool is present-at-hand. However, contrary to Heidegger's position that suggests the tool only becomes present-at-hand when it is no longer effective, here the avatar's status as both instrument of action and perception and object of perception means that it does not have to 'break down' in order for it to become present-at-hand. In fact, we often think of breakdown occurring with respect to the avatar just when the avatar can no longer occupy its double role effectively. In these situations the particular characteristics of the avatar as ready-to-hand equipment prevent it from being perceived as an object. This happens in some mini-games where the player must press button combinations as they appear on screen. For example, as this mechanism is employed in combat scenes in *Fahrenheit*/*Indigo Prophecy* (Quantic Dream, 2005), the player's attention is taken away from the avatar and its actions to the button press commands. The elaborate combat animations are beyond the player whose eyes must remain firmly focussed on the quickly changing commands overlaid on the screen. Here, the avatar is ready-to-hand but not present-at-hand. That is, it functions as a tool – accomplishing actions in the game world – but not as a tool of perception of itself. Therefore it does not sustain the doubleness we see in other avatar types. In these moments the avatar really is invisible in the way Aarseth suggests Lara is.

How does this doubleness of the avatar affect the player's embodied presence during play? One way of thinking about this is through a phenomenological account of presence and the body. In describing his learning and mastery of *Breakout* (Atari, 1976) David Sudnow (2000[1983]) sees the appeal of the game in how it transforms the body:

> Maybe it all has to do with the fact that when interfaced on the TV screen, the human body is an altogether unaccustomed setting, as holistic three-dimensional movements are graphed onto a two-dimensional plane. (p. 48)

Here Sudnow is making a strong claim: the human body is conceived not as an identity but as a setting and this setting transforms in the moment of play. Sudnow's description of play is grounded in a phenomenological approach, and it is through a phenomenological lens that this idea of the body as capable of being transformed through interaction with technology can be best understood.

Phenomenology gives us a framework within which to think about the diffuse nature of the contemporary body and therefore is a useful starting point in thinking about the diffuse body in 'heterotopic' games. What version of the body, then, is put forward by phenomenology? In *The Primacy of Perception*, an essay summarising and defending his most influential book, *The Phenomenology of Perception*, Merleau-Ponty defines the body as 'the system of all my holds on the world' (2002, p. 440). This definition suggests that the body is constantly extending itself beyond the borders of the flesh and into the wide world and all its nooks and crannies that are accessible to perception and reflection. If it were possible to perceive this body as a coherent object it would have a constantly shifting shape; the 'system of holds' changing as the subject moves about in and considers the world. Every posture, every gesture, every attitude and every pattern of thought, alters the shape or organisation of this body in some way. Through perception the body reaches out of the physical or 'objective' body. This more ephemeral, protean entity Merleau-Ponty calls the phenomenal body (2002[1945], p. 121). The body does not only rely on its own apparatus to reach into the world, but can also make use of tools. Merleau-Ponty gives the example of the blind person's cane, which in its role as a means of perceiving the world becomes a part of the user's body. While the cane allows the phenomenal body to reach out into the immediate vicinity of the objective body, other tools can be used for more ambitious re-organisations. The body has gained significant reach with the development of telecommunication technology over the course of the last 150 years. The telephone, while obviously not transporting the objective body to the site of the interlocutor, gives the phenomenal body a significant presence there in a way that fundamentally changes the body's relation to the site both of the objective body and of that of the interlocutor. Technology and tool-use has the power to reconstitute the phenomenal body in various ways, and if we are to understand videogame play as an embodied experience, then it is necessary to think about how this reconstitution operates with videogames. In the context of this thesis, then, the playing-body might be defined as the Merleau-Pontean phenomenal body as it organises itself in its encounter with the game as an object and as an activity.

Merleau-Ponty demonstrates the difference between the objective and phenomenal body through analyses of various psychopathologies of the body in which the patient suffers a dissociation between the two. For example, such a patient has trouble locating and touching a point on his arm when asked to do so, but can immediately and smoothly find a part of his arm in order to scratch a mosquito sting. Both actions – the voluntary and the reflexive – are made up of the same potential sequence of movements as seen 'from the outside,' but the

patient is clearly making use of different movement repertories in each case. In the first, in which the patient attempts to consciously find a point on his body, he is treating his body as an object and so is attempting to locate a point in objective space; a task he finds difficult. In the second case, in which the patient responds to a sting, he is not operating on objective space but is rather 'in the domain of the phenomenal' (Merleau-Ponty, 2002[1945], p. 121). The relationship between the hand and the spot to be scratched is not understood in terms of distance and angle. The hand becomes 'a scratching potentiality,' with the place stung a 'spot to be scratched' (Merleau-Ponty, 2002[1945], p. 121). The spot to be scratched 'calls out' to the potentiality, which in turn leans towards the spot to be scratched.

One of the ways in which actions are transferred between these domains – the objective and the phenomenal – is through habit. The same patient who finds pointing out objects difficult has little trouble in his job sewing wallets. He does not approach his tools and materials as objects in space but incorporates them into his phenomenal body. Habit, therefore, is not understood simply as the acceleration of objective calculations necessary to complete a task but as a transformation of the task due to a change in the body's attitude to the task, passing from the objective to the phenomenal domain.

All activities are embodied in the sense that they all require some re-organisation of the phenomenal body. There is no reason to suggest, however, that there is some natural resting position of the phenomenal body. As Heidegger would say, we are thrown into the world; we do not approach the world from elsewhere and adapt some natural body to it. The way that the body organises itself on the telephone is as natural or unnatural as the way it organises itself in face-to-face conversation, in sports, in novel-reading or any other activity. While telephone technology causes users to re-organise their body in such a way as to occupy different real places, videogames cause users to re-organise their body to occupy a game-space that is composed of the different modalities outlined by Stockburger. Similarly, playing *Dance Dance Revolution* (Konami, 1998) in an arcade, *Motion Sports* (Ubisoft Milan, 2010) on the Kinect, and *Counter Strike* (Valve Corporation, 1999) on the PC are equally embodied experiences, though the pattern of shapes the body takes differs for each game.

How might we think about the range of shapes that the body takes in relation to games? Melanie Swallwell (2008) comments on the embodied nature of videogame play when she asserts that gamers 'play not just with their hands but with their whole body' (p. 90). With respect to the objective body, this is patently false. Of course, my whole body is present when I play, but there are a number of organs that are actively involved in the playing of the game, with others less active or not concerned at all with the game. However, with respect to the

phenomenal body, the claim is justifiable. Merleau-Ponty (2002[1945]) describes the way in which the body can arrange itself in consciousness based on action, saying that the 'body image' integrates the parts of the body 'only in proportion to their value to the organism's projects' (p. 114):

> If I stand in front of my desk and lean on it with both hands, only my hands are stressed and the whole of my body trails behind them like the tail of a comet. It is not that I am unaware of my shoulders or back, but these are simply swallowed up in the position of my hands, and my whole posture can be read, so to speak, in the pressure they exert on the table. (p. 115)

In games we get the same kind of stressing on certain parts of the body. Sudnow (2000[1983]) remarks his neighbours' failed efforts to learn *Breakout*, and puts it down to an inability 'to effect that transformation of sense needed to engage himself with big looking movements through little feeling ones' (p. 28). This 'transformation of sense' is happening at the level of the phenomenal body and is facilitated or determined by the tools available to the player. We must therefore think about these tools in order to understand the playing-body for particular games. Focussing just on games that use a keyboard or manual controller and putting aside the various forms of gestural control, these parts are the brain, the eyes, the ears, and the hands. Other parts of the body are involved at a less intense level – at exciting points the heart rate may increase, breathing may be affected, skin conductance may increase, and so on. But much of the body 'trails behind' like Merleau-Ponty's comet tail, as the phenomenal body organises itself in relation to the tools, the demands and the intensities of the game.

Antonin Artaud (1974) wrote that 'theatre is the only place where the mind can be reached through the organs and … understanding can only be awakened through our sense' (pp. 182-3, quoted in Machon, 2009, p. 80). But Artaud never played videogames. The primary text in videogames is less what players see with their eyes or hear with their ears but rather what they do with their hands. More accurately, the text arises from the relationship between what is seen and heard and what is felt in the hands.

The relationship between the game and the player, then, is not solely mediated by the avatar. The avatar is just one very visible component in the articulated game equipment. Nitsche (2008), for example, has elaborated on the importance of the virtual camera as a means of player perception and orientation (pp. 92-116). Another established component in

this articulated equipment is the controller that is held in the player's hands or the keyboard that rests under the player's hands. In the following section the focus will be on these manual control mechanisms rather than touch screen controls, full-body gestural controls or the host of peripherals available for specific games or in arcade machines. Each of these control schemes involve the establishment of a different relationship between player and game and so would require their own treatment. This is particularly due to the different role played by the hands in these alternative control schemes.

In a famous passage, Heidegger writes 'Every motion of the hand in every one of its works carries itself through the element of thinking, every bearing of the hand bears itself in that element' (1968, p. 23). In *The Thinking Hand* the architect Juhani Pallasmaa (2009) draws on Heidegger to put the hand at the centre of practical thought and creative activity. The hand does not, he argues, simply follow orders handed down from the mind, but rather 'has its own intentionality, knowledge and skills' (p. 21). It is seen as part of an articulated system that includes the mind and the eye, but it is not subordinate to these:

> As the performance is gradually perfected, perception, action of the hand, and thought, lose their independence and turn into a singular and subliminally coordinated system of reaction and response. (Pallasmaa, 2009, p. 82)

Pallasmaa's argument is based on a distinction between the body and the mind, with the hand encountering the world in a corporeal as opposed to intellectual manner. For Pallasmaa, the head/mind and body/hand both produce ideas, but while ideas emanating from the head 'tend to be conceptual, intellectual, and geometricized ideas,' those from the hand 'usually project a spontaneity, sensuality and tactility. The hand 'registers and measures the pulse of lived reality' (p. 117). This is a reversal of Cartesian dualism, in the sense that the fundamental separation between body and mind is not challenged, but the value associated with each is. Here, it is the body's knowledge that is more authentic, with the mind's calculating intellectuality betraying a certain coldness and even a lack of humanity. This approach to the body is seen in game studies. Melanie Swallwell (2008), for example, makes a distinction between head and body when she says that for experienced players of *Quake* '[c]onscious directing of the body ceases, such that it might be difficult to explain how you actually executed a move, as the knowledge is not in your head. It is kinaesthetic knowledge' (p. 78). The head here is associated with conscious planning and remembering. Kinaesthetic knowledge is unconscious, spontaneous and ephemeral.

Pallasmaa may be accused of using terms like head, brain and mind vaguely and interchangeably, and, while he grounds his investigation in phenomenology, his talk of mind and body lacks the discipline's rigour. But his thesis survives such quibbles if we rephrase it, expunging the mind-body talk and replacing it with the initially less exciting assertion that different kinds of actions are productive of different kinds of ideas. If we accept that actions of the hand are capable of producing and not just expressing ideas, and that the ideas produced due to actions performed by the hand have a particular hand-like quality that is different from the quality of other ideas, then this has repercussions for the role of the hands in mediating the player's presence in game space. Pressing buttons on a controller or keyboard is not only a means of expression in that it makes things happen on the screen; it also produces ideas as an action of the hands. It 'measures the pulse of lived reality,' though it does so in a different way to other manual performances.

Pallasmaa's thesis becomes problematic when applied to videogames – or indeed to digital technology and telepresence generally. This problem results from Pallasmaa's observations on the difference between hand drawing and computer drawing. The act of drawing for Pallasmaa constructs three images: the figure on the page, the image in the artist's mind and the 'muscular memory' of the act of drawing (2009, p. 90). These three images are connected through an analogic relationship. As an architect, Pallasmaa prefers hand-drawing to computerised drawing because computerised drawing lacks this analogic relationship and so lacks the muscular memory image produced during hand-drawing. In computerised drawing 'the hand usually selects the lines from a given set of symbols that have no analogical – or, consequently, haptic or emotional – relation to the object of drawing' (Pallasmaa, 2009, p. 97). Whether drawing a line, a curve, or a circle the computer user engages in essentially the same manual movements of point, click and drag and therefore the muscle memory for these three distinct images is identical. If we apply this to games we might say that most manual control schemes bear a non-analogical relationship between user input and on-screen image. Using the terms frequently employed in human computer interface, they are 'arbitrary' rather than 'natural' mappings. However, does it necessarily follow that in this arbitrary mapping there is no 'haptic or emotional' relation? Whatever about its applicability to computer drawing, the position seems untenable with respect to games, particularly action games. *Contra* Pallasmaa's anti-computer thesis and Kinect marketing campaigns, more natural interface mappings are not necessarily more interesting or engaging than arbitrary ones. The button combination required for a dragon punch in *Streetfighter 2* (Capcom, 1991) does not naturally map to the on-screen animation, but for

anyone who has played the game for any length of time that button combination and the movement of the hands it necessitates has come to bear an emotional and haptic signature of its own that is interwoven with the animation. This link between hand movement and animation may initially be arbitrary or semi-arbitrary but through habit it becomes as fitting as the link between action and effect in pens on paper, steering wheels on direction of travel, or any 'analogical'/'natural' human-computer interface.

While Pallasmaa discusses the hand in its importance in the creation of ideas, Raymond Tallis (2003) discusses the role of the hand in our presence in the world. He points out the hand's unusual doubleness which, unlike the eye, is both a sensory and a motor organ. It both manipulates objects in the world and is important in locating and orientating ourselves in the world. For this reason he argues that the hand is particularly important to our sense of presence: 'The particular role of the hand … in this regard is that it is active tactile perception associated with exploration and manipulation that presents us with the most pronounced sense of our own solidity.' (Tallis, 2003, p. 127).

Presence in the world is an important touchstone for writers interested in telepresence and immersion in electronic media. While agency is frequently seen as a central aspect of immersion it does not tell the whole story. The operator who remotely controls the position of a satellite from a lab on earth or the pilot who flies a fighter drone in a war zone from the safety of military base has, according to this definition, a bodily presence in space or in the war zone. While much presence research focuses on quantifying presence in order to develop systems that allow tele-operaters to feel present in distant or virtual environments, it is clear that the difference between a remote pilot and a soldier on the ground is not one of quantity but of quality. Apart from agency and perceptual richness the quality of this presence is determined by vulnerability. If I am operating on a distal or virtual environment then the quality of my bodily presence there is determined by how much information I have on that place and how much impact I have there but also the extent to which objects in that place can impact me. The hand that controls virtual or distant objects via a joystick, gamepad or keyboard may have a great deal of agency in the world, making it a useful motor organ. But its status as a sensory organ is diminished, perhaps entirely.

The work of Gregersen and Grodal (2009) on control mechanisms in games seems pertinent here. They have pointed out that videogame control mechanisms tend to emphasise the player as agent and de-emphasise the player as patient. They are particularly critical of gestural control schemes which fail to provide the feedback that we get through the heft of control pads, the resistance of their buttons and sticks and more conspicuous feedback

mechanisms such as vibrating motors. Any sense of being acted upon by game objects is, according to Gregersen and Grodal, achieved through the audio-visual presentation, though this may, through synaesthesia, be translated into low level tactile sensations (p. 81).

Gregersen and Grodal take a human-computer-interface approach to describing several videogame control schemes in terms of a mapping between primitive actions, or P-actions, performed by the player in physical space and on-screen actions in the game. This involves a mapping of physical actions onto a virtual body. What is at stake in this mapping is the sense of agency and sense of body ownership felt by the player. Using terms from Donald Norman (2002), mappings exist on a continuum between the arbitrary and the natural. Arbitrary mappings include button pushes for game actions whereas natural mappings include thumbstick directions that correspond to direction of movement in the game and gestural controls for such actions as swinging and throwing. They also distinguish between mappings that go from small P-actions to large in-game actions, such as we find in many games using a 'mainstream controller scheme,' from mappings that go from large P-actions to small, or similar sized actions, such as we find with gestural controllers like the Wii-remote. They claim that the kind of mapping can be made to do expressive work in concert with game characters and stories, arguing that an arbitrary mapping in *ICO* (Team Ico, 2001) serves to separate the protagonist from the player, reinforcing a theme of isolation present in the game's story that would be undermined by a natural mapping.

Corporeal empathy in games is based heavily on this mapping between player movement and avatar movement, though it is not exhausted by this mapping, and the spectacle of the avatar and the avatar as character feed back into corporeal empathy. Games that mess up this mapping can reduce the sense of corporeal empathy. Aslinger criticises the dance game *Flow! Urban Dance Uprising* (Artificial Mind & Movement, 2005) for this reason:

> In Flow, it is a stretch to think that the diegetic operator acts of the player bear any "realistic" relationship to the "machinic embodiments" of the onscreen avatar's breakdancing moves [Galloway, 2006]. Players seem willing to suspend disbelief that the scrolling arrows in DDR match up exactly to the movements of the player on the pad and the movements of the onscreen avatar, but the complicated breakdancing moves performed by the avatar in Flow substantively challenge the relationship of action and outcome that Katie Salen

> and Eric Zimmerman [2004] posit as critical to designing meaningful play' (2009, p. 2).

The hand not only manipulates the controller as a motor organ but also registers the weight and shape of the controller and the resistances of its buttons and sticks as a sensory organ. These various perceptions, many happening semi-consciously or unconsciously, become part of our impression of the game world. While Gregersen and Grodal's reading of *ICO* and Aslinger's criticism of *Flow!* suggest a certain consciousness of and attention to the control scheme on the part of the player, Graeme Kirkpatrick (2009) argues that control schemes primarily affect players at an unconscious level. He sees the control scheme as a repressed aspect of gameplay, identifying videogame form in the tension between the action of the hands and the spectacle of the image. This repression could be seen as a result of habit. Tallis (2003) argues, for example, that the hand gains a fluency in a particular action or set of actions where 'in one sense you stop doing [the actions] at all: they happen with your permission, collusion etc. (p. 185). For Kirkpatrick, the repression of the hand-controller relationship by the player causes the energy formed in this relationship to be attributed to the on-screen action, enriching this action with its energy. Tension and release are of particular importance in the creation and 'misattribution' of this energy. It is this imagined re-allocation of energy from what Stockburger would call the user space to the audio-visual representational space that is responsible for the compulsive nature of games.

Kirkpatrick's thesis provides one possible process through which kinaesthetic space comes into being; not through a simple mapping of one space to the other but through an unconscious confusion of one space for another. However, Kirkpatrick does not describe how articulate this excess energy is. There seems to be three possibilities here. The first is that all excess energy is essentially the same, in which case any control scheme will be productive of energy that is transferable to any on-screen action with equal force and fitness. The second is that energy produced in the hands is quantitatively comparable with on-screen action. This is not to say that close comparisons are necessarily more pleasurable. As has been noted by Sudnow and by Gregersen and Grodal above, pleasure can be found in a large contrast between the energy involved in the actions of the player and the on-screen response. The third possibility is that the two are qualitatively comparable. This would involve a setting out of different kinds of excess energy associated with different parts of the hand – fingers versus thumbs, various combinations – and different movements of the hand – grasping, releasing, pressing, holding, spreading etc. along with different kinds of on-screen actions that are

appropriate to these energy types. This approach would go beyond mapping as a comparison of the movement required by the player and enacted by the avatar (I swing my arm, the avatar swings its arm; I pull the controller trigger, the avatar pulls a gun-trigger). Rather it would attempt to read the underlying energy at play in player's actions and translate this energy to audio-visual images.

David Sudnow (2000[1983]) places the hands and the controller at the centre of the process he went through in learning to play *Breakout*:

> That's how knob and paddle are geared, a natural correspondence between the body's motions, the equipment, and the environs preserved in the interface. There's that world space over there, this one over there, and we traverse the wired gape with motions that make us nonetheless feel in a balanced extending touch with things. (p. 29)

Again, we get the word 'natural.' But as I have argued with respect to moves in *Streetfighter 2*, mappings can become natural with habit. When we talk about natural and arbitrary controls we are really talking about the initial time a player has with a game. It is easier to learn certain mappings and more difficult to learn others. But it does not necessarily follow that mappings that are easier to learn are, in the long run, more pleasurable. However, games compete for the attention of their players in the first few minutes of playing and so much attention in game design is focussed on these first few minutes.

The importance of the hand in Sudnow's relationship to the space of *Breakout* is apparent:

> the more competent you become the more these lights take on a sort of environmental density and you're pulled by the fingertips onto a full-scale playing field whose dimensions aren't found on rules (Sudnow, 2000[1983], p. 26).

> At first it felt like my eyes told my fingers where to go. But in time I knew the smooth rotating hand motions were assisting the look in turn, eyes and fingers in a two-way partnership (Sudnow, 2000[1983], p. 32).

This conception of the hands as intentional beings both leading and being led by the eyes is reminiscent of Pallasmaa. But what Sudnow makes clear is the different learning curves involved for the eye, which initially takes the lead and the hands, which require time to locate themselves in the game space. Sight is a distal sense in everyday life, but the hands are used to performing proximate tasks. In games and other examples of telepresence the hands are confronted with a manual task where the hands perform an action 'here' and something immediately happens 'there' with no apparent physical connection between the two spaces.

The relationship between what the player's hands do and what the avatar does on screen is instrumental in establishing the phenomenal body as it exists at a particular moment in videogame play. We might term this dynamic phenomenal body the playing-body. This will obviously be different for different games and, indeed, over the course of a single game. The body takes the shape that the game space allows it to take through the tools available to the player. This is not to say that the playing-body is identical to the game space. The space is the sum of possible shapes the body can assume, but the body is never capable of assuming the shape of the entire game space at once.

The question arises as to the expressive or representational nature of the playing-body. How does the playing-body represent itself to the player? In what way do games involve themselves in a discourse on the body? The first way in which the playing-body may be considered a representation is in the way that it refers to other games' game-bodies. These are the conventions of game-play. The playing-body as it exists in relation to *Call of Duty 4: Modern Warfare* (Infinity Ward, 2007) is closely referenced by the way it exists in relation to *Call of Duty: Modern Warfare 2* (Infinity Ward, 2009). For the player who has played the first of these, the second clearly recalls its predecessor in how it feels. Different genres and different platforms present certain expectations to players as to the playing-body they will be asked to adopt, and the gamer who exclusively plays first person shooters will feel certain adaptations taking place when sitting down for a session of *Mario Kart* (Nintendo, 1992) or *Europa Universalis III* (Paradox Interactive, 2007).

Secondly, the playing-body represents as a lived body-image in itself. This refers to the way in which presentation and control interfaces intensify certain parts of the body and privilege certain organs in the playing-body at the expense of others. Here, the playing-body exists as a reflection of or even a commentary on the body as it exists in everyday life. The ability for different kinds of games to establish different game-bodies which reflect different ways of corporeal being is suggested by Edvin Babic (2007) when he distinguishes between

the subjectivity created through space in first person shooter (FPS) games and that created through massively multiplayer online role playing games (MMORPGs). In FPS games 'space is reified as an automatic and deterministic force directly shaping the game world and game play in a deterministic cause and effect way' (Babic, 2007, p. 5). In MMORPGs, however, players 'discover themselves as subjects' in a more open way (Babic, 2007, p. 8). Babic's article may oversimplify the distinction between these two broad genres, but the central point is the assertion that different games form their players in different ways. However, he clearly favours the kind of subject formation that is present in MMORPGs, which he sees as empowering the player, over the kind of subject formation present in action games, which he sees as forcing the player into certain subject positions. Contrary to this position I would argue that in FPS games the player *is* involved in subject formation, though it is of a different, perhaps more ephemeral, kind. The FPS game is often less interested in identity as a set of personality characteristics or place within a social network (though not always, for example in the case of multiplayer clans) so much as an identity of corporeal being or perhaps of a corporeal becoming such is the rapidity of the cycle of its constitutions, dis-assemblies and transformations. This cycle is enacted not solely in deaths and respawns but in the subject postures that are tried on moment to moment throughout the game and are linked to strategy, tactics and performance and are mediated by competence.

The idea of taking on a cultural identity (as opposed to a 'corporeal becoming') is often very restricted in games, as pointed out by Martti Lahti (2003), who argues that:

> games set limits to the mutability of the body. Rather than deconstruct or destabilize identities or raced or gendered belonging, such games invoke and reinforce a narrow set of highly codified, pre-existing categories to be temporally inhabited as an easily assumed, read-to-be-invaded vessel of the Other. (p. 167)

Lahti contrasts this reductive and ideologically determined character identification with a more rich corporeal transformation in which the player's body is extended into game space, fusing with the technology and taking on a new cyborgian identity. Lahti sees character identification as an 'ideological framework' that contextualises corporeal identification (2003, p. 165). This argument, however, while convincingly articulating the ideological trappings of playing racial and gendered identities, neglects the ideological dimensions that this corporeal identification – an identification that seemingly precedes or transcends race and gender –

exercises in itself. It might well be argued that the 'invoking and reinforcing' of ways of being either at the level of character or of the body never entirely determines how a player will respond, though it does seem valid to suggest, following the work of Stuart Hall (1980), that games set up certain preferred readings. This leads to the thorny question of how *likely* alternative or oppositional readings are. For Roland Barthes (1977), a text may be 'writerly' or 'readerly'; for Umberto Eco (1989) it may be 'open' or 'closed.' It might be tentatively suggested that the centrality of play to videogames is conducive to a playful and therefore open and writerly relationship between player and avatar. Certainly my own relationships with many of the avatars I have played have been shot through with negotiations and irony and I cannot think of any character I have identified with in an unthinking way. The same caveat applies when thinking about the ideological trappings of embodiment. Certain embodiments may be loaded with cultural baggage, but what players do with that baggage is another story.

Thinking about the ideology involved in embodiment and technology, Alison McMahan (2003), points to Char Davies's *Osmose*, a virtual environment in which control is exercised through shifts in the user's balance and breathing rather than through hand controls or gestures:

> *Osmose* … shuns conventional hand-based modes of user interaction which tend to reduce the body to that of disembodied eye and probing hand in favour of an embodying interface which tracks breath and shifting balance, grounding the immersive experience in that participant's own body. (Davies, 2003; quoted in McMahan, 2003, p. 78)

Here, *contra* Pallasmaa et al., the eye-hand is characterised as essentially non-corporeal, with an interface that makes use of other parts of the body such as the lungs and the legs allowing for a more authentic bodily experience. While Lahti sees corporeal identification as a category that precedes or escapes an ideological framework, for Davies and for McMahan the body is already an ideological category before we even begin to think of such things as racial and gendered identities.

The playing-body exists within this often contradictory bodily discourse, and how players or critics thinks about the body in games will be determined in large part by what positions they take in this discourse. The playing-body exists, as do embodiments in other art forms, in relation to prevailing embodiments in society, which exist in the context of this

discourse. James Paul Gee (2006) approaches the body in games by suggesting that games are 'simulations of embodied experience and preparations for action' (p. 8). While Gee's framework is not phenomenological, this conception of the body preparing for action through a virtual body is close to ideas expressed by Merleau-Ponty, for whom the virtual body is the body we imagine acting through. For Gee the question is not whether we have a real bodily presence in the virtual environment but rather how the quality of that presence serves to clarify or represent the body as we experience it in everyday life. However, the body as it exists in everyday life is not a biological and a-historical fact. Rather, the specific kind of body that the player takes on during play reflects the body as it exists at a particular moment in the history of the body.

Jane Desmond (1998) makes this point in relation to how dance references bodily norms. Her analysis of 'ritualized movement' aims to demonstrate 'how social identities are codified in performance styles and how the use of the body in dance is related to, duplicates, contests, amplifies, or exceeds norms of non-dance bodily expressions within specific historical contexts' (Desmond, 1998, p. 154). By the same token, various game-bodies may 'duplicate, contest, amplify, or exceed' the body as it exists in the societies in which these games are made and played. This 'everyday body' is a politically loaded idea. There is no *natural* body. The body is formed and exists inside and in relation to the culture of which it is a part. But frequently the body is de-historicised in accounts of embodiment in art and technology. This can be seen in Vivian Sobchack's (1994) celebration of the 'cinematic body' and suspicion of the 'electronic body.' Sobchack argues that cinema clarifies our being-in-the-world. This she contrasts with the electronic image, which diffuses the human body instead of organising it as an intending agent. Applying Sobchack's criticism of electronic presence to videogames, Timothy Crick (2011) suggests that 3-D avatar based games – thanks in part to their reliance on cinematic conventions – have the same intentionality and therefore are equally capable of this kind of illumination of corporeal experience. But Crick does not get to the heart of the problem with Sobchack's article. While she heeds Heidegger's warning that 'the essence of technology is nothing technological' with respect to the cinematic, she ignores it with respect to the electronic, engaging with this latter form – if it can be called a form – without attending to the way it is presented and only to the way in which it is transmitted. Although Sobchack concedes that the body is not an a-historical fact but something that changes according at least in part to the media we consume, she clearly privileges the cinematic body as somehow more human than the body that forms in relation to electronic technology. If electronic media has shaped the body in a particular way for a

section of society it stands to reason that electronic media are well equipped to reflect on this new body. Sobchack's wariness of the electronic body is partly due to the millenarian writings of the cyber prophets of the early 1990s. She takes this rhetoric about 'virtual space' and 'meat space' at face value, judging the electronic as a rejection of the body. The two decades since then have allowed for a more considered reflection on the way the electronic organises the body. Crick's defence of the 'game body' is in fact a re-casting of the game body as cinematic rather than a defence of diffuse presence as a legitimate way of presenting the body in an age of tele- and virtual presence.

The playing-body can represent and clarify the body as it exists in a particular historical moment, and the avatar often plays a large role in this process. For Merleau-Ponty we do not move our objective body but our phenomenal body (2002[1945], p. 121). This is why our body in motion is not a text to ourselves. It is not visible *as an intentional thing*. The phenomenal body is not read directly, and one's own phenomenal body is not read at all. In dancers, we come to them through their objective body – the image they make as 'hieroglyphs' – and infer a phenomenal, intentional existence from these shapes. We then inhabit this phenomenal existence. In games, however, when we see the avatar moving we see it as an object that is also an instrument. It does not have intention, though its personified form posits intention. This is the avatar's doubleness. As with all instruments, the intention traces back to the user (in this case, the player); but unlike in other instruments the avatar presents itself in such a way as to allow the player to imagine it as intentional and responsible for action. Through this trick of doubleness the avatar becomes an objectification of the player's phenomenal body. Merleau-Ponty notes:

> I observe external objects with my body, I handle them, examine them, walk round them, but my body itself is a thing which I do not observe: in order to be able to do so, I should need the use of a second body which itself would be unobservable. (2002[1945], p.104)

In this analysis, the avatar allows the player to inhabit this 'second body' from which the body can see unseen. To say that the playing-body is personified by the avatar is not to say that the avatar exhausts the reaches of the playing-body but that it represents the playing-body in the sense that an ambassador represents a nation. What is unusual in the avatar is that it represents the phenomenal body back to the player. Central to the avatar's ability to

represent in this way is the doubleness already outlined; that it is both a present-at-hand image and a ready-to-hand tool.

With this concept of the playing-body established let us return to the distinction between the avatar as on the one hand a means of perception and action (ready-to-hand) and on the other as an object of perception (present-at-hand). The avatar's peculiar double status does not mean that the avatar is encountered by the player as two separate things. However, for the purposes of explanation it is useful to treat separately the aspects of the avatar that fall under each category.

In order to understand the avatar as a means of perception and action the following section will approach game play as a performance. By separating out the idea of game play as performance, performance is being defined more narrowly than it has been in much research. But this is done in order to isolate the specific way in which the avatar is used as a means of perception and action from the way it is used as an object of perception. This is not to say that the relationship between the player and the game in general should not be considered performative but that by considering performance in this special sense as control and manipulation of the avatar we can unpack some of the processes involved in the player-avatar relationship.

The most obvious example of the avatar as a means of perception is in games that have a first person viewpoint, where the player sees as if through the eyes of the character. Similarly, in games where the viewpoint is from behind and slightly above the avatar, there is an overlap between what the character 'sees' and what the player sees. In this case there is often a virtual camera that the player manipulates in concert with the avatar to perceive the game environment. Alternatively, the player may be only in control of the avatar, with the virtual camera following the avatar's actions. The avatar is still a means of perception in games where this direct overlap between what the player sees and what the character sees is absent. In side-scroller platform games, for example, the character 'sees' off screen while the player can see behind the character's back. The avatar is still a means of perception in these games since it is by manoeuvring the avatar that the player determines the areas of the game space that can be perceived. These platform games may contain sections where the function of avatar as means of perception is taken away, for example in the penultimate section of Iggy's Castle in *Super Mario World* (Nintendo, 1990), where the screen view moves automatically and at a constant pace from left to right regardless of the speed at which the player moves Mario, or the prologue to the final level in *Sonic 2* (Sonic Team, 1992), where the scrolling follows the speed of the plane and not the movements of Sonic. Most team

sports games function in a different way. In the normal mode for soccer games like the more recent games in the *FIFA* (EA Sports, 1993-2011) or *Pro Evolution Soccer* (Konami, 2001-2011) series, for example, the camera responds to the movements of the avatars only indirectly in that it follows the ball. The position of the ball, however, is determined in part by the actions of the avatars. Sports games sometimes provide the option of sticking with particular players, for example in the Superstar mode in the last few *Madden NFL* games (EA Tiburon, 2005-2011), but this is an alternative to the main ball-following method.

As well as being a means of perception, the avatar can be a means of completing game tasks. That is, it is a means of action. In many games it is through the avatar that the player collects items, destroys enemies, solves puzzles, talks to non-player characters and so on.

Writing about his game *Adventure* for the Atari 2600, Warren Robinett (2006) comments on the relationship between player and avatar: 'When [players] say, "I ran into a wall" they mean the shape they moved ran into a wall; they *are* that shape' (p. 697). I would argue that this is a slight misstatement. Rather, that shape is a tool that the player has incorporated into their body. It is similar to a person saying 'I cut the cake,' when they really mean 'My knife cut the cake.' This statement does not strictly speaking mean that the person *is* their knife, but that the knife has temporarily been incorporated into the person's body. If we use Merleau-Ponty's understanding of the tool as a means of perception, a blind person may say that they noticed a corner when they should say 'my stick noticed a corner.' To incorporate the tool into the body is more than a trick of speech; it demonstrates a real incorporation of the instrument into the phenomenal body of the subject through what Drew Leder (1990) calls 'phenomenological osmosis' (p. 34). This is what is meant by Matthew Lombard and Theresa Ditton (1997) when they define presence as 'the illusion of non-mediation' ('Presence Explicated' section, para. 1). The mediation of the knife or the cane is temporarily forgotten in the way that the mediation of the screen or interface is temporarily forgotten in the moment of virtual presence. However, this incorporation of the tool into the body is not guaranteed, and may take place to a different degree in different situations. Certainly the relationship between the blind man and his cane is more likely to be thought of as an instance of incorporation than is the example of the person using a knife to cut a cake. In the former case the tool is used for a central act of perception and orientation and may be used for long periods of time over many years. In the latter case the tool is used for a less central task and for a shorter period, and in this case may be simply a linguistic contraction. However, even in cases in which we might expect incorporation, it does not always occur. Craig Murray and Judith Sixsmith (1999), for example, found that while many users of

prosthetic limbs come to consider the prosthesis as a part of their body, this is by no means universal, and when it does happen it is usually after many years of use (pp. 331-2). The tool is not, then, *necessarily*, incorporated into the body, but it can be. I would argue that the avatar as means of perception and action in the game environment often works towards the achievement of this kind of incorporation.

Merleau-Ponty attributes this ability of the tool to become incorporated into the body to habit: 'Once the stick has become a familiar instrument the world of feelable things recedes and now begins, not at the outer skin of the hand, but at the end of the stick' (2002[1945], p. 176). We see this in games when a player used to one kind of interface begins using a different one. The unfamiliar control system shifts the limits of the body. Distribution of consciousness is no longer smoothly toward the game but is awkwardly concentrated in the hands, at least until the new control mechanism becomes habitual and the phenomenal body readjusts to it.

But the avatar is also an object of perception; often, but not always, the main focus of the player's gaze. Generally speaking, the avatar is most spectacular at the moments when the player's game-playing skills are least in demand. This may happen on the one hand if there is little manipulation of controls or strategic thinking required on the part of the player and on the other if the player has become proficient enough with these tasks to be able to do them while also encountering the avatar as image or character. In the midst of the action the player is not focussed on the avatar as spectacle but on how the avatar can impact the environment. When the avatar is offered as a spectacle this image is often shaped by cinematic conventions. Cut-scenes are the most obvious example of this. However, during gameplay cinematic conventions may also be employed to frame the avatar as object of perception. In *GTA IV*, for example, when the avatar, Niko, is killed the game slows down like an over-cranked film sequence. Also, as in many 3-D type games, the player can change the position of the virtual camera. This option is usually included to accommodate players who are not happy with the way the camera operates at the default angle or distance. In *GTA IV*, apart from the conventional game camera positions, a set of cinematic views is provided as an option, which makes playing the game very difficult, but reframes the avatar as a cinematic spectacle.

In order to examine the player's relationship to the avatar as spectacle it is useful to draw upon work on the body as spectacle from other disciplines. Antonin Artaud (1958) wrote the following on seeing a troupe of Balinese dancers perform:

> through the labyrinth of their gestures […] the sense of a new physical language, based upon signs and no longer upon words, is liberated. These actors, with their geometric robes seem to be animated hieroglyphs. (p. 54)

The idea of movement as a form of non-linguistic communication has troubled many dance and theatre critics, and much work over the last century has involved an effort to find a system of interpreting Artaud's 'hieroglyphs.' The difficulty of this is acknowledged by Patrice Pavis (1981), who claims:

> nothing is easier for the critic or for the spectator than to refer to the text; nothing is more difficult, on the other hand, than to capture the slightest gesture of the actor … Once gesture becomes the object of a descriptive discourse, it loses all specificity; reduced to the level of a text, it does not give any account of its volume, of its signifying force, of its place in the global stage message. (p. 65)

Gesture – and movement more generally – is both unparaphrasable and ephemeral, escaping a semiotic method that works with text and static images. However, adaptations of semiotics have been invoked in dance criticism. Jane Desmond (1998), for example, approaches dance criticism as a 'kinesthetic semiotics' (p. 154). Avoiding the approach to the body as a representation she analyses the body's actions and movements as texts in themselves. She cites Laban's Effort/Shape methodology as providing a vocabulary with which to discuss the body as text in this sense. This vocabulary involves continuums that describe felt bodily phenomena such as weight (from strong to light), attitude toward space (from direct to indirect), and use of time (from quick to sustained). This is a step toward interpreting or at least discussing the 'hieroglyphs' that Artaud describes. However, it does not explain the way in which these bodily phenomena as felt by the performer come to affect the audience.

Much performance theory that has focussed on this relationship between performer and audience has centred on the question: What is it about watching a performer that gives pleasure to an audience? Theories that seek to answer this question often call upon the concept of empathy. Susan Leigh Foster (2011) has provided a genealogy of the term which ties empathy to physical movement. The term was first used by the late 19th century German aesthetician Robert Vischer in order to understand not fellow-feeling, which came to be the

main use of the word in the 20th century, but the effect of sculpture and painting on the viewer. For Vischer, the viewer merged with the work of art, but this was not a merging of identity with some character represented in the painting or sculpture but rather with the physical form of the work itself. This was achieved due to the fact that both work and audience possessed a physical form and so the audience was capable of imagining the work's form as belonging to them:

> When I observe a stationary object, I can without difficulty place myself within its inner structure, at its centre of gravity. I can think my way into it, mediate its size with my own, stretch and expand, bend and confine myself to it. (Vischer 1994, quoted in Leigh Foster 2011)

In the 1930s the dance critic John Martin (1939) introduced the term 'metakinesis' into dance criticism in order to explain the way in which a dancer's body conveys emotion and transfers it to the active audience. This is accomplished through the viewer internally mimicking the movements of the dancer:

> Not only does the dancer employ movement to express his ideas, but, strange as it may seem, the spectator must also employ movement in order to respond to the dancer's intention and understand what he is trying to convey. (Martin, 1939, p. 31)

Here, the imaginary movement performed by the audience is a 'means of perception' (p. 32); that is, watching the dancer moving is not in itself the important perceptual act but only a first step in the excitement of 'muscular sympathy' that is the central perceptual act in dance appreciation. Anyone can *see* movement, but it is only the audience member who engages in inner mimicry that *perceives* movement through muscular sympathy.

Martin understands dance as a communication between dancer and audience. The dancer intends to 'arouse us to feel a certain emotion about a particular object or situation' (Martin, 1939, p. 53) and the sensitive critic can pick up this intention not through an interpretation of arcane symbolism employed by the dancer but through attention to the critic's own bodily reaction to the presented piece and an ability to infer the dancer's intention and emotional state through the emotional state precipitated in the critic by the act of mimicking the dancer.

Merleau-Ponty gives a phenomenological account of this process where gesture that is witnessed is twice performed:

> The communication of comprehension of gestures comes about through the reciprocity of my intentions and the gestures of others, of my gestures and intentions discernible in the conduct of other people. It is as if the other person's intention inhabited my body and mine his. The gesture which I witness outlines an intentional object. This object is genuinely present and fully comprehended when the powers of my body adjust themselves to it and overlap it. The gesture presents itself to me as a question, bringing certain perceptible bits of the world to my notice, and inviting my concurrence in them. Communication is achieved when my conduct identifies this path with its own. There is mutual confirmation between myself and others. (Merleau-Ponty, 2002[1945], p. 215)

Melanie Swallwell (2008) indirectly connects Martin's work on empathy to the player-avatar relationship in her use of Anne Rutherford's work on 'the cinema of embodied effects' and Aaron Anderson's work on 'a kinaesthetic cinema of attractions' in martial arts films to describe this relationship. Each of these theories is an adaptation of Martin's work to account for empathy in film. For each, the important kinaesthetic principle is sympathy between the action on screen and the viewer's knowledge of what that action would feel like to perform. Swallwell's contribution allows us to embrace James Newman's idea of 'vehicular embodiment' without rejecting (as he does) the notion of empathy. This is through the separation of empathy from questions of character identification and returning it to the realm of kinaesthesis and proprioception – systems that provide information about the state of the body such as its position, balance and movement. Swallwell is clearly wary of the term 'empathy' and the psychological associations it has accrued over the last century when she writes in an endnote 'I believe "empathy" is the right term here, because of the projection that is involved. The *OED* definitions and examples all emphasize projection, with some pointing to the feeling involved as being a muscle, rather than an emotional, state' (p. 90).

Recent research on mirror neurons (e.g. Gallese & Goldman, 1998; Gallese, 2001; Rizzolatti et al. 2002), which are neurons that fire both when we perform an action and when we see that action performed, has lent a new scientific credibility to Martin's thesis. For both Vischer and Martin empathy is not a guaranteed response but rather requires some conscious

work on the part of the audience. Vischer must 'think [his] way into' the body of the observed object. Martin's mission was an educative one as well as a critical one. He saw the need to teach people lacking the sensitivity required to appreciate modern dance a means of accessing it. While mirror neurons might initially seem like evidence for the existence of a spontaneous, unmediated kind of empathy, Leigh Foster (2011) cites studies that suggest, while there is a neurological basis for empathy in mirror neurons, the sensitivity of these neurons is linked to people's familiarity with the action being observed. The mirror neurons of dancers are more active when watching performances of their own style than those of other styles with which they are less familiar (Calvo-Merino et al. 2005 cited in Leigh Foster 2011, p. 167).

The concept of empathy can easily lead us again into an a-historical conception of the body. In the realm of theatre Josephine Machon (2009) uses empathy to describe the effect of what she terms 'visceral theatre.' Seeing action on stage can become translated into an empathetic feeling of how it would be to perform that action. Machon sites this feeling in the body, terming it 'corporeal memory' and seeing it as the cornerstone of this kind of theatre (p. 6). Machon's approach moves between the somatic, sensual response to visceral theatre – that response that is felt immediately in the body – and the semantic, intellectual response – that response that is a conscious processing of signs.

This distinction between a cerebral and corporeal response to a work posits the body as a universal category existing, unlike the mind, outside of history and culture. For Leigh Foster, this is a move that is consistently made by writers and critics that draw on the concept of empathy. However, the development of this concept – its political and critical value and the processes by which it functions – is due precisely to changes in how the body has been conceptualised at particular points in history. 'The cerebral response' and 'the corporeal response' are both culturally constituted.

Leigh Foster (2011) differentiates Martin's metakinesis, with its emphasis on communication between dancer and audience, from a form of mimicry that is devoid of meaning in this narrowly communicative sense (pp. 162-3). She quotes the response of Yvonne Rainer to a performance of the Ramayana in India which contrasts the emotion that is readable in the facial expressions of the dancer with the dancer's unreadable hand gestures. These hand gestures, though not communicating a feeling or emotion in the way the dancer's facial expression does, call for a different mimetic, empathetic response in the spectator:

> For Rainer "kinetic empathy" consisted in an immediate, seemingly spinal-level mimetic capacity. Divorced from and devoid of emotion, kinetic empathy was the capacity to reproduce physical articulation. The face of the Indian dancer projected a chart of human feeling whereas the hands performed a purely kinetic repertoire. (Leigh Foster, 2011, p. 163)

But Leigh Foster cannot conceive of such an immediate capacity. Choreography entails a kinaesthesis, which she defines as 'a designated way of experiencing physicality and movement that, in turn, summons other bodies into a specific way of feeling towards it' (p.2). The sense of empathy between dancer and audience is carefully constructed and culturally specific and not an immediate union. What is being rejected is a false correspondence between the body and immediacy. Empathy is historically specific, dependent on how the body is conceptualised at a particular time in a particular society. Her genealogy of the concept takes us through a body of the humours (Galenic), through the body as machine, to a post-modern body constructed through mobile telecommunication and telepresence. This last version of the body is of most relevance to videogames. The version of empathy we need to think about is one that allows for a body that can be effectual in more than one location at a given time and that can switch its attention between local, distal and virtual locations through technologies. To inhabit the heterotopic space that characterises game space for Stockburger (and more generally the increasingly heterotopic space of contemporary society) requires a diffuse body. This is not, of course, to argue that the contemporary body is physically different to the body as it has existed throughout history. The body in question here is Merleau-Ponty's phenomenal body, a body that adapts itself to its tasks. Viewed in this way action videogames might be seen as a means through which the contemporary body is represented.

Throughout this thesis space will be considered both as a means of representation and as a means of embodying the player. Taken together the following analyses will I hope be seen as an identification of various uses – in both senses of representation and embodiment – that game spaces make available rather than a set of preferred or complete readings. In looking at different ways in which the spaces in games might be used the thesis aims to identify interpretive strategies that may or may not be taken up by interpretive communities as videogames continue to develop as expressive media.

2. Place

For many games setting is a background or peripheral aspect. For example, PopCap's hit colour-matching game *Zuma* (2003), swapped its Aztec theme for a Polynesian theme in its follow-up *Zuma's Revenge!* (2009) without substantially changing the experience of playing the game. The new location allowed for a different colour palette and artwork, different music and a different set of jokes, but neither the original nor the sequel sets out to represent Aztec or Polynesian culture with any subtlety or originality, instead using their setting as convenient shorthand for exoticism and primitivism (Figure 1). The changes that make the sequel worth buying for fans of the original are in new gameplay features. These changes do not have any particular connection to the new setting, but the setting does act as a visible sign that differentiates *Zuma's Revenge!* from its predecessor.

Figure 1: The Aztec setting of *Zuma* is re-skinned as the Polynesian setting of *Zuma's Revenge!* without substantially altering the game.

But games that have a greater investment in setting could not change location without fundamentally changing the game. This greater investment could be due to a logical connection between the setting and the main gameplay mechanics, the integration of the setting into a story that features prominently in the game, or the choice of a setting that the game's players have a particular attachment to. Rockstar Games' *Red Dead Redemption* is essentially a re-skinning of their sister company Rockstar North's *GTA IV*, moving its contemporary New York setting to the last days of the Wild West. The basic framework is the same in both games but the new setting is directly connected to changes in the kinds of stories and characters encountered. There is also a change to the feel of the gameplay through the use of horses instead of cars and six shooters instead of sub-machine guns. In the same way, the interplanetary setting of *Halo* differentiates it from *Call of Duty* (Infinity Ward,

2003), which has a European World War II setting. Both games belong squarely in the first person shooter genre, but their different settings make different weapon load-outs and a different variety of enemies, landscapes and vehicles possible. The different settings also lead to different kinds of stories, with *Halo* involving an extravagant sci-fi fantasy in which the fate of the galaxy is entrusted to an all-powerful hero, and *Call of Duty* focusing on the unsung heroisms performed by ordinary soldiers in World War II. Though both *Halo* and *Call of Duty* are original creations, the broad outline of their settings have been established in sci-fi and war literature and film. They both speak particularly to fans of these genres and also help to develop these genre's conventions.

Though I have suggested here a clear difference between games in which setting matters little (the *Zuma* games) and those in which setting matters a great deal (*Halo* and *Call of Duty*), the extent to which a game's setting asserts itself can change over the course of a game. The setting may loom large at moments when the player's attention is directed toward it or at points when there is little for the player to do. By the same token it may recede into the background as the player's attention is guided elsewhere. In *Zuma's Revenge!* the setting asserts itself most forcefully in the screens between gameplay sequences. A tattooed islander in grass skirts gives us gameplay tips while holding up a bamboo scoreboard. A tattered Treasure Island-type map shows us our progress. These screens are a tongue-in-cheek casting of the player as an 18th explorer, but it is not a role that is inhabited with any great commitment when the player is actually playing.

In terms of content, the gameplay sequences, with their jungle setting, Tiki-style balls, and Polynesian music, caricature a Tiki aesthetic no less than do the screens between levels. The between-level screens are more suggestive of the Polynesian theme not because the content is different but because the player occupies a different position with respect to the game's space. The attention required during game-play is entirely unrelated to the setting, to the extent that the music fades into the background and the Tiki carvings on the balls become less significant as a reference to a particular culture but, like the colours, as a means of differentiating the balls. However, even in the most frantic (or hypnotic) of gameplay sequences the setting is unlikely to ever entirely recede from view, and the Tiki aesthetic abides, if as nothing else as an atmosphere. Of course there are other contextual factors influencing how present the setting is for a particular player. Discussing the political resonances of *Command and Conquer: Generals* (EA Pacific, 2003), Geoff King and Tanya Krzywinska (2006) identify several of these contextual factors, including each player's receptivity, political orientation, interest, familiarity and expertise (pp. 71-72). Games are

encountered from many perspectives by different players, and methods like discourse analysis and interviews may be used to attempt to survey the range of these perspectives and how they impact on players' experience of games. The purpose of this thesis, however, is to discuss how particular game forms make available particular experiences rather than to detail whether and to what extent these possible experiences are picked up, neglected or rejected by particular players.

The same is true of games in which setting is likely to be a more conscious part of the experience. Even in these games there will be moments, perhaps long periods, when the setting is 'forgotten,' becoming part of the background or attended to only in terms of its strategic or tactical possibilities. But when the setting is an integral and conscious part of the game, what pleasures does it involve? Firstly, we might think of the pleasure as representational. The game may represent a setting from real life, such as *The Getaway*'s London (Team Soho, 2002), or the suburbs of *The Sims* (Maxis, The Sims, 2000). It may represent a setting that is familiar from other media, such as the many *Star Wars* games, or from its generic associations, such as *Ultima IV*'s fantasy world of Sosaria (Origin Systems, 1985). It may also have an entirely novel setting, like the surreal universe of *Katamari Damacy* (Namco, 2004). In each of these kinds of settings there is a combination of the new and the familiar; players can find delightful novelties in even the most hackneyed setting, and frequently it is in comparing surprising features of a generic setting with the features you expect to find there that pleasure lies. Similarly, the most original settings rely on the player having some point of access in familiar features: *Katamari Damacy*'s overall universe is bizarre, but it is made up of everyday domestic objects. Familiarity often comes not from a setting's relation to some real place but to its representation in other media. The London of *The Getaway* is as much a reference to other media – particularly London gangster films like *The Long Good Friday* (Mackenzie, 1980) and *Lock, Stock and Two Smoking Barrels* (Ritchie, 1998) – as it is to London itself.

But as well as being a representation of a place, the videogame setting is also a place in itself insofar as it is possible for the player to navigate around it within certain limits. The nature of that place will be determined by the manner and content of its representation, the kind of actions the player is able to effect, the stories that take place there, and the goals of the game. The setting as representation generally exceeds the setting as place. There are usually parts of the game environment that are not navigable for the player but are nonetheless part of the representation. As the player plays the game, the limits of the place reveal themselves, whether these are the white lines of the virtual soccer pitch, unopenable

doors, or invisible walls. As representation, the setting invokes the representational mode of engagement. But as place the setting embodies the player in a particular way. The relationship between videogame environments as representation and as place varies depending on the game. In sports games, for example, the limits imposed are perfectly logical in terms of the game. In story-based games the location as place may vary from a small number of relatively narrow paths in a large represented landscape, as in a game like *Ninja Gaiden II* (Team Ninja, 2008), or a larger proportion of the location as represented may be navigable, as in open world games like *Oblivion*. In either case it is often necessary to explain these limits to navigation, hence the large number of open world games that take place on islands. In this way it is possible for the representation to stretch all the way to the horizon on every side, but the place to be limited to a much smaller area. Alternatively, a game may use unscalable mountains, as in *Oblivion*, invincible gun turrets, as in the Snowbound map on *Halo 3* (Bungie, 2007), or radioactive waste, as in the Afghan map for *Modern Warfare 2*, to delimit place within representation.

Mary Fuller and Henry Jenkins (1995) have discussed videogames as presenting a virtual form of travel to spectacular spaces. Here, the double pleasure in games of viewing space, which involves a reading of the game environment as representation and a movement in space, which involves an embodied engagement with space as a place-in-itself, is implied. Other writers have approached game worlds as explorers (Castronova, 2001) or ethnographer/tourists (Miller, 2008) in a foreign land. In each case, game environments are treated not just as objects to be viewed or 'interacted with' but as places. If we are to take seriously the notion that games are a kind of virtual travel, then the questions 'where do players choose to go?' or 'what places are made available to players?' are pertinent. In order to address these questions a sample constituting the top selling games for 2007, 2008 and 2009 on the three current generation home consoles, the Xbox360, the Wii and the PlayStation 3 as listed by vgchartz.com was analysed (VGChartz.com, 2011). Appendix A shows a table of these 258 games together with their settings and genre, and also the nationality of their main protagonist and the name and location of the development studio. Categorisation of these games into different locations and genres involved subjective decisions and could have been carried out in a number of ways, so I will begin by explaining and justifying the categories employed.

Because of the frequency of the USA as a setting, the following six categories are used: USA, another country or countries, outer space, fantasy setting, unspecified setting and multiple settings that cross over these categories. Many games use fictionalised versions of

real places and in these cases the fictionalised place is treated in the analysis as if it were the real place. For example, Pacific City in *Crackdown* (Realtime Worlds, 2007), Tri-City in *Need For Speed: Undercover* (EA Black Box, 2008) and Gotham City in *Batman: Arkham Asylum* (Rocksteady Studios, 2009), are all treated as US cities, despite their fictionalisation. However, games like *Fable II* (Lionhead Studios, 2008) and *Valkyria Chronicles* (Sega WOW, 2008), despite being based in fictionalised versions of England and Europe respectively are considered fantasy settings. It was felt that the fictionalisation in these games departed more radically from the real life locations than the previous games mentioned. The *Skate* games (EA Black Box, 2007; 2009), though taking place in a single city, are treated as multiple settings because the city is an amalgamation of San Francisco, Vancouver and Barcelona (San Vanelona). Also, if a game is set predominantly in one location, but briefly features other locations, I have only counted the predominant setting. For example, the two *Rainbow 6* games (Ubisoft Montreal, 2006; 2008) are set in Las Vegas, but the prologue to each is set in a different country, Mexico and France respectively. However I have counted them as US set games. The multiple settings category is reserved for games which have significant parts of the game set in different locations.

A quarter of the games in the sample are located in multiple locations. The locations involved are almost always the USA and some other country or countries, but occasionally it is a country together with outer space, as in *Wall-E* (Heavy Iron Studios, 2008), *Ben 10* (High Voltage Software, 2007) (both US) and *Halo 3* (Kenya). A large number of settings are not specified. These unspecified locations are generally found in games where a story element is less important or entirely absent, for example in fitness games, mini-game collections and some music games. Fantasy locations include games that adopt a high-fantasy setting similar to that found in *The Lord of the Rings* (Tolkien, 1954-55) such as *Oblivion*, *Dragon Age: Origins* (BioWare, 2009) and *Two Worlds* (Reality Pump, 2007) but also variations on pre- or early-modern Europe in games like *Devil May Cry 4* (Capcom, 2008), more contemporary fantasy worlds like the one found in *Ace Combat 6* (Project Aces, 2007), and cartoon fictional worlds like those of Mario or Sonic.

Fifteen genres are used. These are: war; crime; superhero; horror; fighting contest; comedy; sports; racing; adventure; sci-fi; fantasy; music; mini-game collections; dance/fitness; and other. Each game was assigned a single genre, thought to be the game's main genre, though many of the games could have fitted into more than one. The genres employed were based on the games in the sample and were generally more sensitive to the games' representational and thematic elements than features of gameplay. For example, both

The Darkness (Starbreeze Studios, 2007) and the *Call of Duty* games would be considered by most people first person shooters, though here they are treated as 'horror' and 'war' respectively. Similarly, though the real time strategy game *Command and Conquer 3: Tiberium Wars* (EA Los Angeles, 2007) and the *Call of Duty* games have a completely different manner of presentation and style of gameplay, they are both included in the 'war' category as they both have war as their main theme. While it would be possible to use a different logic of categorisation based on gameplay styles, it was felt that in those games where setting plays an important role thematic genre was more relevant than was gameplay genre in the choice of setting. It should also be noted that the fantasy genre, unlike fantasy setting, refers specifically to the high fantasy genre of *The Lord of the Rings*/*Oblivion* type.

To go through all of the liminal cases and defend their inclusion would be a tedious and ultimately not very productive process. Genres are never fixed categories and, as with the categorisations based on location and nationality, this categorisation is not intended as an end in itself but rather an opening step in analysing broad patterns across a large number of games. For this reason sometimes a number of genres which it could be argued each deserve their own category are subsumed within one larger category. Perhaps the category that is most troublesome here is 'adventure.' This is intended to account for games with a substantial story element, but which do not fit into the sci-fi, fantasy, war, horror, crime or comedy categories. The adventure category holds within it several genres, including games about martial arts and treasure hunting. Similarly, the 'other' category is a catchall for games that do not fit the named genres, including quiz games and life sims.

In order to investigate some of the patterns that arise in terms of game settings in this sample the 15 genres are treated according to three larger categories. The first category includes sports games, mini-games and fitness and dance games. These generally have little in the way of a story and so the on-screen setting frequently has the character of a background, with the player's living room becoming the main setting. On-screen location becomes more important in the second category, which includes music, fighting and racing games. Here, setting is frequently integral to the atmosphere of the game. These often represent places in a very bold, broad way, making use of immediately recognisable cultural markers to locate their action. The third category, including crime, fantasy, war, comedy, superhero, horror and sci-fi are generally more story-orientated. These games generally can take a relatively more measured approach in representing places, whether they are based on real places or entirely fictional ones. Developed stories and characters serve as a means by which the game expresses an opinion with respect to the locations represented.

First category – sports, mini-games, fitness and dancing

The largest genre category in the sample is sports, with 57 games. There are two main types of sports games: the arcade style games, which contain over the top, fast-paced action, and the simulator style, which attempts to represent in a more nuanced way the sport as played by professionals.

The arcade games are frequently made in Japan, contain a non-specified or fantasy – often cartoonish – location. These are generally Wii titles like *We Ski* (Bandai Namco Games, 2008) and *Wii Sports* (Nintendo, 2006), which emphasise the space of the player's living room over the space shown on screen. One of the frequent criticisms of the Wii amongst many fans is its lack of power and lack of high definition graphics. With the Wii, Nintendo put their faith in the console's gestural controller, banking that the gestures being made by the player and not those made by the avatar constitute the important spectacle for Wii players and their friends. The on-screen locations for these games are often under-worked, not only in terms of visual presentation but also in terms of back story. While games on the other consoles frequently attempt to convince the player that they are in a fully developed world, most of the Wii sports games are content for the player to remain in their living room, turning the living room into the game's site of action rather than transporting the player imaginatively to an alternative site of action.

This emphasis on the space of the living room as opposed to that of the screen is also found in fitness and dance games and in mini-game collections. Both dance games in the sample – *DDR: Hottest Party* (Konami, 2007) and *Just Dance* (Ubisoft Paris, 2009) – are in an abstract computer space-type environment, with the background decor big and garish enough to impact players even as they concentrate on the arrows passing across the screen. *My Fitness Coach* (Ubisoft Paris, 2009) allows the player to select from eight different settings that are familiar from TV and video aerobics shows. *Jillian Michaels Fitness Ultimatum* (3G Studios, 2008) uses location to inject some novelty into the workout routine, taking place in a military-style boot-camp in the middle of the woods. *Wii Fit* (Nintendo, 2007) has a greater variety of settings, with the exercises taking place as mini-games in a host of locations, both domestic and exotic. In none of these fitness and dance games, however, is the location specified as a particular city or country, either fictional or real. These games are primarily about action and perhaps too much emphasis on developing the setting would take away from this narrow focus.

The domestic space of the player that is emphasised in Wii games is often mirrored on screen. We see this in titles like *Cooking Mama: Cook Off* (Cooking Mama Limited, 2007), set in a kitchen, *Toy Story Mania* (Papaya Studio, 2009), set in a child's playroom, *Hasbro Family Game Night 2* (EA Bright Light, 2009) and *Monopoly* (EA Bright Light, 2008), both of which are set, for the most part, in a family living room, and the *Game Party* games (FarSight Studios, 2007; 2008), set in a clubhouse. But mini-game collections sometimes go further afield. Both *Carnival Games* (Cat Daddy Games, 2007) and *Mario Party 8* (Hudson Soft, 2007) have generic carnival settings, though the mini-games in *Mario Party 8* take the player outside of the carnival to a range of different locations. This use of multiple unlinked, generic locations is similar to the approach in *Wii Play* (Nintendo, 2006) and, as already mentioned, *Wii Fit*. *Guinness World Records* (TT Fusion, 2008) is the only mini-game collection that has named locations, with the player competing for various records across the globe. This approach ties into the central feature of the game, which is the ability to compare scores with other players on the same console, in the same region, the same country or around the world.

Compared with arcade sports games, sports simulator games more frequently specify a particular country as the venue for the event or match. But this location is still not as worked up as it is in more story-based games. Again, the players are content to remain imaginatively in the living room, with the televisual space of pro-sports being remediated into the videogame form (Conway, 2010). The location of sports games that are based on pro-sports obviously depends on the culture of the sport in question. While all of the sports in the sample are played across the world, American sports such as American football, baseball and basketball have a presence in their home country that eclipses other country's leagues. Therefore the videogames of these sports tend to be located exclusively in the US. Other sports like soccer, tennis and golf tend to include leagues and cups from around the world and international competitions, therefore including stadia both in the US and elsewhere.

Second category – fighting, music, racing

The next class of games are those which have a more developed story element. Locations are frequently specified, either as named fictional or real places. But these locations are generally marked through simple, bold signatures and used to create atmosphere.

There are three categories of fighting games. The first category involves RPG-style combat where the fight is based on correct strategy more than good reflexes. *Pokemon*

(Genius Sonority, 2006) belongs to this category. The other two categories are more action-oriented. One could perhaps be put in the sports genre and in the current sample comprise the wrestling and ultimate fighting games. The other is based on a fantasy fighting competition that brings together fighters with different styles from around the world. Accordingly, this latter type of game usually features stages which are either explicitly identified with a certain location or create the atmosphere of a certain place. In this latter category the locations rely on a small number of striking and stereotypical images to give the flavour of the location. For example, stages set in East Asia are frequently represented by temples and shrines in *Streetfighter IV* (Capcom, 2009), *Virtua Fighter 5* (Sega-AM2, 2007), *Tekken 6* (Namco Bandai, 2009), and *Soul Calibur 4* (Project Soul, 2008). In *Virtua Fighter 5* each fighter is overtly linked to a particular stage, and the setting works alongside the fighter's appearance, backstory, and fighting style to help establish character. The East Asian characters often fight in archetypal oriental settings like the Great Wall (Lau Chan), a misty mountain (Lei Fei), a Shinto shrine (Aoi Umenokouji), a Buddhist temple (Kage-Maru), and an abandoned dojo (Goh Hinogami). The French aristocrat Lion Rafale fights in a palace; the Mexican wrestler fights in an arena; the US fighter is in a city; the Australian aboriginal on the beach; the Canadian wrestler in snowy mountains

Of the 16 music games, ten take place over multiple locations. These games comprise the *Guitar Hero*/*DJ Hero* (Harmonix Music Systems, 2006; Neversoft, 2007-2009) and *Rock Band* (Harmonix Music Systems, 2007-2009) franchises and *Hannah Montana: Spotlight World Tour* (Avalanche Software, 2008). These games take a similar form to fighting games in that the player performs on several discrete stages. In this sample all of the games feature American stages though many feature stages from other countries too. In the story mode of the *Guitar Hero* games the trajectory of success is clearly from a starting point in the US to international success on stages across the globe. *Guitar Hero: Aerosmith* (Neversoft, 2008) follows the same basic trajectory, where a concert in Moscow signals international success a few stages from the end, before a coronary homecoming to the States. *Rock Band* and *Rock Band 2* (Harmonix Music Systems, 2007; 2008) have more options available for the player, allowing a choice of several starting points across the world for your music career. Games without a career/story mode like *Wii Music* (Nintendo, 2008), *SingStar* (SCE London Studio, 2007) and *Disney Sing It!* (Zoe Mode, 2008) do not have specified locations, with the performances taking place on generic stages. As with many of the Wii games already discussed, the focus here is on the living room space rather than the screen space. *High*

School Musical: Sing It! (Artificial Mind and Movement, 2007) comprises locations from the film and so is set exclusively in the US.

As with stages in fighting games, venues in music games can be either realistic or fantasy-based. Even those venues based on real venues do not attempt to faithfully recreate famous venues. Rather they rely on working up images that are associated with the real place and are immediately recognisable. In a GameSpy interview Peter Moore, senior artist on *Rock Band*, said that though the team started by looking at real-world venues they needed 'strong visual hooks' to differentiate venues from each other and to establish the character of a particular city through the venue (GameSpy, 2007, question 3, para. 1). Both fighting games and music games adopt this approach to get across a place's culture in a very small space. This is in contrast to the stadia in sports sims like *FIFA* and *Madden*, which attempt an authentic recreation of famous stadia as seen on TV.

Apart from *Mario Kart Wii* (Nintendo, 2008), which is set in a fantasy world, the 15 other racing games in the sample take place in the real world, either through reproductions of real tracks and cities or as fictionalised versions of real places. Games that depict pro-racing, such as the *Forza* games (Turn 10 Studios, 2005; 2007) and *Project Gotham Racing 4* (Bizarre Creations, 2007) tend to take in tracks from around the world, whereas games depicting illegal street racing such as *Midnight Club: LA* (Rockstar San Diego, 2008) and *Need for Speed: Carbon* (EA Black Box, 2006) focus on a single fictionalised or real US city. The pro-racing games attempt to authentically represent famous tracks, whereas the illegal street races give their settings the look of an American city but with an arrangement of turns, jumps and straights as carefully designed as any race course. These games invariably represent the city as a dangerous place full of criminal behaviour. This is particularly the case with the *Need for Speed* games, which includes frequent run-ins with the police.

Third category – story-based games

When we start thinking about games with a more substantial story element, the nationality of the protagonist becomes an important factor in how the game's setting is focalised. Is the player being asked to experience the location through the protagonist's eyes as home turf or as strange and exotic?

While smaller games may have a greater global spread in terms of where they are produced, the vast majority of these big-selling AAA console games come from developed

countries, with only one of the 258 games – the Australian produced *Star Wars: The Clone Wars: Lightsaber Duels* (Krome Studios, 2008) – produced outside of North America, Japan or Europe. Also, the games in this sample overwhelmingly cast their players in the role of Americans, Europeans and Japanese. Of the games that feature a single identifiable protagonist only two of these protagonists come from outside of these regions: Po in *Kung-Fu Panda* (Luxoflux, 2008) and the Prince in *The Prince of Persia* (Ubisoft Montreal, 2008). Of these, Americans feature most frequently. For example, in games set exclusively in the US only one – *GTA IV* –has a non-American protagonist. There are more visitors to the US in games which take in more than one location. These protagonists hail from Britain (James Bond and the Beatles), Japan (Ryu Hyabusa), Canada (Wolverine) and outer space (the Transformers, the Rabbids and Wall-E).

When the game takes place in other countries there is usually more variation in the protagonist's nationality. Usually, this is because the player is offered a choice of protagonists from several different countries, usually including the US. It is still the case that in games set outside the US and featuring a single protagonist there are more US than non-US protagonists. However, the difference is not as marked as it is for games set in the US.

The adventure games located in the real world generally involve a protagonist, usually from North America, Europe or Japan, travelling around the globe to get into adventures in strange locations. The only adventure games set exclusively in the protagonist's home country are *Bully* (Rockstar New England, 2008) and *Prince of Persia*. In both of these, however, the protagonist finds himself in an unfamiliar place either against his will, as in *Bully*, where the reluctant Jimmy is enrolled by his mother in boarding school, or accidentally, as in *Prince of Persia*, where the prince finds a mysterious temple in the desert during a sandstorm.

Tomb Raider (Crystal Dynamics, 2008), the two *Uncharted* games (Naughty Dog, 2007) (Naughty Dog, 2009) and *Indiana Jones* (Traveller's Tales, 2008) all belong to the 'treasure hunter' sub-genre. These all take place for the main part outside of the US, though *Indiana Jones* does have one prologue level and its main hub located in the US. Each of these games involves a protagonist from the US or the UK going out into exotic locations around the world. As mentioned, writers have suggested the parallel between the videogame player and the colonial explorer, and this is made manifest in these kinds of games (Fuller & Jenkins, 1995; Castronova, 2001). The 'stranger in a strange land' is a popular theme in games not least because it allows for explanations to come through the protagonist's investigations that would seem unnatural if the protagonist were a local. The player learns about the

environment along with the character. In aligning the player and character as tourists the abiding representation of places, particularly places outside of North America, Japan and Europe is one of foreignness.

Most of the crime games have a US setting either exclusively, as in *GTA IV*, *The Godfather* (EA Redwood Shores, 2006), *Saint's Row* (Volition, Inc., 2006) and *Crackdown* or in combination with locations outside the US, as in *Red Steel* (Ubisoft Paris, 2006), which features Japan, and *Kane and Lynch* (IO Interactive, 2007), which features Japan, Cuba and Venezuela. Japan is the next most frequently represented place in crime games, with these last two games and *Yakuza 3* (CS1 Team, 2009) featuring it. We get a similar focus on the USA in the horror genre, with seven of the ten horror games set in America. In both the crime and horror games, the majority are set in America with American protagonists. Like crime, horror is something that happens at home, and often relies for its effect on locating the strange in a familiar setting. But what is meant here by 'home'? Is it the home of the protagonist, of the developers, or of the target, assumed or empirical player?

The US dominates the sample in terms of settings and nationality of protagonists and this dominance can be seen as springing from three factors. Firstly, many of the games are developed in the US. 105 of the 258 games in the sample were produced by studios based in the US. The next highest number of games comes from Japan, with 72, followed by Canada, with 32, and the UK, with 30. Eighteen come from the rest of Europe, with one from Australia. Secondly, the US is the largest single market for videogames, followed by Japan and the UK (Crecente, 2008). The making and consuming of games is therefore weighted toward the US, and this may go toward making the US the venue of choice for many of the games. The third factor relates to the larger cultural field in which videogames are located. Games frequently take their cue from other fields of entertainment and the dominant influence of the US in shaping popular culture worldwide feeds back into videogames in the choice of settings and protagonists even for many non-US developers. Obviously games based on *Batman* or *The Godfather* adopt the settings and characters from those franchises, but there is also a carry-over effect in games that adopt a broad genre. For example, the Japanese-made *Dead Rising* (Capcom, 2006) does the zombie genre as established by the films of George A. Romero, not only locating the game in America, but even in the same shopping mall setting as Romero's *Dawn of the Dead* (Romero, 1978). Apart from the familiarity of this setting in the context of the zombie genre, the American setting may have been thought to have greater recognition across the world, and certainly in the main markets of North America, Europe and Japan. But if familiarity is a consideration in the choice of

game setting, so too is novelty. Two of the *Resident Evil* games in this sample – *4* and *5* (Capcom, 2005; 2009) leave the familiar American setting of the previous games to the, in videogame terms, exotic locations of Spain and Africa.

As already mentioned, the illegal racing games associate the urban with crime. We see this association developed further in crime games. The possibility of creating a more thorough characterisation of the city as hotbed of criminality is due in large part to the greater emphasis in these games on story and character. The city is represented as a dangerous place in all of the crime games. Games like *GTA IV*, *The Godfather*, *Saint's Row* and *Crackdown* all take place in more or less fictionalised US cities. In *Yakuza 3* the player-character, a reformed gangster, starts out in the relatively peaceful, bucolic Okinawa before being drawn back into the criminal underworld of Tokyo. The countryside is shorthand for peace and honesty; the city for crime and corruption.

While crime provides an important narrative motivation for the conflict that is important to many videogames, this motivation is more frequently provided by war. War games are the second largest category in this sample, after sport. The war games in the sample can be split into two types. The games set in outer space or fantasy locations, and those set on earth, representing real or fictional conflicts. Of the war games set on earth, five deal with World War II, two are set in the distant past, nine deal with a fictional roughly contemporary conflict, usually involving the US on one side and usually involving terrorism to some degree, and three deal with fictional civil wars. The wars set in fantasy locations may reflect real wars either explicitly or in a more general way. *Valkyria Chronicles*, for example, parallels the events of World War II in a fantasy setting. The *Halo* series (Bungie, 2001-2010) imagines, in part, an intergalactic war between humanity and religious fanatics from another world, drawing from a historical association between religion and warfare but gaining particular resonances in politicians', political commentators' and journalists' implicit and sometimes explicit framing of the War on Terror in religious terms.

Unlike the games with contemporary settings, which can choose their locations with some freedom, World War II games must confine themselves to one or more of the main theatres of operation in that conflict, and for this reason Europe is central to the World War II games. It is surprising that in spite of a long and proud US military history we do not, in this sample at least, go further back than World War II. Certainly in PC strategy games we get the revolutionary wars and the civil war, but in this console sample the US army is depicted either in World War II or in a fictional contemporary war.

Gameplay genre may be a factor in the preference for World War II and post-World War II games in the shooter genre. Machine guns, shotguns, sniper rifles and grenades are the staple of the FPS genre, all weapons that emerged at the end of the 19th century. The older wars such as those depicted in *Dynasty Warriors Six* (Omega Force, 2007) and *Bladestorm* (Omega Force, 2007) employ real time strategy and hack-and-slash gameplay respectively. It might be argued that the rhythms that players expect from a FPS require a certain minimum standard of weaponry. The slow reloading guns of World War I and the unreliable grenades of the Napoleonic campaigns do not, perhaps, lend themselves to the fast and accurate combat that FPS fans require.

This sample represents what might be the tail end of a World War II phase in first person shooter history. While it continues to attract developers today, World War II is no longer as evident on the game shop shelves as it was in the first few years of this century. World War II is attractive as a setting for a number of reasons. It has a clear moral justification, unlike Vietnam or Korea, a clear victory, complete with associations of glory and heroism, and it has plenty of cultural material to draw on. The film *Saving Private Ryan* (Spielberg, 1998) and the TV series *Band of Brothers* (Spielberg, 2001) were clear influences on the *Medal of Honour* (DreamWorks Interactive, 1999-2009) and *Call of Duty* series of games. Relying on these ready-made narratives the war can be framed in simple terms, requiring little in-game exposition. However, the importance of World War II as a theme for (especially European and American) developers may have already declined. The popular conception of World War II as 'the last good war' (Nelan, 1998) may have supported massive game sales in the first few years of this century, but it seems now that many players have an appetite for more dubious conflicts. The 2010 iteration of *Medal of Honor* (Danger Close, 2010) abandoned the World War II setting it had adopted in all previous games, relocating to the far more controversial setting of the 2002 American-led invasion of Afghanistan. Similarly, *Call of Duty* branched into modern warfare in 2007 and, in 2010 relocated the historical shooter branch of the franchise from World War II to clandestine American operations in 1960s Russia, Cuba, Laos and Vietnam with *Call of Duty: Black Ops* (Treyarch, 2010).

Obviously, World War II has a very different place in the popular imagination in Japan than it does in the US and the UK. Perhaps this also helps to explain a contrast between an aesthetic of historical accuracy and authenticity in European and American titles like *Call of Duty*, *Blazing Angels* (Ubisoft Romania, 2006) and *Brothers in Arms* (Gearbox Software, 2008) and Japan's more fantasy-based war games. When Sega approach World War II it is

through the heavily fictionalised *Valkyria Chronicles*. This is an interesting example of what Matthew Penney (2007) calls the 'war fantasy genre': representations of World War II in Japanese manga and novels 'that sketch out alternative war histories or purely imaginative re-visionings of past wars' (p. 35). Penney argues that while these re-visionings are often interpreted as part of a shift to the right in Japanese attitudes to the war, they can also be read as counter-narratives to the Japanese government's taciturnity on the issue of the war and to the prevailing presentation of Japan's war as a 'victim's history' (Penney, 2007, p.37). Often the atrocities carried out by Japan in World War II are explored, Penney argues, with greater clarity in this seemingly jingoistic work than in the more peaceable films, novels and comics that focus on the suffering Japanese civilians, turning a blind eye to what was happening on the front. However, in the case of *Valkyria Chronicles* a different kind of war fantasy is being enacted. Contrary to clarifying Japanese involvement in the war the game allows Sega to treat World War II in a way that brackets off Japanese involvement. Other war games from Japanese developers take place in fantasy settings (*Ace Combat 6*), outer space (*Dynasty Warriors: Gundam* (Omega Force, 2007) and *Star Ocean: The Last Hope* (tri-Ace, 2009)), or else depict historical (*Bladestorm: The Hundred Years War* and *Dynasty Warriors 6*) or fictional wars (*Metal Gear Solid 4* (Kojima Productions, 2008)).

The War on Terror is a reference point for several of the war games featuring contemporary American forces. These can be broadly put into two categories: war at home and war abroad. In the war abroad category we get the two *Battlefield* games (Digital Illusions, 2005; 2008) and the first *Modern Warfare*. In the war at home category we get *Operation Flashpoint* (Codemasters, 2009), *Ghost Recon Advanced Warfighter 2* (Ubisoft Paris, 2007), and the two *Rainbow 6* games. *Modern Warfare 2* and *Army of Two* (EA Montreal, 2008) use settings both at home and abroad.

Operation Flashpoint, set on the periphery of US territory, involves the defence of the borders from encroaching Chinese forces. The *Rainbow Six: Vegas* games and *Ghost Recon* also follow this trope, though this time it is the Mexican border that is being defended, and it is being defended against terrorist activity rather than an invading army. In the *Rainbow 6: Vegas* games the invasion is carried out by terrorists who are smuggling people across the Mexican border. But the motivations of the terrorists and the intricacies of the games' plots are of far less importance than the abiding image of America under attack and Las Vegas under martial law.

This homeland security motif is a large part of *Modern Warfare 2*, though this time it is the heartland of America that is being threatened. The missions set in Washington D.C. (entitled 'Of their own accord') and Virginia (entitled 'Wolverines!') involve the striking images of Russian troops attacking the centre of the US political system in the first case and the affluent suburbs of an American town in the second. These images have long been prevalent in US popular culture, whether the invaders are aliens from outer space or ideological enemies of the US. Indeed, *Modern Warfare 2*'s 'Wolverines!' mission is a direct reference to the John Milius film *Red Dawn* (1984) in which a group of American children form a resistance movement – the Wolverines – to repel a Soviet invasion. Post-9/11, images of an attack on the US have gained a specific charge. The curious case of *WTC Defender*, a flash game in which the player shoots down planes attempting to crash into the World Trade Centre that was published in early 2001 is only the most startling example of the currency of this trope in the pre-War on Terror America (Anon, 2001). There was also a rash of Pearl Harbor games around the release of the Michael Bay movie in the summer of 2001, none of which had much commercial or critical success. These included several Windows games such as *Pearl Harbor: Defend the Fleet* (WayForward Technologies, 2001), *Pearl Harbor: Attack! Attack!* (ASYLUM Games, 2001), *Pearl Harbor: Zero Hour* (ASAP Games, 2001) and *Pearl Harbor: Strike at Dawn* (MAUS Software, 2001).

In the immediate aftermath of the attacks on the World Trade Centre, popular media which could be seen to reference the event were quickly pulled from shelves. *WTC Defender* was taken off its host website, Angelfire, and the release of *Syphon Filter 3* was delayed (Ouellette, 2008). As Marc Ouellette points out in his piece on military games post-9/11, Pearl Harbor was an important touchstone in the American imagination at a time when the US found strength and resolve under fire, and it was not long before the image of America under attack became common currency once more. Pearl Harbor re-emerges as a theme with games like *Medal of Honor: Rising Sun* (EA Los Angeles, 2003), *Pacific Warriors II: Dogfight* (InterActive Vision A/S, 2003) and *Attack on Pearl Harbor* (3Division Entertainment, 2007). More directly feeding into the fear of a weakened border is the management sim *Homeland Defense: National Security Patrol* (Virtual Playground, 2008), in which the player is tasked with securing the US-Mexican border from smuggling and terrorism. *Homefront* (Kaos Studios, 2011), which had *Red Dawn*'s John Milius as a story editor, is a more recent example of this image of America under attack. Border control may also be implied in games to do with intergalactic invasion, and this may be a possible reading

for games like *Transformers* (Traveller's Tales, 2007) or *Resistance 2* (Insomniac Games, 2008), set in the US, and *Resistance: Fall of Man* (Insomniac Games, 2006), set in England.

The threat on American soil does not always come from smugglers, terrorists and the armies of other nations. In *Army of Two*, which combines combat overseas with combat in the US, the final battle is not against the chief terrorist but rather the diabolical US private military contractor who has been sabotaging US military campaigns to create a need for his private army. The American traitor is a staple character in war games, and features in three of the games in this sample: Dalton and Clyde in *Army of Two*, Shepherd in *Modern Warfare 2*, and Nowak in the *Rainbow 6* games.

Modern Warfare 2 combines the uncanny picture of the American suburb under fire with more familiarly exotic pictures of war in Afghan deserts, Russian snowscapes and rundown middle-eastern towns. The story mode characterises modern war as a global phenomenon, casting the player in the role of soldiers from different nationalities. The opening credits show images of soldiers fighting superimposed on a globe as seen from a military intelligence satellite. From level to level action switches to different areas of the globe by way of a satellite zooming out from street to global view of the previous level and back into a street level view of the next. But while the settings are an important aspect of *Modern Warfare 2*'s story, the story is only a marginal aspect of the game, and the 'Special Ops' and 'Online Multiplayer' modes both remove the various settings from the context of the story. Divorced from this context, the settings in these modes take on the character of those in the *Zuma* games. They provide atmosphere with very little reference to the cultural life that belongs to that setting.

Take for example the Moscow airport in *Modern Warfare 2*. In story mode the level featuring this setting, entitled 'No Russian,' proved controversial as the first section involved the player-character, Private Allen of the US Army Rangers, passing through a busy terminal with a Russian gang he has infiltrated as the gang opens fire on the crowd and on airport security. The player does not have to fire, though this is an option. Indeed, the player is given the option to skip the level altogether. At the end of the level it transpires that the gang knew Allen's identity all along. They kill him, leaving his body behind to make the massacre look like an American attack on Russia, thus paving the way for a Russian invasion. In this context the location of the airport is of great importance. Most obviously, it allows the level to function as part of the game's overall plot. But it also frames how the player might feel about taking part, either passively or actively, in the massacre. The level relies for its effect on the tension between the trigger-happy attitude that first person shooters tend to foster with a

natural moral abhorrence of taking part, even in a fictional context, in this kind of massacre of innocent people. But this tension is different for different people. By casting the game as a battle between Russia and the west, the game is a strange 21st century reprise of the Cold War, but with images and tropes drawn from more contemporary conflicts. A Russian player may have very different feelings about the level than an American, just as a similar level located in Washington or London would have a different effect.

However, once this level is transferred to the multiplayer setting and removed from the game's story, its location in Moscow becomes almost immaterial. The level is read almost exclusively in terms of potential sightlines, opportunities for cover, and pathways between spawn points, bomb sites, headquarters and capture points. The same is true of other multiplayer levels taken from the story mode, though to a lesser degree. This is because airports have an atmosphere of their own that has less connection with the country in which they are found than with other airports. There is little in the airport that marks it as Russian apart from the occasional sign. Other levels, such as the Brazilian *favela* or the Afghan mountain desert, retain strong cultural markers even without the contextualisation of the plot, but even these more potent settings are backgrounded in the multiplayer game. The Afghan map points outside the game in many of the design decisions. There are poppy fields, a network of caves, a crashed plane, air defence sites and two military style bunkers. Each of these markers represents Afghanistan as it has emerged in western consciousness through media reports over the last ten years. Indeed, each of the maps in the game function at this level, employing certain easily recognisable cultural markers to economically represent an often exotic location: the haphazard layout of the shacks and roof gardens of a Brazilian *favela* contrasts with the ordered layout of a high-rise office block. The dilapidated desert town of the Karachi map contrasts with the pristine sterility of an airport terminal. However, the cultural connotations of these maps are only a small factor in whether they succeed as game spaces. There is perhaps a certain thrill in playing a map that works alongside one's fantasies about these exotic locations, but the multiplayer game does not primarily work to support this fantasy. Outside of the single player campaign there is no story to maintain the conceit of these play-grounds as real, lived-in places or as representations of an Afghan battleground, Brazilian *favela* or whatever. The central marker of a *favela* in the game is the pell-mell arrangement of shacks and buildings of different elevations and size. But this means less 'this is what it is like to be in a *favela*' and more 'this layout suggests a lot of close combat, so a shotgun might be a good choice of weapon.'

Guerrilla warfare and civil wars in the sample are all located outside of the US. The Africa of *Far Cry 2* (Ubisoft Montreal, 2008) and the South America of *Mercenaries 2* (Pandemic Games, 2008), *Haze* (Free Radical Design, 2008), or *Shadowrun* (FASA Interactive, 2007) all depict a hopelessly corrupt developing world. However, each game features for the most part American and European protagonists. This may be a simple result of the developers providing an immediately familiar player-character for the European or American target player. But it has repercussions for the politics of these games, portraying a troubled relationship between the developed and developing worlds, in which emissaries from America and Europe are both saviours and corruptors of developing nations. This is a motif that extends beyond the military games and will now be discussed with respect to the representations of Africa found in *Far Cry 2* and the horror game *Resident Evil 5*. These games provide examples of two ways in which games have recently attempted to represent Africa. Both games employ the tried and tested formula of a foreigner coming to Africa as a means of illuminating the 'dark continent' for their largely non-African audiences. While *Resident Evil 5* is a schlock horror adventure that uses Africa as an exotic backdrop on which to play out a story about the stand taken by individuals against the duplicity of global corporations, *Far Cry 2* is more ambitious in its ideas, undermining some of the conventional representations of Africa on which it is founded.

The question of setting in *Resident Evil 5* cannot ignore the controversy that followed the game's first trailer at the E3 videogame industry trade show in 2007. The trailer depicted the game's white American protagonist, Chris Redfield, walking through a poverty-stricken village filled with hostile-looking black people lurking in shadows. We see a villager being infected with a virus, after which Chris is seen shooting hoards of predominantly black zombies coming at him with machetes and farm tools (Capcom, 2007). The trailer was greeted with unease in some quarters but it was not until the following year, and an MTV interview with the games editor of Newsweek, N'gai Croal, that the issue of race in the trailer became a subject of widespread debate amongst game players and journalists (Tracey, 2008). Croal, acknowledging that the trailer may not reflect the tone of the finished game, which was not released until 2009, criticised Capcom for mishandling a set of images that are fraught with racist depictions of black people as savages and of historical associations of white atrocities in Africa. The debate quickly deteriorated in gaming forums, with Croal's reservations about the trailer being caricatured as an indictment of a game that depicts black people as zombies or villains – a position that Croal was careful to avoid. The question that

Croal implied: 'What responsibilities does a game have in handling images that carry a historical weight?' was simplified as 'Is *Resident Evil 5* racist?'

By the release of the game, the race question was largely off the table, with few reviews referring to the topic. Dan Whitehead's (2009) preview of the game in Eurogamer struggled with some of the imagery, particularly in the first scene of the game in which a group of uninfected African men beat someone to death in the street and an episode a little further on when a blonde woman is dragged into a hut to be infected. Wesley Yin-Poole (2009) of *Videogamer* drafted in an anthropologist, Glenn Bowman of Kent University, to deliver an 'expert verdict' on whether the game was racist. As Yin-Poole attempts to get a yes or no answer from the academic, Bowman does a good job of drawing out some of the larger issues at play in the game, including issues of post-colonialism to which we will return shortly. He also suggests, as, I think, Croal acknowledges, that the horror genre will always look to mythic material for the immediacy that the genre requires. If we are going to have a zombie game set in Africa the mythic trope of deepest darkest Africa, along with all the baggage that entails, is unavoidable.

Certainly, the most troublesome aspect of *Resident Evil 5* in this regard was that first trailer. There is nothing in the game that gets quite so close to the bone as it does. The finished article contains a more ethnically diverse army of the undead, and while Chris is still the main hero he is joined by two strong African characters – his sidekick Sheva, who is playable in co-op mode from the first play through the game and as the main character once the game has been beaten, and her mentor in the West African division of the Bioterrorism Security Assessment Alliance (BSAA), Josh. Though Capcom deny the controversy after E3 prompted any change in direction for the game's development (Minkley, 2009), Sheva's introduction to the game relatively late in its development has been interpreted by some as a conscious attempt to mitigate the controversy (e.g. Brock, 2011, p. 10).

The controversy emerged briefly again in 2010 when the PR wing of Capcom issued a statement suggesting that they had learned from their mistakes with the E3 trailer (Gamasutra, 2010). This statement put the debacle down to cultural differences between Japan and the US and promised to do a better job of localising content to take account of topics that are more sensitive outside of Japan than in it. This issue of differences in cultural sensitivity between Japan and other parts of the world, particularly the US, is not new. For example, in 1991 Nintendo of America had to ask Capcom to lighten the skin tone of a few of the exclusively black and Hispanic street thugs in *Final Fight* (Capcom, Final Fight, 1989) for the North American release of the game (Sheff, 1993, p. 225). Race is not the same hot button issue in

Japan as it is in the US, nor, perhaps, is Japanese popular culture so sensitive to the often insidious images of Africa that populated European popular discourse throughout the colonial period. A familiar picture of Africa emerges in the game, but it is a picture used without reflection. Africa is an exotic backdrop and the game is not concerned with the history of the images that constitute this exoticism.

The game prefers the general to the specific and broad brushstrokes to intricately wrought detail. It depicts a fictional African country – Kijuju – that, while ostensibly located somewhere in West Africa, stands for Africa at large. This is explicitly signalled by the image on the game's European cover, which represents a mythical Africa in terms inherited from colonial discourse (Figure 2). It shows Africa as the Dark Continent – a deep red emerging from a black sea. The image is undoubtedly playing off the heart of darkness motif, with the number 5 acting as a wound to this heart; one that it falls on the player to heal. Covering the map is a repeated piece of graffiti that reads 'they are in Kijuju,' spreading the region across a mythical Africa that has its most potent image in the map of the continent. Often in the western imagination African countries are Africa before they are Ethiopia, Nigeria, Kenya etc. The report in 2008 that Sarah Palin thought Africa was a single country is only one of the more stark examples of this tendency of many outside the continent to treat it as an undifferentiated mass, identified not by a large and complex set of unique histories and cultures but by a single historical and political fact – its relationship to Europe and North America (Barrowclough, 2008).

Figure 2: Cover art for UK, US and Japanese versions of the game

In *Resident Evil 5* it matters little which African country Kijuju is supposed to represent. Too much specificity would run counter to the generality by which this kind of horror game finds its stride. Indeed, playing the game we always feel not that we have travelled to Africa but that we have entered a film-themed fun park. This is Africa at a couple of degrees remove, and the game has no intention of doing anything original or complicated with the images it

recycles from other media. In the final battle with the game's antagonist, head of the Umbrella Pharmaceutical Company, Albert Wesker, Chris asks his nemesis, 'Do you get all your ideas from comic book villains?' (Capcom, 2009). It is a question that might be legitimately asked of the game itself. The images are immediately recognisable to an audience conversant with American, European and Japanese popular culture. The opening of the game is as much in debt to spaghetti westerns, with the lone hero entering a dusty, unwelcoming town, as it is to the colonial discourse Croal recognises. The wholesale and unreflecting adoption of scenes and characters from *The Matrix* (Wachowski & Wachowski, 1999) is particularly cheap. And tentacled monsters and worms bursting forth from victims' bodies are images straight from the pages of horror manga.

This is not to say that the game does not occasionally reach into interesting territory. The intention, as the game's producer Masachika Kawata has argued, is to entertain without burdening the game with the designers' political opinions (Gapper, 2008). However, every trope that a designer employs is always already laden with political and historical weight, however lightly it is treated. Reading *Resident Evil 5* is not a question of interpreting the intentions of the designers at Capcom, nor does it involve intuiting their personal opinions on political matters. It is an attempt to understand what happens when certain politically charged tropes are combined. As pointed out by Bowman, the game has an underlying post-colonial theme, and the game makes explicit reference to the role of the west in Africa. There is a naiveté in how these themes are framed, and some confusion in how they are played out, but they are certainly in evidence.

We might begin to unpack these themes with an elaboration of Bowman's contention that the game has a strong 'anti-colonial thematic' (Yin-Poole, 2009, p. 1). It should be noted that Bowman's reading is not a full article but a number of undeveloped observations in the course of an interview. He summarises the story as 'the victimisation of Africa by pharmaceutical companies and by terrorist groups, all of whom seem to be run by white characters who are coming in and exploiting people' (Yin-Poole, 2009, p. 1). He points to the young boy's diary we find in an Ndipaya village which details the process by which the village was infected by an oil company who had previously stolen the land of the Ndipaya. During loading screens and in various diaries, letters and emails found throughout the game we learn that the Progenitor virus – the virus at the heart of the *Resident Evil* series – was derived from a plant named the 'Stairway to the Sun' that was discovered in Kijuju by the game series' arch-villain and head of the Umbrella Pharmaceutical Company Ozwell E. Spencer in 1966. Unable to breed the plant in the US, Spencer set up a research facility in

1968 in Kijuju despite the hostilities of the local Ndipaya tribe. This research facility is responsible for developing the Uroboros virus, which is the bio-organic weapon, or BOW, that this game's villain, Albert Wesker, plans to use on an unsuspecting world. The trope of Africa as the unwitting harbourer of a powerful and dangerous resource is also seen in another big budget franchise that includes an African setting, *Halo*. In this sci-fi blockbuster, a portal leading to the Ark, a shelter which protects its inhabitants from the destructive power of the Halo array, lies buried in Kenya since ancient times. The battles in the game that take place in Africa are due to the strategic importance of this portal. Both the 'Stairway to the Sun' plant in *Resident Evil 5* and the portal to the Ark in the *Halo* series seem to be pointing to a central irony in many contemporary African countries, in which great mineral wealth is accompanied by, and some would argue partly the cause of, widespread poverty and instability.

In *Resident Evil 5* the timing of the backstory may be a necessary tying in with the larger *Resident Evil* narrative, but it adds particular resonances that the Umbrella Corporation begins its African intervention in the 1960s. There is a clear neo-colonial critique here in the image of newly independent Africa exploited by a multi-national corporation. The intricacies of the changing relation of post-independence African states to European and US companies are not explored in any real depth, but at the heart of the game's story is a simple assertion that casts global corporations as a new form of oppression visited on the continent.

But while western corporations are the villains of the piece, the west also provides Kijuju's saviour in the form of Chris Redfield. Part of what made the E3 trailer so unsettling was the image of an American character entering an African town and killing a lot of Africans. But when the game came out we got a different perspective. Chris was not killing Africans. He was killing the zombies that were threatening Africans. Chris is not a racist psychopath; he's the game's white knight. The game itself depicts a white man coming to Africa to save Africans from the machinations of another white man – the CEO of a major pharmaceutical company. Croal may be right when he says the images of the E3 trailer hark back to colonial times. But if Chris is the personification of a cultural force it is not the coloniser, it is the aid agency. Here we get on the one hand the role of global corporations in a post-independence Africa, which is seen as an intervention based on deceit and resulting in first hardship and then genocide for the African people. On the other hand we have the good white man – the aid agency – coming to the rescue.

The trope of the white saviour is one that is familiar in western reporting on Africa. Recently, New York Times columnist Nick Kristof, who writes extensively on Africa, was

asked why his stories so often took an approach that cast Africans as victims and white foreigners as their saviour. He conceded that he tended to prefer using interviews with white, often American, aid workers, but defended the tactic as a means of providing 'bridge characters' with whom Americans can more easily empathise, thus drawing the attention of readers who would otherwise turn the page (Jacobs, 2010). There may be something in this as an attention-getting strategy, but it does lead, when it is the overwhelmingly prevalent strategy in both reporting on Africa and in non-African fiction set in Africa, to the establishment of an image of Africa, Africans and foreign aid workers that is hard to shake. Fergal Keane, a BBC correspondent who has also spent many years reporting from Africa, in an almost confessional piece, wrote in 2004 of a template for reporting in Africa that has been unquestioned for decades:

> Viewers at home are watching (usually) a white reporter and white aid worker, and beyond them, almost as backdrops are the wretched African masses. Just as it's always been and always will be. Thank goodness for our brave reporters and aid workers. (2004)

This strategy of the bridge character that all-too-easily leads to a motif of the white saviour has also been identified in fiction. Njeri Ngugi (2003), for example, describes the overshadowing presence of the white character Donald Woods in Richard Attenborough's *Cry Freedom*, ostensibly a biopic of the black anti-apartheid activist Steve Biko. Here, the final scenes move away from Biko, focussing instead on Woods' flight from the country.

We have, then, on the one hand the evil western corporation and on the other the good individual American. Exploitation and aid. But this is complicated somewhat in two ways. Firstly, the game gives Chris an African sidekick in the form of Sheva and another strong African character as the head of the squad sent to assist them, Josh. But the representation of Sheva is not without its problems. Sheva is noticeably light-skinned, and her accent departs from Josh's distinctly West African tones to sound at times British. Of course there is no reason why Sheva shouldn't be light-skinned, but it is a slightly puzzling choice, and one that troubled Dan Whitehead in his preview of the game (2009, p.2). Is Sheva's skin colour really a sign of timidity at having a black woman in the game? The assertion sounds ludicrous until one begins to list off the paltry number of black women as playable characters in big budget videogames. André Brock (2011) has discussed other anxieties that surround Sheva's depiction, primarily in terms of her role within the game's co-op game mechanic. He argues

that her supportive role prevents the development of her own story and is coupled with an AI script that makes her heavily dependent on Chris, leading to a relationship between the pair that 'embod[ies] a logic of white control over the "Other"' (Brock, 2011, p. 12).

The second way in which the game complicates the simple binary between good and bad western intervention in Africa is provided through the horror genre's need for twists in the tale. After the evil machinations of the Umbrella Corporation had come to light in *Resident Evil 2*, a watchdog called the BSAA was established under the auspices of the UN but bankrolled by the pharmaceutical industry. Chris, Sheva and Josh are all agents of this organisation, whose purpose is to track down and neutralise BOWs around the world. Over the course of this game we discover that Tricell, one of the pharmaceutical companies on the BSAA board, is in cahoots with the ostracised Umbrella Corporation, and its CEO, Excella Gionne, is personally assisting Wesker in his development of the Uroboros virus. Chris, Africa's saviour, is in the pay of a company complicit in Africa's exploitation. Wesker's diabolical plan is a loose end in the story that undermines the simplistic moral of co-operation between Africa, in the form of Sheva, and the west, in the form of Chris, that the game leaves us with. Like the Uroboros, the ancient symbol of the snake biting its tail that gives its name to the virus at the heart of the game, this inability of the game to resolve Tricell's duplicity within the generic superhero plot at least points to the complexity of the post-colonial situation where foreign aid can be an insidious presence.

Far Cry 2, like *Resident Evil 5*, is set in a fictional, contemporary African country. This time, the story involves an assassin (the player-character) who has arrived in an African country in the midst of a civil war to kill an American arms dealer named the Jackal who is arming both sides of the conflict. But while Africa is an exotic backdrop in *Resident Evil 5*, it is central to *Far Cry 2*. This is because the player must become involved in the game's setting to a greater extent. The plot points in *Resident Evil 5* proceed in the same order however the player chooses to play the game. *Far Cry 2* has a looser mission-based structure, in which plot-points are chunked together, allowing the player to choose the paths taken through these narrative chunks. It is possible therefore to ignore some missions, and to make decisions based on alliances that close off certain other missions. This does not affect the overall trajectory of the game's story or the final outcome of the game. Indeed, the inevitability of the outcome regardless of player choices becomes a means by which the game represents the civil war that is being depicted as intractable. Whichever missions the player completes

throughout the game, the denouement will be a suicide mission by the player-character and the Jackal.

Apart from the choices based on plot points, the game is set in an open world, presenting the player with different routes between mission points. The openness of the world is signalled in the first few minutes of the game, in which the player watches from a first-person viewpoint as the character is driven through the African landscape (Figure 3). With many of the player's options for interaction taken away, a great deal of exposition is achieved in this introduction. It visually explains the scale of the landscape which the player is about to enter while the running commentary provided by the taxi driver, the sight of a fleeing population and roaming militia, and the political rhetoric of the radio DJ explain the volatile political situation in the failed state.

Figure 3: The opening sequence fills us in on the size and state of the country as we are driven from the airport to the hotel

In the game itself every journey is punctuated by firefights at enemy checkpoints, which re-spawn with a frustrating regularity. This makes the planning of routes and navigating between points a large part of the game. While the long travel times and ubiquitous checkpoints came in for some criticism in the game's reviews, for example in Gamespot (McInnis, 2008) and IGN (Onyett, 2008), they seem a deliberate mechanic designed to slow the player down, thereby allowing the landscape to assert itself in the player's imagination. In *Resident Evil 5* we are guided through the landscape down clear corridors and tracks, only repeating sections when we fail, but generally moving in a forward

direction. In *Far Cry 2*, as with many open world style games, we make the same journeys over and again. While this is in danger of making for repetitive gameplay – and, again, this was a criticism levelled at the game – it does allow the player to gain a familiarity and intimacy with the terrain. The space is inhabited. Particular locations come to be associated with particular events, missions and adventures, many of which will be unique for a specific player. These associations become memories that attach themselves to these places and can be triggered when we revisit them even as new memories and associations are being laid down. This sedimentary process occurs in open world games generally and leads to a culturing of space similar to what Michel de Certeau (1988), in *The Practice of Everyday Life* describes as a conversion of place, which is a geometrical category, into space, which is experiential (pp. 117-118). This kind of transformation is less assured in games of the *Resident Evil 5* type where setting is more likely to be ephemeral and somewhat more peripheral to the experience.

Not only must the player learn to navigate around the country to the various mission points, but knowing the landscape is also a strategic necessity. Each checkpoint and enemy base offers the player a number of possible approaches. Picking the right one based on the current weapon load-out is a large part of the game's pleasure. This requires the player to read the topography both through the maps provided and directly on the ground. This is in contrast to *Resident Evil 5*, which controls much more tightly the range of ways of traversing the environment. Even in fairly open areas the right way is usually signalled quite clearly through various kinds of cookie crumb trails the designers have laid down. The player does not have to engage in a deep reading of the environment of the type performed by the *Far Cry 2* player but rather a scanning of the environment's surface for these navigational cues.

This fundamental difference between the two games in terms of the relationship of player to environment is important in differentiating their representations of Africa. Representation of particular places in games is more than a question of what myths and stereotypes the game employs but also the place the country occupies in the gameplay experience. In *Resident Evil 5* it is a backdrop that the player passes by. In *Far Cry 2*, due to the sedimentary effect of repeated journeys and the strategic necessity of planning attacks, an intimacy is formed between player and environment in which Africa asserts itself as more than just a pretty backdrop.

Similarly, the politics of *Resident Evil 5* have a broad enough sweep to allow the player to set them aside during the game. The game is motivated by a politically resonant story, but the player's actions are ultimately motivated by the dictum 'if they move, kill 'em.' In *Far*

Cry 2, every mission is politically motivated and contains political overtones. Ignoring the story in *Far Cry 2* is more difficult than it is in *Resident Evil 5*, as the player is required to understand the missions in order to complete them. Certainly, neglecting the story in *Far Cry 2* leads to a far less satisfying experience than doing so in *Resident Evil 5*. *Far Cry 2* does not have the constant action of *Resident Evil 5* so what are we to *do* when we are not shooting enemies? One option is to admire and explore the expansive world. But another is to reflect on the story. It is up to individual players how they wish to spend this time, of course, but the game provides a space within which story can develop in the player's imagination. No game can *determine* how a player will think about its story, but games can encourage conscious deliberation just as it can consign the story to a peripheral position. On the way to a mission, while wary of ambushes and checkpoints, the player has time to think about the mission not only in strategic terms but in terms of how it fits into the broader situation. If the player chooses to ignore the story, these considerable periods of downtime are considered black holes in the game. It is perhaps worth noting that the Gamespot reviewer who criticised the game's long journeys also failed to be engaged by the game's story. Perhaps had the reviewer been more taken with the story these long journeys would have ceased to be tedious for him and instead been an opportunity for the story to breathe.

The structure of the missions also encourages reflection. A typical mission proceeds in the following way: The player approaches a faction leader who explains a particular mission. He goes into the details of the mission – who the target is, why he needs be eliminated, and how this might be achieved. He then summarises the mission with all of the extraneous details removed, reducing it to the conventions of many mission-based videogames of this kind – go to w, kill x, take y and bring it to z. At this point, of course, the player can screen out all of the contextual information about the story; ignoring the political context of the mission. However, on leaving the faction's headquarters the player-character receives a telephone call from one of his 'buddies' who offers an alternative plan. Again, the alternative plan is explained in detail before a summary is given. The player can now either make an arbitrary decision as to which plan to follow on the basis of the summaries or can make an informed decision based on the political context provided by the more detailed instructions. This encourages a level of attention to the game's story and politics by integrating them into the gameplay decisions that the player makes. The setting is therefore perceived not as a shooting gallery, as in *Resident Evil 5*, but a genuine *place*, with cultural and political resonances.

But what are the game's political resonances? Both *Resident Evil 5* and *Far Cry 2* reference *Heart of Darkness*, and Joseph Conrad's 1902 novella about the English sailor Marlow witnessing the shambolic colonial enterprise in the Belgian Congo at the end of the 19th century is relevant to both games' concerns with foreign intervention in Africa. As is the case with its portrayal of the landscape and political context, *Far Cry 2* draws its references far more explicitly than does *Resident Evil 5*. I have suggested that the map on the cover of the European version of *Resident Evil 5* plays on the heart of darkness motif. We also see a rather clunky reference to Conrad's novella in Chris's observation to Sheva that 'some would say America has its own dark side' (Capcom, 2009); seemingly a conscious echo of Marlow's opening observation that London 'also has been one of the dark places of the earth' (Conrad, 1973[1902], p. 29). But in *Far Cry 2* the indebtedness to *Heart of Darkness* is more substantial, signalled more clearly, and fundamental to how the game uses Africa as its setting. Perhaps the most obvious reference occurs in the naming of the area in which the final mission takes place after the book's title; but the references are explicit throughout.

The two main characters in the game – the player-character and the Jackal – are clear reflections of the two main characters in *Heart of Darkness*, Marlow and Kurtz respectively. In the novella Marlow tells the story of his journey down the Congo on behalf of a Belgian trading company where he encounters Kurtz, an ivory dealer who has set himself up as a demigod amongst the 'natives.' Throughout his tale Marlow is dismissive and critical of, not colonialism in itself, but its botched administration in the Belgian Congo. By the time Marlow meets him, Kurtz has been driven to madness by a combination of his perceived savagery of the country, its people and the colonial project in the Congo, by his encounter with his own power and ambitions, and by the jungle fever that eventually claims him. Kurtz sums up this troubled, romantic vision in his last words, 'The horror. The horror' (Conrad, 1973[1902], p. 111).

The Marlow of *Far Cry 2* is a mercenary tasked by an unnamed foreign power to find and kill the game's Kurtz, the Jackal. The Jackal is an American gun-runner who is arming the UFLL and the APR, the two factions in the civil war that is gripping the country. The game does not go into the reasons for the planned assassination, but it is suggested that the Jackal is prolonging the conflict, and that this is not in the interests of those who have hired the player-character.

While *Heart of Darkness* is as much about Marlow's own confrontation of brutality and savagery as it is about that of Kurtz, *Far Cry 2* presents the player-character largely as an empty vessel. The player can choose from 12 different mercenaries from around the world.

These are all foreign, and all but two are from outside of Africa. The selection of character affects who the player-character's buddies will be and this determines a couple of the side missions, but the character chosen does not have a major effect on gameplay. Apart from a brief bio, the characters are undifferentiated. The first person viewpoint means the player never sees the character's face except in the picture on the character selection screen, and the diary entries that accompany each stage of the game are written in the same American style regardless of which character is chosen. What is important is that the player is a foreign mercenary, one of a group of people the game presents in a universally bad light. Unlike in the opening sequence to *Resident Evil 5*, in which it is the African characters who establish the hostile atmosphere of the town, in the opening sequence to *Far Cry 2* it is the foreign mercenary at the first checkpoint who is the most menacing presence. The African characters – the taxi driver who brings the player-character from the airport, the Nigerian journalist Reuben, and the priest, Father Maliya – all decry the mercenaries' presence in the country, seeing it as a major contributor to the war. Throughout the game foreign intervention means two things – the mercenaries, who are effective but wholly deleterious, and the hand-wringing of the international community, which is seen as ineffective hypocrisy. But the player-character does not occupy either of these positions. He is not like the other mercenaries who side with one of the two factions. His mission is outside, or at least on the periphery of, the conflict and to execute it he must work not only with both factions but also with the African people as represented by Reuben and Father Maliya. This middle ground gives the player-character a kind of political neutrality.

The Jackal mirrors the player in his occupation of this middle ground. Both the player-character and the Jackal are outside the conflict but are implicated in it through their presence and activities in the country. The Jackal's character is far richer than that of the player-character, though his motivations are kept intentionally vague and contradictory. We learn about the Jackal through cut-scenes, in which he talks directly to the player-character; through what other people, such as the faction leaders and other mercenaries, say about him; and through taped interviews he has made with Reuben and which are scattered throughout the country for the player to find.

At least initially the Jackal is, like Kurtz, a romantic figure turned resolutely toward the darkness of his own soul. In the tapes he describes in unashamed detail the brutality that his line of work involves. He takes no pleasure in this brutality, but is rather resolute in his rejection of the hypocrisy he perceives in the west's dealings with Africa, seeing his acknowledgment of the horrors of war and his wilful complicity in it preferable to the

rhetoric of the clean war and international justice: 'It's not sick to arm people, it's sick to bump off their crooks and dictators in protection of our interests and then call it international justice' (Ubisoft Montreal, 2008). For Marlow, Kurtz remains to the end an enigma, losing himself to the world through his 'fascination of the abomination' (Conrad, 1973[1902], p. 31). There is 'no method at all' (Conrad, 1973[1902], p. 102) in his madness, but Marlow finds something strangely admirable in this; he sees Kurtz as a man who has peered into the darkness that most people turn from. The Jackal, however, over the course of the game transforms from a man struggling at this existential level to a man struggling at a humanitarian and practical level. Initially, the Jackal presents himself as the Nietzschean *übermensch*. On our first encounter with him he quotes from *Beyond Good and Evil* and many of the early tapes demonstrate an attempt to forge an unconventional morality in the face of the horrors of the civil war. But the Jackal's moralizing in the later tapes, in his later conversations with the player-character and, most of all, in his final self-sacrifice reveal this as a posture. It is revealed that his madness has a method, if a rather dubious one. He sells arms to both sides not as a means of maximising profits – though he offers this explanation as a red herring to Reuben – or through a fascination with the dark heart of Africa, but as a practical means of ensuring the war stays in the international spotlight. He fuels the war to avoid a ceasefire, which, he reasons, would not stop atrocities being committed by the UFLL and the APR but would allow the international community to look the other way. But when the two factions unite in a bid to avoid international intervention, the Jackal forms a plan to evacuate thousands of citizens and drafts the help of the player-character.

The resolution of the Jackal into a humanitarian certainly makes him a less compelling character than Kurtz, but it also helps to re-write Conrad's novella in terms of 21st century western political engagement in Africa. He describes the situation in the country as a disease, and describes the foreign presence in Africa – including his own and that of the player – as cancer cells that must be eradicated. He sees all western engagement with Africa as deleterious, even his own. In the final mission both he and the player-character must be destroyed to guarantee the evacuation of the citizens, though quite why this is necessary is unclear. In this mission two tasks must be accomplished simultaneously and the player can choose which will be done by the player-character and which by the Jackal. These are to detonate a bomb that will block the road to prevent the soldiers from following the refugees and to bribe the border guards with diamonds to let the refugees through. The bomb must be detonated with a car battery on site and so whoever does this mission will die. There seems to be no reason, however, why the person who bribes the border guards needs to shoot himself

afterwards, as the Jackal recommends. The reason given is that 'Every cell of this cancer must be destroyed. That includes you and me' (Ubisoft Montreal, 2008). But if the person who bribes the guard simply leaves the country afterwards then suicide would be unnecessary. Perhaps this is simply a poorly scripted resolution, but it impacts on the Jackal's character. His final mission is not only a sacrifice out of necessity but also an indictment of and punishment for his part in the conflict. Whoever plants the bomb is destroyed by necessity; whoever bribes the guards is destroyed as a result of the Jackal's philosophical commitment to salvation of Africa through a purging of foreign intervention, which bespeaks a need for atonement.

The Jackal's suicide is not borne out of existential despair in the face of Africa's darkness but rather a mixture of practical necessity and self-contempt. Both Kurtz and the Jackal are embittered by their experience in Africa. But the Jackal's final words are not the existential despair of Kurtz's 'the horror' but the sardonic, pragmatic, and somewhat jaded instruction – 'Good, you know what to do. I'll be dead in an hour and so will you. Africa wins again' (Ubisoft Montreal, 2008). Here we see Kurtz and the Jackal developing in opposite directions. Kurtz goes from being a 'first class agent' (Conrad, 1973[1902], p. 46) to an existential visionary. The Jackal goes from a visionary to a pragmatist.

The Jackal's condemnation of western intervention in Africa implicit in his suicide can be seen as a response to the image of Africa put forward in *Heart of Darkness* and that was so influential over the course of the twentieth century. In his famous post-colonial criticism of *Heart of Darkness* Chinua Achebe (1977) decries the use in the novella of Africa as a mere backdrop which reduces Africa 'to the role of props for the break-up of one petty European mind' (p. 788). What is missing from this version of Africa is Africans, who are constantly kept in the background and dehumanised. Africa is being used, Achebe argues, as convenient shorthand for 'lack of civilisation.' The Africa that is called upon by Conrad is a venue where a European can be stripped of the supports of civilisation on which his sanity relies. Conrad's focus is not Africa; Africa is the means to his end. But *Far Cry 2* is more engaged with a humanised Africa. The Jackal's madness is not as a result of the giving of himself to the darkness of the continent but of his awareness of his responsibility for the conflict. Kurtz's vision is inward-looking; Africa is the means by which he sees the state of his own soul. The Jackal's vision is outward. He comes to recognise not his own soul but the soul of Africa in its people. His final mission must therefore be the sacrifice of himself for the salvation of the citizens.

The final cut-scene shows the civilians crossing the border to safety past a border guard with the case full of diamonds delivered by the player-character or the Jackal. An explosion in the background tells us the bomb has been detonated, killing one of the two men, and a gunshot nearby suggests the suicide of the other. Unlike the final scenes of *Cry Freedom*, mentioned earlier with respect to *Resident Evil 5*, in which the story moves from the struggles of Steve Biko to the evacuation of Donald Woods, the ending of *Far Cry 2* erases the presence of the western characters and foregrounds the African citizens. This is emphasised by the game's only change in perspective, moving away from the first person viewpoint that has been active throughout the game to a third person cinematic perspective. Just as the character is erased from the scene, so the player is denied his or her privileged presence in the first person view. The sacrifice of the Jackal and the player character does not glorify the archetypal white saviour. It is presented as an empty gesture. It has a small effect on the conflict in evacuating the citizens, but ultimately the war goes on. The war's resolution does not lie in the efforts of the Jackal or the player-character but, it is implied in the text that ends the game, the African journalist Reuben, who continues, despite the indifference of the international community, to report on the conflict.

Within the game there is a conflict between what the player is required to do and how the game reflects upon – and asks the player to reflect upon – these actions. The game puts the player in the role of a foreign mercenary and then proceeds to make him or her feel guilty about it. This is an entirely negative approach. It does not itself humanise Africa but rather invites the player to reflect upon the dehumanised Africa that is represented.

The positive version of this – the foregrounding of a humanised Africa – is perhaps most vividly explored outside the game itself. Ubisoft's marketing campaign for the game included a weblog supposedly by Reuben, (Oluwagembi, 2008). It provides a description of the events leading up to the player-character's arrival in the country. By providing this second, African, perspective on the events of the game, the blog counterpoints the game's necessary positing of Africa as a playground for foreign mercenaries and as a site of perpetual war, political corruption and disaster. Of course, the game also presents the natural beauty of the landscape, but, while it acknowledges the failure of the Jackal and the player-character to recognise a humanised Africa, it is not able to represent this Africa within the confines of its genre. In the blog, Africa's problems are confronted, but through the eyes not of a gun-toting FPS character but through the pen of an African journalist. In the blog, APR and UFLL soldiers can be brutal, but they are also capable of simple human kindnesses, helping Reuben fix his car and offering him cigarettes. The discrete separation of soldier and

civilian in the game as two distinct game entities requiring two distinct forms of behaviour on the part of the player is problematized in the blog, where civilians are seen becoming soldiers and soldiers are seen as human beings. Reuben writes of Africa as his home, as a continent he loves and is committed to in a passage that puts into relief the disposable Africa-as-exotic-playground that the game employs.

Settings in big budget videogames tread a fine line between novelty and familiarity. Designers respond to players' desire for new virtual worlds to explore or traverse, but also pursue a quantity theory of game player attention. Especially in the first few moments of a game, the theory goes, a player needs to be focussed on getting to grips with the controls, establishing motivations to play, and clearly identifying the game's goals. The setting should be novel enough to surprise players, but familiar enough not to distract them from the job in hand. When games branch out from the familiar settings of North American cities, interplanetary battles, fantasy idylls and European war zones they tend to reach for representations of these novel places that players will immediately recognise. But this is not to say that these games cannot go beyond these familiar representations, and *Far Cry 2* demonstrates a way in which a game can trouble the conventional motif of the foreigner in Africa on which it is founded. However, undermining a particular conventional representation of Africa – Africa as seen by the foreigner – is not the same as offering a truly alternative representation. For that, these conventions must be abandoned altogether and new perspectives, stories and images forged in their place. In 2006 a story appeared in the gaming press about a new MMORPG in development by a small US company called Rapid Reality (Totilo, 2006). The game, entitled *Africa*, was to be set in 13th century Africa, with low enough system requirements to be played on computers at African cybercafés as well as more powerful PCs around the world. Five years later the project has been abandoned. There are currently few African game developers, most of which are located in South Africa and are generally making small games for mobile and desktop platforms that would be hard-pressed to challenge the representations put forward by big game development companies like Capcom and Ubisoft. While there is no guarantee that African game companies are particularly interested in representing Africa from within, some certainly are. Such are the ambitions of the Nigerian-based mobile game developer Leti games, who in their mission statement complain that 'the themes and setting of most [mobile games] are similar if not the same reducing creativity available to gamers,' going on to promise to bring 'traditional African settings' to videogames (Leti Games, 2011). Perhaps a real alternative to western representations of Africa in videogames lies in the hands of such African developers.

This chapter has described the settings of a large set of popular videogames and attempted to describe how these settings might be read in terms of aspects of these games like theme and story. Choice of setting was found to be motivated by several possible factors, including the context of production, target market, and genre. Detailed analyses of several games were attempted, and suggest that setting can have a particularly important role to play in expression in games because it functions both as a means of representing real and imagined places but also as a place that is inhabitable and traversable in itself. When thinking about how settings work in games it is necessary to take account of both of these ways of functioning and how they inter-relate.

3. Landscape, toponymy and viewpoint as aesthetic effect

The previous chapter touched on the way in which games draw upon familiar settings in ways that sometimes reinforce conventional representations of these places – for example in the cherry-blossom festooned temples of Japan in many of the fighting games – and sometimes challenge them – for example in the suburbs under attack motif seen in some of the war games. But games employ more than generic familiarity in using their settings to inform their overall themes and concerns. This chapter will offer three analyses of how games can employ aspects of space and place to elaborate on the narrative or political charge that resonates through the games. The first of these analyses treats how the presentation of landscape in the RPG *Oblivion* can be read in relation to the game's story. The second treats the *GTA IV* trilogy, looking at how it employs place names in a knowing way to elaborate on the satirical thrust of the game. The third analysis looks at the *Civilization* series. Here, the games employ a particular viewpoint to allow for particular gameplay mechanics. But in doing so they allow for this functional mechanic to politicise a game that eschews an overt political stance.

The landscape in *Elder Scrolls IV: Oblivion*

The opening sequence for *Oblivion* establishes the importance of landscape in Bethesda's epic role-playing game. The game opens with a shot of the Emperor of Tamriel – *Oblivion*'s medieval-esque setting – in a darkened space, his face lit by flickering candlelight. His voiceover predicts his own death and the opening of a series of flaming gates to the hellish plains of Oblivion. There is a cut to one such gate, which, under a red and stormy sky, opens to reveal a massive machine of war lumbering toward us, flanked by an army of monsters (**Error! Reference source not found.**). Tremulous strings, portentous brass, and the steady crash of cymbals escalate menacingly, then break and are replaced by a delicate, celestial chorus. We are now flying through a blue sky above a vast landscape. Wisps of clouds part to reveal snow-capped mountains in the distance and pine-trees on each bank of a river that flows toward an island city (**Error! Reference source not found.**). The shot circles the city, revealing its several districts. As the circling horizon changes from mountain peak to plain, to ocean, the brass and percussion return. The forbidding music of the Oblivion sequence is now replaced by a brighter, heroic tone complete with swelling strings and epic brass. We are descending, fixed on a barred window at the base of a prison complex outside

the city. The strings build to a screeching climax and the shot accelerates toward the window. As we enter the dungeon, the screen darkens.

Figure 4: Oblivion as represented in the game's opening cut-scene.

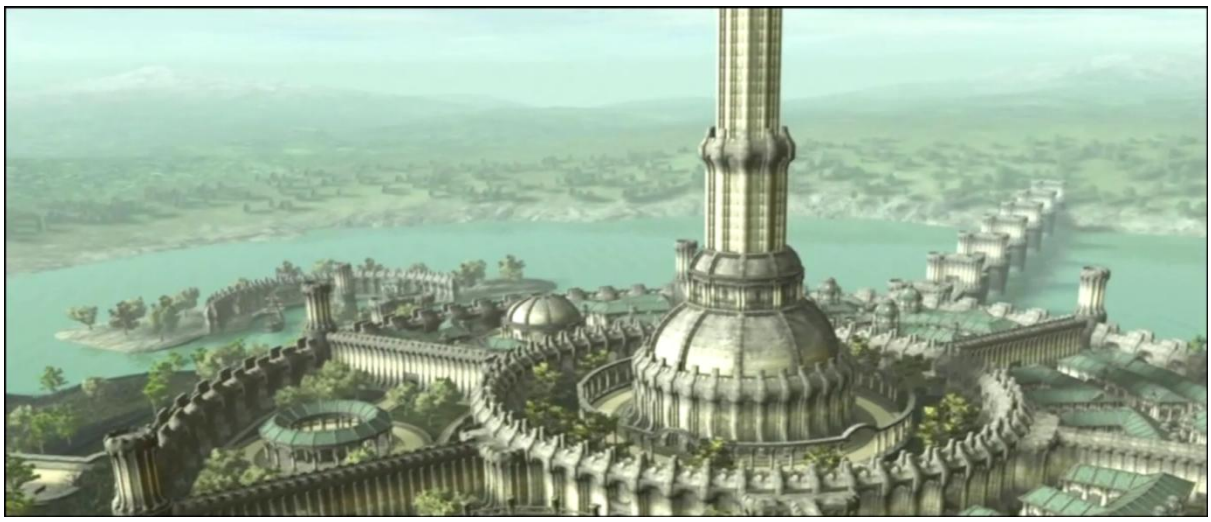


Figure 5: The garden city, the pastoral countryside and the sublime landscape in the opening sequence to *Oblivion*.

Like much high fantasy, *Oblivion* is set in a world, constructed from a highly wrought set of fictional histories, myths and cultures, which acts as the venue for a simple moral tale of good and evil. Beneath these two central categories of good and evil a host of less abstract images take their place: light and dark, artisanship and technology, the pastoral and the industrial; binaries that are already evident in this opening. On the one hand we have the

darkness that shrouds the emperor, the mechanical siege engine proceeding out the hell-gate and the fire and brimstone of Oblivion. On the other we have the bucolic repose of Tamriel and its central garden city.

The contrast seen in this cut-scene is reminiscent of the pastoral as theorised by Leo Marx in *The Machine in the Garden* (2000[1964]). Here, Marx defines the pastoral as a 'literary design' that depicts an asylum bordered on one side by wilderness and on the other by civilisation. This idyll is necessarily threatened, though the threat may be only fleetingly treated, from one or both sides by these 'counterforces' (Marx, 2000[1964], p. 26). In Virgil's *Eclogues* from the 5th century B.C.E. the counterforce emanates from the Roman state on one side and the 'bare rock and marshland' on the other. In 17th century European painting it is the image of death in the idyll that serves as the counterforce, warning '*Et in Arcadia Ego*' – 'I too am in Arcadia.' In the 19th century American pastoral of writers such as Nathaniel Hawthorne the counterforce most often takes the form of the steam engine. Marx gives the example of a piece of Hawthorne's writing in which the writer, composing prose in the bucolic setting of Sleepy Hollow, is disturbed by the whistle of a nearby train; the undeniable reminder of civilisation. For Marx, what is important to the pastoral is the presence of this counterforce, rather than the particular form that it takes, which is a function of the historical, cultural and political context. This basic contrast finds a different form in *Oblivion* due to the popular re-imaging of the pastoral in the fantasy genre starting with Tolkien and embraced by many board games and videogames. It finds a different expression in *Oblivion* due to the specific embodiments that an open world videogame makes available.

The opening scene of *Oblivion* clearly establishes the 19th century pastoral design as described by Marx. The bucolic, pre-industrial repose of Tamriel is threatened by an industrial Oblivion. What is different here from the pastoral as encountered above is the urgency of this threat. In the *Eclogues*, the encroachment of civilisation on the one side and wilderness on the other serve to highlight its tranquillity. In the *Oblivion* version of the pastoral the encroaching forces serve as a call to arms. It is not the idyll that is the focus but rather the threat to it. The abiding energy is not one of repose or admiration but of what is anathema to the pastoral (and fundamental to videogames): action. However, it is only through action that the pastoral can be reclaimed. It is as though Hawthorne, disturbed in his Sleepy Hollow reverie, puts aside his notebook to knock the steam engine from its tracks or Virgil's shepherd abandons his sheep to march on Rome. This mix of the pastoral and action is more reminiscent of *Oblivion*'s closest literary influence: the fantasy inspired by J.R.R. Tolkien.

The treatment of good and evil is a staple of the modern fantasy genre, a genre that derives much of its stock of themes and imagery from the work of Tolkien. *The Lord of the Rings* may be primarily figured as an anti-war novel, but war is primarily figured by Tolkien as an industrial intrusion on an idyllic phase. It is the industrial nature of its execution – the mass-production of orcs, the fire and smoke of Mordor – that lends Sauron's war its nightmarish quality, contrasting, to use William Blake's words, 'Satanic mills' with the 'green and pleasant land' of the Shire. Blake's *Jerusalem* predated Tolkien's epic by more than a century, but both are motivated by a rift between an imagined pre-and post-industrial landscape, and both writers make it clear on which side of this rift they stand. Critics have pointed to episodes like the march of the Ents, or the philosophy of the Elves, as well as Tolkien's own personal crusades and his hatred of the industrial city in which he was born, to argue for what we would now call Tolkien's green credentials (Dickerson and Evans 2006; Rosebury 2003). This contrast between a pre- and post-industrial world carries over into much of the literature – and games – that Tolkien inspired.

We might expect that these pastoral themes that are signalled in the cut-scenes as a set of striking images are fleshed out through the characters we encounter in the game. In fact it is not character, which is often under-written, and dialogue, which is often clunky, which most successfully sustain these themes. Rather, it is space and place.

Characters in this kind of role-playing game are often weakly delineated and clichéd. There are a number of formal reasons for this. The hero the player controls is constructed by the player from a large palette of characteristics, some instrumental to game play, some cosmetic, and many a combination of both. This focuses on the hero as a conglomeration of stats and types rather than the richly complex character that is the stuff of literature. The two possible viewpoints – a trailing camera or a first-person perspective – means we spend little time viewing the face we have so lovingly crafted in the character creation screen. We only really see our hero's face in our inventory screen. This screen does not demonstrate the hero in action but in a generic pose; a staging that is not conducive to the development of sympathy.

Figure 6: Avatar as object, not character

This may be a misreading of how character works in the game that ignores its status as a fantasy genre game. For fans of this genre each character type, class and skill, resonates in relation to characters developed in other stories and games of the genre. The character is not reducible to its functional characteristics because these characteristics have, especially for fans of the genre, rich histories from which the game character's personality emerges. The character of the hero in *Oblivion* is not so much a blank slate as an array of characteristics and histories that can be used in different combinations. Players may draw upon their knowledge of the genre to invent explicit backstories and perhaps publish them online. But the game does not work with the player in the development of character in the way of a game like *Fable* (Lionhead Studios, 2004). There is little possibility in the dialogue trees to really inject your hero with a unique personality. While the possibility of the hero becoming a compelling character exists, particularly for the genre fan, the hero can equally stay at the level of a functional object. The avatar is not primarily a means to develop the character of the hero but to discover the character of the landscape.

Other characters in the game are more fleshed out than the hero, but rarely to good effect. Next to the hero, the most important character in the main quest is Martin, the heir to the Emperor. He is the reluctant hero who struggles with his calling before taking on his responsibilities with great success. The problem here is not only the clichéd nature of his narrative arc but primarily its fitful execution. When we initially meet Martin he is a priest in the town of Kvatch. He refuses to believe that he is in fact the heir to the throne. Yet within a few lines of dialogue he is convinced. Later, he gives a speech to his Imperial guard, the Blades. It is, as he admits, the speech of a timid country priest and not a leader in a time of crisis. Later on, as he leads his men to battle, he gives a stirring 'once more unto the breach' address that demonstrates a sudden assurance in his new role. But between these speeches we do not see this development take place and so it is jarring and not at all dramatically convincing. This is not helped by clunky dialogue and a manner of first-person presentation that lacks expressive range. Conversations are conducted with the hero's interlocutors staring blankly out from the screen, their expressions limited entirely to the eyebrows and mouth, repeating banal chunks of barely disguised exposition and instruction.

It is the landscape that provides the most sustained and striking elaboration of the game's theme of good versus evil. It is effective not only because of the success of its realisation relative to the realisation of the characters but also because of its ubiquity. The landscape, unlike the secondary characters, is always there. Even if the player decides to ignore the main plot, constant reminders of the threat that Tamriel faces emerge on the landscape in the form of the Oblivion gates, which surface in a semi-random fashion throughout the country. Unlike the hero, whose face we rarely see, the landscape demands our attention throughout the game. We get to know it intimately whether we stick to the quest, pursue the side-quests or wander aimlessly about. The contrast between Tamriel and Oblivion, between good and evil, between the pastoral and that which threatens it, is played out with every gate encountered.

Unlike the hero or Martin, the landscape is a compelling, if not conventional, character. The hero cannot do anything the player has not already thought of. The hero has nothing to reveal to the player, since all the hero's attributes and decisions emanate from the player. This is the nature of this kind of videogame. But there is space in the player's relationship with the environment to be surprised and to gradually learn more about its characteristics. For example, you quickly learn that the loot available on the plains of Oblivion is generally superior to what is available in Tamriel. This serves a functional role, certainly; better loot lures the player onto the relatively more challenging plains of Oblivion, and rewards the

player for attending to the game's main story. But it also has what might be called a cosmological significance. By giving shape and texture to the contrast between Oblivion and Tamriel – in not only visual and auditory form, as in the opening cut-scene, but also in the more visceral form of risk and reward – the game reiterates its moral theme. Without engaging in direct personification, the separate realms develop characteristics and personalities that are richer than those displayed by the game's characters.

Landscape in *Oblivion* is therefore an element of the game that is capable of doing work in relation to the game's story in the same way that we conventionally think of characters doing work. However, while characters work in the representational mode of representations and messages, landscape works primarily through embodiment. The landscape is not only something seen and read but also something inhabited and traversed. By attending to landscape both as a representation of a place that can be read and as a place that embodies the player, it is possible to engage in a close reading of *Oblivion* that treats the landscape not as a pretty backdrop but as central to the game's dramatic elaborations. The fantasy theme of a battle between a pastoral paradise motivated into action by the encroachment of an industrial hell is not merely played out *on* the landscape. It is played out *by* the landscape. And this happens by imaginatively embodying the player in the landscape. When an Oblivion gate appears in Tamriel it transforms its immediate vicinity into an extension of Oblivion. The sky casts over, reddening and filling with thunder. Alien herbs like Bloodgrass and Harrada grow in the shadow of the gate and, of course, monsters pour forth from its opening. When the gate is closed by the hero the remnants of the gate remain, a scorched monument to the victory of good over evil, of the pastoral over the industrial. This battle is mirrored in the hero's quests and exposited through character dialogues and journal entries. But of these ways of relating the game's theme of good and evil, the imagination leans toward the spatial. The hero is just a mechanism by which the epic spatial battle may be realised. Landscape, in other words, is not a backdrop but the main attraction. The hero is a necessary means of interpreting the landscape, a means of getting us about it. We might think here of the avatar as an instrument, tool or vehicle. Other characters explain the landscape's transformations. But neither the hero nor the secondary characters are ever as eloquent, as dramatic, or as moving as the landscape itself. Indeed, the characters frequently come close to undoing, through a ropey script and stilted delivery, the epic image that the landscape works so hard to establish and sustain.

Primarily through its landscape the game, then, sets up a contrast between Oblivion and Tamriel that is central to its pastoral-fantasy theme. How does this play out over the course of

the game? When the hero enters the final great gate to confront the arch-villain, Mankar Camoran, we are placed not in the scorched plains we have met before but in a paradisiac garden. Lush greenery, carefully arranged groves and vistas, and picturesque rockeries are not what we have come to expect from the landscape of Oblivion. But this sudden mimicry by Oblivion of the visual tropes we have come to associate with Tamriel does not signify a reconciliation between the two. Nor is it simply a trick of the wolf in sheep's clothing. In order to understand how this transformation works we must attend more closely to the nature of *Oblivion*'s landscape.

What is it about the landscape in *Oblivion* that makes it such a compelling dramatic force? A common element in most of the game's reviews was praise of the landscape. Eurogamer confessed a 'sense of awe' at what they saw as 'without question, the most beautiful game settings achieved to date.' (Reed, 2006, p. 1). GameSpy were similarly enthusiastic, suggesting Tamriel 'could be the most impressive digital landscape ever created.' (Speer, 2006, p. 1). IGN commented: 'The environments look so good, it's nearly impossible to resist the urge to plunge into the unknown.' (Onyett, 2006, p. 4). Throughout the reviews, words like 'breath-taking,' 'beautiful,' 'stunning,' 'awe,' 'amazing' and 'incredible' attach themselves to the landscape. *Oblivion* was one of the first games on the Xbox 360, and much of this gushing may be down to hype attached to a next generation console. But there is also something instructive in these reactions which require us to shift our focus from the pastoral to the sublime. By thinking about the sublime in relation to the landscape in *Oblivion* a discussion can be framed about the development of the landscape as an aesthetic object over the course of the game. This object exists at the intersection between the form of the landscape and the activities the player is encouraged to engage in. It will be my argument that to the extent that that landscape serves the game's explorative and completist imperative it fails to sustain the sublime reaction we see in the game reviews quoted above. However, this waning of the sublime may be read in relation to the game's story, where the debasement of the landscape in the eyes of the player corresponds to the revelation of Tamriel as not an alternative to Oblivion but a part of it.

The concept of the sublime was introduced into modern European culture through a late 17th century translation of Longinus' work, *On the Sublime*. It became an important touchstone for 18th century aesthetic theory, influential in the development, amongst other areas, of the Romantics' emotional relationship to landscape and the sensational novels of the Gothic. An early aesthetic theory that touches on the sublime is found in Joseph Addison's series of articles in 1712 for the *Spectator* entitled 'Essay on the Pleasures of the Imagination.'

In this series, Addison treats of pleasures 'such as arise from visible Objects, either when we have them actually in our View, or when we call up their Ideas into our Minds by Paintings, Statues, Descriptions, or any the like Occasion' (Addison, 1712; quoted in Hipple, 1957, p. 14). The former are primary pleasures, the latter secondary. This is not, in spite of the examples given here, a distinction between the pleasures associated with nature on the one hand and art on the other. It is possible for secondary pleasures to derive from the mind's 'own Operations' rather than from works of art (Hipple, 1957, p.14). More importantly for the application of the concept to videogames, it is possible for primary pleasures to be associated with those art forms whose pleasure is not primarily referential (Hipple, 1957, p. 15). Addison gives the examples of architecture. Here, the object does not cause pleasure by calling to mind that of which it is a copy and allowing for comparison. It is the object itself that is pleasurable.

In *Oblivion* we have an environment that is both primary and secondary in Addison's conception. Whether its pleasures are mainly secondary, in the way it allows the player to compare it to a real countryside, or primary, in the way it functions as a navigable space, is a moot point, but the fact that it keeps these two distinct (for Addison) pleasures in tension with each other is not to be neglected. This tension between the game environment as a representation of somewhere else and as a place in itself is essential in understanding the way game spaces facilitate two different modes of engagement on the part of the player.

Addison contends that these pleasures of the imagination derive from three sources: the great, the uncommon and the beautiful. The great is most associated with a vastness of prospect: 'By *Greatness*, I do not only mean the Bulk of any single Object, but the Largeness of a whole View, considered as one entire Piece' (Hipple, 1957, p. 17). The imagination takes pleasure in things that are 'too big for its Capacity' (Hipple, 1957, p. 17). Also, the mind enjoys the lack of restraint that wide vistas represent: 'The Mind of Man naturally hates every thing that looks like a Restraint upon it' (Hipple, 1957, p. 17). Addison suggests that this encounter with '*Greatness*' is at the heart of the sublime. The emphasis on the role of restraint or boundedness is an important point that will be developed throughout the history of the concept, and is essential to our present analysis.

Edmund Burke (1757) takes up the concept of the sublime in *A Philosophical Enquiry into the Origins of Our Ideas of the Sublime and Beautiful*. Here, beauty and sublimity are emotions which arise from properties of external objects. Burke seeks to examine these emotions, examine the properties that give rise to them, and examine the method by which this happens. This is based on a distinction of pleasure and pain as two separate principles,

with the removal of pleasure not being the equivalent of pain, nor the removal of pain the equivalent of pleasure (Hipple, 1957, p. 87). The removal of pain, what we might call a 'negative pleasure,' Burke terms 'delight.' It is this delight that is associated with the sublime, which arises from being in a situation of terror, but with the pain of this being withheld through distance:

> Whatever is fitted in any sort to excite the ideas of pain and danger, that is to say, whatever is in any sort terrible, or is conversant about terrible objects, or operates in a manner analogous to terror, is a source of the *sublime*; that is, it is productive of the strongest emotion which the mind is capable of feeling. (quoted in Hipple, 1957, p. 87)

The sublime is delightful in two ways. Firstly, it presents danger without causing harm. Secondly, and related to this, it leads to, as Addison had already noted, self-aggrandizement:

> Now, whatever, either on good or upon bad grounds, tends to raise man in his own opinion, produces a sort of swelling and triumph that is extremely grateful to the human mind; and this swelling is never more perceived, nor operates with more force, than when without danger we are conversant with terrible objects, the mind always claiming to itself some part of the dignity and importance of the things which it contemplates. (quoted in Hipple, 1957, p. 89)

For Burke, the sublime is always in danger of becoming customary and losing its power. Here, it becomes merely beautiful: 'Knowledge and acquaintance make the most striking causes affect but little' (quoted in Shaw, 2005, p. 59). The sublime, then, is precarious, shattered by familiarity.

In *The Sublime*, Philip Shaw (2005) suggests that Burke's notion of the sublime as ultimately self-aggrandizing is unconvincing 'because it is the essence of sublime, surely, to resist mental appropriation' (p. 55). For much of the development of the concept over the next two centuries what was at issue was the manner in which the sublime is, or fails to be, appropriated. It is this aspect of the sublime – the reaction of the participant in the sublime as one of self-aggrandizement or of self-negation – that is necessary to the current argument.

Kant discusses the sublime in 'Analytic of the Sublime' as part of his aesthetic theory in the 1790 *Critique of Judgement*. For Kant there is a central paradox to the sublime. It is 'to be found in a formless object … while yet we add to this *unboundedness* the thought of its totality' (Kant, 1987[1790], p. 98). This paradox, where the self both encounters and fails to encounter a totality, is resolved by recourse to a distinction between the imagination and reason. In the sublime moment the imagination fails to adequately grasp the object presented. There is no sensible object to which the infinite or the infinitely mighty – that *something* the sublime evokes – can be compared. But the mind still is capable of conceiving of the infinite and conceiving of the imagination's failure. Thus reason is elevated at the expense of imagination. The sublime, which dwarfs our imagination, yet is known by our reason. By virtue of the fact that we can in one sense (the rational) grasp what is so beyond us in another sense (the imagination), we are elevated beyond both nature and our sensible experience of it. The might of the sublime object passes from the object to the spectator who is capable of grasping its might by reason:

> And we like to call these objects sublime because they raise the soul's fortitude above its usual middle range and allow us to discover in ourselves an ability to resist which is of a quite different kind, and which gives us the courage [to believe] that we could be a match for nature's seeming omnipotence. (Kant, 1987[1790], p. 120)

Kant focuses on the sublime as it manifests in that which is vast beyond sensible comparison, what he calls the 'mathematical sublime.' But he also describes the 'dynamical sublime.' This is fear in the face of a force of nature 'compared to the might of […which] our power to resist becomes a significant trifle' (Kant, 1987[1790], p. 120). In his gloss of Kant's two versions of the sublime Shaw suggests that, while the mathematical sublime reasserts reason's dominance over both the imagination and nature by conceiving of a totality that horrifies the imagination, so the dynamical sublime elevates the faculty of reason, demonstrating its own power in being able to countenance the power of nature. Thus reason, Kant argues, overpowers, in a certain sense, those 'thunderclouds piling up in the sky' at which the imagination quails:

> the feeling of the sublime is a feeling of displeasure that arises from the imagination's inadequacy, in an aesthetic estimation of magnitude, for an

> estimation by reason, but it is at the same time also a pleasure, aroused by the fact that this very judgement of the inadequacy, namely, that even the greatest power of sensibility is inadequate, is [itself] in harmony with rational ideas, insofar as striving toward them is still a law for us. (Kant, 1987[1790], pp.114-5)

It should be noted that these pre-Romantic theories of the sublime differ from the theory as embraced by nineteenth century poets like Coleridge, for whom the melancholy precipitated by the imagination's failure in the face of the sublime outweighs the triumph of reason as understood by Kant. It is this earlier version of the sublime that is of more relevance to the current argument.

The centrality of action to games means that while the landscape may be initially presented to the player as sublime, the player is also equipped with the means of encountering this landscape in such a way as to make it familiar and banal. The importance of action in structuring the tone and atmosphere of a game has been explored by Tanya Krzywinska (2009) with respect to *Call of Cthulu: Dark Corners of the Earth* (Headfirst Productions, 2005), a videogame adaptation of a number of H.P. Lovecraft stories. Krzywinska argues that while the central trait of Lovecraft's characters is terror-induced paralysis, the '"act and prevail" rhetorics of popular participatory entertainment' (Krzywinska, 2009, p. 279) transform these characters as they become game characters. In the process, the particular brand of horror found in Lovecraft's stories disappears. Just as action shapes character, so it can shape landscape, particularly its ability to present in the sublime mode. The sublime landscape is explored in relation to games by the self-styled 'photographer in the virtual world,' Robert Overweg (2010). In his exhibition 'The End of the Virtual World,' Overweg presents a series of screenshots from the edge of first and third person shooter maps (**Error! Reference source not found.**).

Figure 7: The end of the virtual world 2, Robert Overweg, Left 4 Dead 2

There is a difference, however, between Overweg's conscious reframing of videogame borderlands as works of art and these borders as they are encountered within the game. In removing the edge of the world from the context of the game Overweg evokes a kind of technological sublime. Here we do not get an object of small dimensions – a feature of the beautiful – nor are we faced with the terror of a wide and impenetrable expanse. Rather, Overweg's technological sublime involves an abyss of no size at all, which is as disturbing, though perhaps for different reasons, as the 18th century sublime of Addison, Burke and Kant. But this is only achieved through the reframing of the space as a work of art. In the context of the game, the moments when we come up against the limits of the world are jarring, running counter to the prevailing spatial aesthetic of games that strive for the illusion of boundlessness. While many games set up a sense of scale that, for Addison, ought to bring the imagination pleasure, they always contain – in a more or less obvious form – these liminal spaces where the idea of limits and restraint is brought home to the player. In *Oblivion* this tension between the illusion of boundlessness and the reality of a restraining game space gives rise to a form that works in relation to the game's story of worlds in conflict.

Oblivion's opening cut-scene presents the player with an image of the sublime. The swooping view not only takes in Tamriel, but stretches over the mountains to its neighbouring provinces and out to the ocean's horizon. The shot is designed to whet the

player's exploring spirit, but it is also designed to overwhelm the player with the possibilities for exploration that it implies. The rotation of the view is important in this regard. What begins as a conventional city view breaks through the rectangular frame that the screen provides (**Error! Reference source not found.**). A similar convention is employed in *Assassin's Creed* (Ubisoft Montreal, 2007), where a 360 degree view of the landscape is significant of infinite expanse (**Error! Reference source not found.**).

Figure 8: A viewpoint from Assassin's creed in which a 360 degree turn represents the game space as potentially infinite

The fact that the expanse in neither game is infinite does not interfere with these shots if they are taken in isolation. But, as we shall see, the revelation of the *Oblivion* game environment as finite is fundamental to how the sublime works over the course of the game. Taken as a whole, there is no outside to these shots. The world stretches as far as the eye can see – and further – in all directions. The prospect, in both senses of the word, is exciting but at the same time unnerving. This unnerving feeling is not only based on the shot's ability to point to an infinite vastness at which our imagination balks. It is also a far more prosaic feeling familiar to gamers: just how much time does this game think I have? This conflicting reaction to Tamriel's landscape is present in the above quoted IGN review: 'it's nearly impossible to resist the urge to plunge into the unknown.' The urge to plunge into the unknown encounters resistance to the extent that the landscape operates in the sublime mode.

Compared with the rolling hills of Tamriel, the plains of Oblivion as represented in the opening shot involves a far more conventional version of the sublime, coming from Dante and Milton by way of Mordor. Most of Burke's characteristics of the sublime are encountered here. It is dark, sombre, filled with danger – even the plants attack. We are, for the most part, alone apart from the monsters that pursue us. The towers we must climb stretch high into a stormy sky. There are lakes of fire and barren plains (**Error! Reference source not found.**).

The opening sequence of *Oblivion* trades on a textbook presentation of the sublime, both in its presentation of Tamriel and of the plains of Oblivion. But this is revised when we enter the world in the form of the hero. As we have seen, an important element of the sublime is the distance between the feeling subject and the terrifying object. If the object is a real threat, the sublime no longer holds sway. In *Oblivion* we are moved away from the sublime as we are set down in the world and tasked with its exploration. The landscape that was terrifying and distant now becomes a threat. This setting down is not, of course, a complete immersion in the world. The player remains aloof. The game, after all, is not exactly *dangerous*. But the player is expected to perform in, and not solely contemplate, the vast and treacherous landscapes of Tamriel and Oblivion. It has already been suggested that action is antithetical to the pastoral, but it is also antithetical to the sublime.

This translation of the player from spectator of the landscape to a limited kind of actor that is, in a limited sense, in the world does not entirely strip the landscape of its potential for the sublime. But it is the first step in a transformation that is effected in the landscape of Tamriel over the course of the game. Before looking at this transformation in detail, let us first examine its result, as depicted in the other cut-scene of the game. This is triggered at the end of the main quest once the hero has delivered Tamriel from the Oblivion threat. This cut-scene constitutes a different tribute to the game's landscape. This time there are no notes of anxiety in the musical accompaniment as we glide over mountains, hills and lakes of Tamriel. Remnants of the Oblivion gates we have closed over the course of the game survive as testament to the threat faced and overcome (**Error! Reference source not found.**). We cut from these shots of a reclaimed country to the map that has been our companion throughout the game. As we slowly zoom into the island city, the map brightens as the sun rises above it (**Error! Reference source not found.**).

Figure 9: The reclaimed countryside in the game's closing cut-scene

Figure 10: The map as symbol of conquest in the game's closing sequence

Here, the once sublime landscape is reframed in the picturesque mode. Gone is the turning, accelerating view. Gone is the obscuring mist. Instead, we get slow pans over picturesque scenes. No dramatic changes in music, just the soothing sounds of the choir.

Finally, we get an image of the map neatly framing and bounding the landscape, the antithesis of the 360 degree shot of the opening scene.

Between these two shots the landscape of Tamriel has changed for the player from something that is vast and overwhelming to something manageable, comprehensible, and perhaps even pedestrian. This transformation is signalled in this final cut-scene not only in the movement from a sublime to picturesque landscape but also in a refiguring of the ruins. Ruins signify throughout the game the world's forgotten history. They speak of a past golden age and so establish Tamriel as an ancient land that diminishes the player/hero's role as existing for a mere moment in the world's long history. The ruins establish a temporal sublime in the same way that the landscape establishes a spatial sublime. But in the final cut-scene the ruins we see do not belong to the pre-existing and half-forgotten lore of Tamriel. They have been created by the actions of the player. Now, at the game's end, the hero is not dwarfed by Tamriel's history but is its architect.

How does this change from awe to mastery occur? We are not content to be merely astonished by videogames as they do not disguise their material nature. They draw attention to it not out of an artistic or political motivation to reveal the constructed nature of reality but as a necessity of their own nature as games. A videogame prompts us to look further into the limits of its representations rather than sit back and wonder at the seeming infiniteness of its landscape (Friedman, 1999). I know the game wants me to go here, but what if I go there? When I see the ocean in *Oblivion*, motivated perhaps by a similar compulsion as that which motivates Overweg, I jump in and swim as far as I can to see how the game will stop me. On my map I see I am at the border of Tamriel and a mountain rises up before me. The fact that I cannot scale this mountain is not sublime, it is a more or less cheap way of limiting my progress, and it is easily recognised as such. It does not fill me with wonder at what lies beyond but is the sign of the game's finitude. I know when I hit an invisible wall that beyond that mountain is – nothing. The world I am in is signalled by these mountains as a thing encompassed and finite. The restraint that this involves is, following Addison, 'hateful.'

Once we have put in enough hours to have reached this final cut-scene we have encountered the invisible walls of the oceans and mountains – Tamriel is bounded and we have seen the boundaries. We have noted the repetitions involved in the design of dungeons. The minor cities have been comprehended as uniform content – guilds, shops, residences, cathedral and castle – with variations in arrangement and architecture. The plains of Oblivion have been understood as a set of half a dozen repeating worlds. In short, the awesome breadth of Tamriel has been transformed over the course of the game to a set of discrete, manageable

spaces. Unlike in comparable films like Peter Jackson's *The Lord of the Rings* (Jackson, 2001-2003), in which each landscape shot presents as the sublime, once the player is allowed to walk the fields – and outside the sublimely framed shot – the sense of grandeur can no longer be sustained, or at least it can only be sustained fitfully. The final Oblivion gate, for example, opens at the mountainside city of Bruma, affording a spectacular backdrop to an important battle near the game's climax. But even this careful staging cannot resurrect the sublime spirit. A vista of whatever breadth cannot perform in this way if the landscape has already been domesticated through exploration.

The inability of the imagination to comprehend the sublime was, for the German idealists and Romantics who followed Kant, a shadow that eclipsed reason's victory in the sublime moment (Shaw, 2005). The game's ability to bring the sublime to heel is perhaps a way of having one's cake and eating it. We get the delightful horror of the sublime, and our battered imagination gets the compensation of reducing that which caused the sublime to a comprehensible object. Everyone's a winner. Paul Hamilton summarises the disappointment of the sublime for the idealists and Romantics, suggesting that,

> we are no longer at home in the world constituted by our experience when we are enjoying the feeling of being able to think beyond it. This joyful feeling of self-aggrandizement defines itself in relation to the unhappy consciousness of no longer belonging to the phenomenal world. (Hamilton, 1983, p. 55; quoted in Shaw, 2005, pp. 90-91)

Yet in *Oblivion* we can enjoy self-aggrandizement but yet be assured of our insertion back into the world, not through an elevation of experience to the beyond of thought but through an exposure of the fiction of infinity that the game's opening shot presents.

We are now in a position to return to Mankar Camoran's paradisiac garden. This paradise is not an attempt to seduce us into taking Oblivion for Tamriel; rather it mimics Tamriel to reveal its true nature. Tamriel, as a game environment, is not, as we have come to realise, the terrifyingly vast landscape promised in the game's opening. It is, like Camoran's paradise, merely a garden. It does not extend beyond the horizon but is bounded on all sides. It is not as you find it, but carefully arranged and ordered. It is not, like the wilderness, a sublime chaos, but, like the garden, a picturesque design. As we move through the garden we hear the voice of Camoran telling us this, describing Tamriel as 'just one more Daedric realm of Oblivion' (Bethesda Game Studios, 2006). Camoran's claim is dubious if we consult the

game's lore, but it is never addressed in the game. The possibility that Tamriel does not stand in contrast to Oblivion as good to evil, light to dark, pastoral to industrial, but is in fact simply an extension of it has been explicitly stated. Both the Miltonesque sublime of Oblivion and the pastoral sublime of Tamriel are revealed as mere gardens in Camoran's paradise.

Toponymy in *GTA IV*

The street names in *GTA IV*, *The Lost and Damned* (Rockstar North, 2009), and *The Ballad of Gay Tony* (Rockstar North, 2010) aid the player in navigating around the fictional Liberty City and create a sense of the city as a living, breathing place. But they also establish, in concert with other elements of the games, *Grand Theft Auto*'s particular brand of satire; they reference specific themes that the game explores; and they even help develop character. The following analysis will begin by detailing the street names used in the games. It then interprets these names in reference to the stories and characters that the game contains. It is suggested that videogames represent a form which makes possible an exciting kind of literary toponymy, where names become a powerful textual strategy to enhance stories and approach themes in striking ways.

GTA IV is the latest group of videogames in the long-running *GTA* franchise. This franchise, the central series in Rockstar Games' stable, has been responsible for producing some of the most popular games of the last 15 years and this popularity can largely be attributed to three factors. First, the games establish large, complex urban spaces for the player to explore. Second, they locate in these spaces interesting characters and funny, sometimes moving, stories. Third, they draw on space, characters, stories, and other elements, to create a compelling satire on contemporary American consumerist society. This chapter focuses on how toponymy, or the naming of places, is used to support story and satire in three of the games in *GTA IV*: *GTA IV*, *The Lost and Damned*, and *The Ballad of Gay Tony*. Each of these games is based in the same fictionalised New York City, renamed 'Liberty City,' and each game employs the same street names. The stories in each game overlap, with many characters making appearances in each game. But due to the differing trajectories, stories, characters, themes and overall atmosphere of the three titles, these street names contribute in different ways to each game.

Each of the games has the same basic form. The player takes control of a character, viewed from behind and slightly above in a 3-D game world. These are: in *GTA IV* Niko Bellic, a newly arrived Serbian immigrant; in *The Lost and Damned* Johnny Klebitz, a Jewish anti-establishment biker; and in *The Ballad of Gay Tony* Luis Lopez, a nightclub manager of Dominican descent. Each character is a low-level criminal who must, for different reasons, do various illegal jobs (or 'missions') for more powerful people. Each successful mission leads to new, more challenging missions and, usually, a financial reward.

There are three modes of presentation. The first is the cut-scene. This is a cinematic clip where the player cannot control the character. These cut-scenes usually end with another character giving the player-character a mission to accomplish. The player then takes control of the character and attempts the mission. Having accomplished the mission, the player may find another character to get a mission from, in which case another cut-scene is triggered, a new mission assigned and the cycle repeats, or the player may drive around the city, exploring, committing crimes, discovering short-cuts, watching shows, doing side-missions and playing a host of mini-games.

These three modes – cut-scene, mission and exploration – constitute three levels of control that the game exercises in relation to player activity and impact on how the stories unfold. The cut-scene has most control over player activity and so is the main way for plot developments to occur. The missions constrain the player by setting up clear goals that must be accomplished. But within these goals, the player has a wide scope for improvisation. Some plot developments can take place during missions, but these are usually re-explicated in a subsequent cut-scene, which acts as a kind of de-briefing. Exploration is the mode in which the player is most in control. Of course, there are restrictions on what the player can do, and there is a strong encouragement toward certain kinds of behaviour, but the player is relatively free to go anywhere in the city and engage in a wide variety of activities. Very little plot development occurs as long as the player is in this mode.

Many of the names used in the *GTA* series are evocative, and might be analysed through methods adapted from the discipline of literary onomastics, or the study of names in literature. Deo Ngonyani (2001, p. 126) suggests three functions that names can serve in fiction. They may underline allegorical readings, as do the names in, for example, *Pilgrim's Progress*; they can clarify the nature or atmosphere of characters or places, for example in Dickens' eponymous *Bleak House*; and they can bear some message that the author intends to get across. These functions can equally be applied to many videogames, particularly those that contain stories as a major element.

There are two important differences, however, between toponymy in exploration-type videogames that contain stories, such as *GTA*, and in other story forms such as novels or films. First, in games that encourage player exploration in an open world, toponymy can become a particularly visible property. Players attend to street names in *GTA* not only to delight in the cultural references or the wit, but because it is beneficial in terms of navigation to do so. It should be noted, however, that street names are by no means the only, or even the primary, means of navigating around Liberty City. A mini-map in the corner of the screen, explained in the game as a GPS tracking system, shows the quickest legal way to the next goal and is the main aid to navigation, particularly for the new player. As the player gets to know the city, however, it becomes clear that often an illegal route is quicker. Again, the player can become familiar with these illegal routes without knowing the names of streets, but these names do function at least as a mnemonic device.

Second, street names in *GTA*, unlike those we find, for example, in novels, are constantly available to the player and can be accessed, for the most part, at any point in the story. This is partly a function of the game's commitment to exploration and partly a function of the form of presentation. Due to the exploratory nature of the game, the designers do not have the power to cut a journey together for a particular aesthetic effect. If the player drives from one side of the city to the other, then the entire journey and all of the streets of that journey are seen. Also, the designer has little control over when spaces will be accessed by the player and so the player encounters the street names in a fairly non-systematic way. There is a parallel here with streets not in literature but in real cities. Maoz Azaryahu (1996, p. 327), in discussing commemorative street names, describes the way in which the city-text is read, arguing that because a map or a city contains no implied spatial protocol in its consumption the city-text is constantly being reconfigured according to the spatial practice of citizens. This needs some qualification in applying it to *GTA IV*. In each of the games the player begins in a specific location, and missions are generally assigned and unfold in specific areas. In other words, the designers exercise a great deal of control over the spatial practice of players, though this control is not complete, particularly in the exploration mode.

The form of presentation in *GTA* also differs significantly from other story forms, as the game designers do not decide on the point in the plot when a street name will be used. Rather, the name simply appears on the bottom corner of the screen as part of the heads up display (HUD) whenever the street is accessed and on any signs in the game world. This might be contrasted with a novel, where names are referenced at specific points in the plot for specific effect. This situation, where street names in mission and exploration modes are being almost

constantly broadcast but never specifically emphasised, results in a casual learning of street names in the game. For my own part, it was only after several hours of play (it takes about 20 hours to complete the main missions in *GTA IV*) that the significance of the street names began to emerge. This will, of course, differ for different people, but I mention it to emphasise the fact that the player is never explicitly directed to the street names as important sources of meaning. This is part of the aesthetic of the game, which works hard to reward long hours of play. Secret 'Easter Eggs' are hidden throughout the city, side-missions can be triggered by seemingly random encounters in alleyways and hours of in-game radio and TV shows have been recorded for the player to enjoy through the character's eyes and ears. This over-abundance of content is a major feature of the game, and the pattern of naming in the game is another element of this.

This casualness is another feature Azaryahu (1996) identifies in real commemorative street names (p. 321). Unlike the memorial statue, which foregrounds its symbolism, the street name's symbolism functions at a casual level, thereby entering the everyday lives of citizens and naturalising the history it enshrines. This ability for street names to seep into the consciousness of citizens is obviously not precisely what we see in *GTA IV*, but there are similarities. The street names in *GTA IV* are not immediately recognised as textual strategies and only become apparent as such after they have become thoroughly familiar as street names. The elucidation of the street names' patterns becomes a game in itself, as the player puzzles out the relationships of the names to each other and to the game's stories and themes. Several writers distinguish this kind of 'riddling' naming from transparent *redende Namen* (Silverman, 1969, p. 30; Windt, 2005, p. 53). Leonard Ashley (1996) sees this as a literary development from the *redende Namen* of *Pilgrim's Progress* or the novels of Dickens, which clearly relate name to character or meaning, to a more disguised form, where the name is offered to the reader as a puzzle (p. 201).

When mentioned in the cut-scenes, street names are more likely to be noticed, but are divorced from the context of their neighbouring streets. This context is an important factor in assessing a street name's effect. Discussing Paris street names, Priscilla Parkhurst Ferguson (1988) argues that the juxtaposition of names that stand for various ideological stances and that are written into the city at different times, forms a 'crazy quilt' that obliterates the official intention of the commemoration and leads to a multiplicity of readings that sometimes sanction, sometimes caricature these official stances (p. 393). Similarly, Azaryahu (1996) points to the 'political drama' located at the crossroads of Paris's Boulevard Voltaire, named after the passionate anti-clerical philosopher, and the rue Saint Sébastien (p. 327).

This effect of street names that cut across each other can be seen in *GTA IV*. This is not, of course, as a fortuitous testament to the city's history, but as an intentionally designed statement. Therefore, street names are most evident but least eloquent in cut-scenes, where they direct player attention but lack spatiality, but most eloquent and least evident in missions and exploration, where they have spatial context but do not direct attention.

The *GTA IV* trilogy contains by far the most detailed toponymic landscape in the *GTA* series with three categories of places – boroughs, neighbourhoods and streets – comprising over three hundred named locations. It is also the location most reminiscent of its real-life US counterpart. Almost all of these locations are printed on the maps that come with the games and are displayed in various ways throughout the games. With such a large number of names a systematic method of naming is employed, which allows the place names to be read across the game's story. Figure 11 shows the prevalent naming logic in each borough. A more thorough detailing of the naming logic across Liberty City is found in Appendix B.

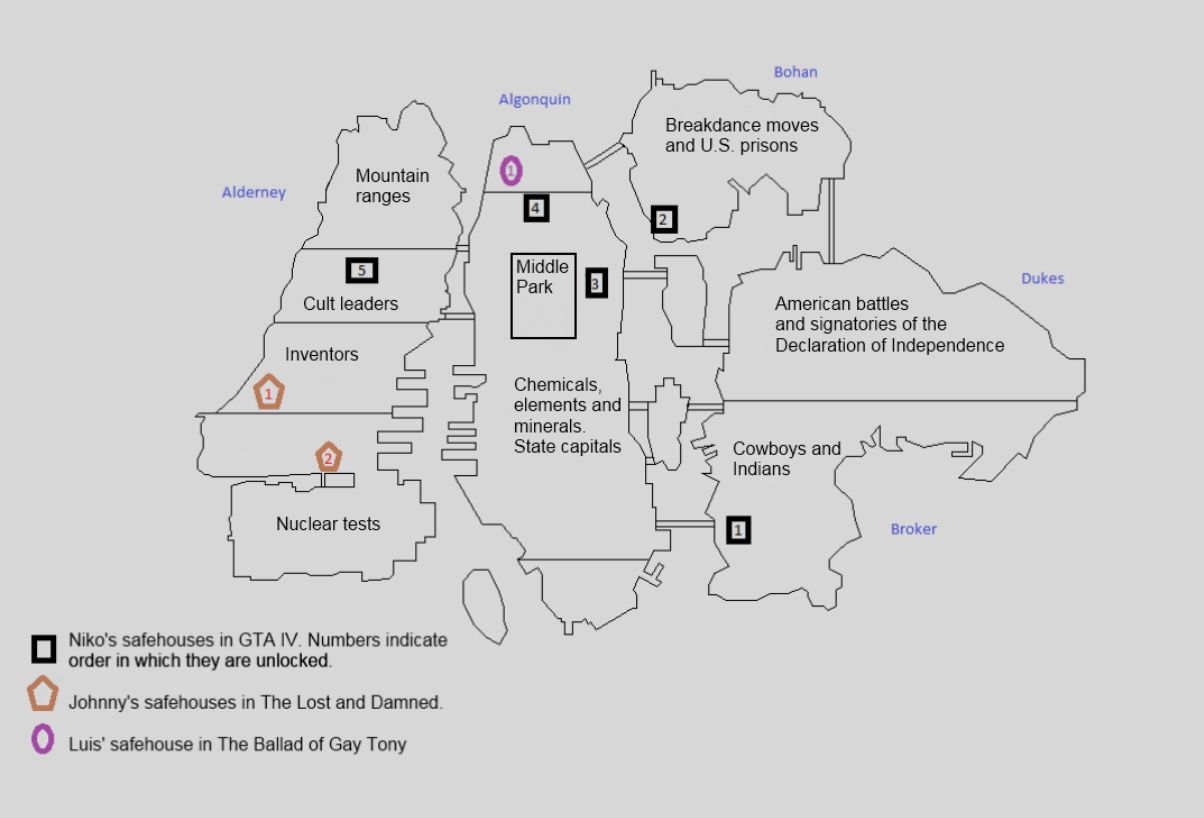


Figure 11: Map of Liberty City, with naming logic of each borough and safehouses from each game. A map with each street named comes with the game and is also available at http://grandtheftauto.ign.com/maps/1/Liberty-City-Map

The real New York boroughs of Brooklyn, Queens, the Bronx, and Manhattan (Staten Island does not feature) become 'Broker,' 'Dukes,' 'Bohan,' and 'Algonquin' respectively. The state of New Jersey becomes 'Alderney.' This analysis will proceed by detailing the

naming patterns and logic that we find in the streets of the different boroughs of Liberty City and how they relate in a general sense to the satirical tenor of the game and to specific moments, themes or characters in each of the three games.

But before this analysis it is necessary to note a function of the names in *GTA* that precedes their satirical and thematic functions and could be seen to provide a base or ground on which these functions can be built. This is the role they play in presenting Liberty City as a virtual world to which the player has access. Names confer on their streets a sense of history that is independent of the player; a sense that is one of the many elements that transform millions of polygons and sounds into a believable world. As soon as we encounter Chicory Street or Cavity Lane there springs up a fully formed, even if as yet entirely hidden, etymology that would explain these names. Extend this across the several hundred names in the game and what we are left with is an impression of a rich and fully connected urban history just beyond view. It does not matter whether such a history exists. What matters is the sense of it. We might say that the street names provide, at least initially, an atmosphere of local history. In this sense the toponymy of Liberty City is one of the ways in which the game embodies the player there.

In *GTA* there is a related, referential function. In the same way that Liberty City refers back to New York in terms of its architecture, so too does it refer to New York in many of its names. Chicory Street is an intriguing name, but when we note its location in Broker and its neighbouring 'vegetable' streets – Asparagus Avenue, Chive Street and Onion Street – we may begin to unravel the reference to the 'fruit streets' of Cranberry Street, Orange Street and Pineapple Street in the real neighbourhood of Brooklyn Heights. Cavity Lane, too, is striking, but its mystery is cleared up when we notice its proximity to New York's Canal Street; a conceit that must be one of the very few dental puns in videogame history. There are several such names littered around Liberty City, particularly those denoting neighbourhoods: Elizabethport becomes Port Tudor in a false etymology that links the Tudor monarch to the New Jersey port named for the wife of its founder; Manhattan becomes Algonquin; Harlem becomes North Holland. Each acts as a thread, linking the virtual place back to its real source.

But there are also threads leading elsewhere. If the game's names attempt to convince us that we are in a world, we are frequently reminded that it is a virtual world. As the above map suggests, there is a carefully designed onomastic segregation in Liberty City. The naming logic that prevails in Dukes, for example, never spills over into Broker, with the city observing a remarkably disciplined toponymy that is rarely found in real cities. As the game's naming logic reveals itself as an expression of its thematic concerns, the role of toponymy as

a means of presenting Liberty City as a real city located in the stream of history is somewhat undermined, replaced by a sense of Liberty City as a text created all at once. The toponymy of Liberty City does not, ultimately, give the impression of an accretion of local discrete historical events united under the sign of the city, but rather appears as a carefully designed text that works in concert with the satirical tone that pervades the game.

To begin thinking about how this process works it is necessary to sketch the nature of *GTA*'s satire. Dan Houser, writer and producer of the games and vice-president of creativity at Rockstar, explains that the *GTA* series 'is set in a world that is like the world would be if it were the way the media says it is' (Kendall, 2009, p. 1). The media found in the game – radio, TV, the internet, and billboards – constitute the game's most coherent satirical statement and atmosphere around which other aspects of the game's satire are built. These media sources are highly caricatured, reflecting a rampant consumerism, and a sense of hysteria and insecurity in relation to a host of themes including terrorism, the recession, drugs, crime, obesity and several other hot topics in the media. The organising principle that underlies the game's satire might be said to be the familiar clash between America portrayed as a bastion of liberty and as engaged in a continual erosion of the civil liberties of its own citizens; a conflict that is fought out on the Liberty City airwaves by right-wing shock jocks and spineless liberals.

The conflict between liberty and subjugation is carried over into several aspects of the game, for example in the gameplay, which oscillates between the restrictive missions and the open exploration modes. The most prominent place name, 'Liberty City,' places this conflict at the centre of the game's toponymy. At the simplest level, it associates the fictional city with the most famous landmark in its real-life counterpart. More importantly, it trades on the term 'liberty' as central to American identity and contrasts it with what liberty means in terms of the game. The freedom granted the player does not constitute the bedrock of American democracy but rather a total moral dissolution: less liberty and more libertinism.

As the city takes the name of its famous statue, the statue in the game must be re-named, and becomes 'The Statue of Happiness.' This statue bears a striking resemblance to Hilary Clinton, one of Rockstar's staunchest critics (Feldman, 2005), grinning inanely and holding aloft a cup of coffee. Within the statue can be found a chained, beating heart and under her arm a book with the following parody of *The New Colossus*:

> Send us your brightest, your smartest, your most intelligent,
> Yearning to breathe free and submit to our authority,

Watch us trick them into wiping rich people's asses,
While we convince them it's a land of opportunity.

Not the most subtle social critique, perhaps, but perfectly encapsulating the conflict between freedom and subjugation that is the basis of the game's satirical take on America. The debasement of the statue's meaning from a righteous 'liberty' to an insipid 'happiness' drawn from a coffee buzz, relocates American mythology away from noble principles and toward the instant gratification of consumerism.

Let us turn now to how names work in the different neighbourhoods in the game. 'Dukes' is named after New York's Queens and obviously plays off the royal meaning, perhaps adding the notion of 'dukes' as 'fists,' lightly referencing the game's violent tone. The horizontal streets commemorate the signatories of the American declaration of Independence while the vertical avenues commemorate famous American battles. These battles are predominantly those of the American Revolutionary War but with two exceptions: San Jacinto Avenue refers to the decisive battle in the 19th century Texas revolution that ceded control from Mexico and established the Republic of Texas, and Inchon Avenue refers to a battle during the 20th century Korean War.

It is unclear why there is this variation. Certainly, there are several battles of the Revolutionary War that could have been used to complete Dukes' avenues. But rather than guess at the cause of their omission let us consider the effect of the inclusion of San Jacinto and Inchon. By pairing the battles of the Revolutionary War with the signatories of the Declaration of Independence, the streets and avenues of Dukes work together to characterise conflict as a means of establishing unity. The battles resolve into a felicitous coherence in the declaration of 1776 and their removal of a foreign power justifies them. This celebration of the foundation of the United States is undermined, however, by the inclusion of San Jacinto and Inchon. Unlike the Revolutionary Wars, which could be characterised as a removal of a foreign colonial power, the Texas Revolution was largely carried out by US born emigrants to the Mexican territory of Texas. It is significant then, not of the overthrow of a foreign power but the expansion of the US westward. Similarly, Inchon signifies the invasion of a foreign country, rather than a just revolution. Of course, we may argue that as historical events both San Jacinto and Inchon were as justified as the other battles, but within the game this position is clearly not taken. Unlike the battles of the Revolutionary War, balanced and justified by the Declaration of Independence, neither San Jacinto nor Inchon is resolved in the

toponymy of Dukes, leaving them as troubling presences in a document of American military history.

In Broker, the streets running east-west are named after famous cowboys, while the avenues running north-south are named after Native-American tribes, nations, villages and languages hailing from in and around what is now the north-east United States. The orthogonal streets and avenues of Broker spatially inscribe on the Liberty City map the legendary battle between cowboy and Indian as constructed in the frontier lore of the late 19th and early 20th centuries. As we drive around Broker there alternates in the lower right corner of the screen the names of the adversaries: Cassidy Street – Seneca Avenue; Earp Street – Montauk Avenue. These are, of course, not necessarily historically accurate pairings, but the juxtapositions have an imaginative or symbolic power in the same way as do real-life crossroads, as mentioned by Azaryahu. The cowboy-Indian dialectic has a clear power imbalance in traditional frontier lore and this is somewhat redressed by the equal billing of the two in Broker's streets. This equal billing makes the cowboy's status as American hero at least problematical and emphasises the outlaw's paradoxical image as both hero and villain.

If the reversal of traditional commemoration, where villains instead of heroes are celebrated, is hinted at in the cowboys of Broker, it is more clearly signalled elsewhere in the *GTA* series. In the first game, *Grand Theft Auto* (DMA Design, 1997), also set in a fictionalised New York, we get 'Nixon Island' instead of FDR Island; in the section of *GTA III* set in Vice City, a fictionalised Miami (Rockstar North, 2002), we get 'Escobar Airport,' named after the Colombian drug lord Pablo Escobar; and in the section in San Andreas, a fictionalised California (Rockstar North, 2004), we get a series of roads named after the Cold War atomic spies: 'Julius Thruway,' 'Harry Gold Parkway,' the 'Sobell Rail Yard,' and 'Greenglass College.'

But this theme of commemorating villains is most thoroughly explored in *GTA IV* in the westernmost island, Alderney. Alderney is larger than any of the other neighbourhoods, being about the same size as the island that combines Dukes and Broker, and it contains four patterns of naming that cluster together in different parts of the island. Moving from south to north, in Acter Industrial Park, Tudor and some parts of Port Tudor, streets are named after US nuclear tests. Other streets in Port Tudor, and all of Acter, Berchem and Normandy, are named after famous inventors. Streets in Alderney City are named after cult leaders (with two named after nuclear tests). Finally, Leftwood and Westdyke streets reference North American mountain ranges.

The two methods of reaching Alderney are versions of the Lincoln Tunnel and (in location but not in appearance) the George Washington Bridge. These are renamed the 'Booth Tunnel' and the 'Hickey Bridge' respectively. Booth is an obvious reference to Lincoln's assassin, John Wilkes Booth. Hickey refers to Thomas Hickey, a member of Washington's guard who was convicted of mutiny and sedition and, according to some, had plotted to assassinate or kidnap his Commander-in-Chief. The extent of Hickey's guilt is less important here than the imaginative power of his name when it is used to replace that of Washington. As with the nuclear spies commemorated in the previous game, the roads to Alderney have a topsy-turvy effect where the vilified come to be celebrated and honoured. Here, though, there is a greater sharpness to the reversal given the direct reference to the villains' victims. It should be noted that of the other New York bridges referenced in the game, one – the Alexander Hamilton Bridge – commemorates a murdered politician and one – the Roosevelt Island Bridge – a politician who survived an assassination attempt. Each could, then, have been given the same treatment, becoming Burr Bridge and Zangara Island Bridge respectively. Instead, Alexander Hamilton Bridge is given the purely descriptive name 'Northwood Heights Bridge' and Roosevelt Island Bridge is named 'Leaper's Bridge'; admittedly morbid in its connotations of suicide, but not strictly villainous.

Whatever the reason the names of FDR and Hamilton are not replaced with those of their adversaries, we are left with an association specifically of Alderney with villainy; and this before we have even entered it. On crossing the Booth Tunnel or the Hickey Bridge and entering Alderney City we are met with another class of criminals that are more unsettling than either the iconic outlaws of Broker or the political intriguers of the bridge and tunnel. The cult leaders commemorated here are not all villains. They vary widely from those whose beliefs are perhaps unusual (Mahesh Avenue), controversial (Lyndon Avenue; Myung, Hubbard Avenue), or downright crazy (Rael Avenue) to those associated with serious crimes and tragedies (Asahara Road; Jonestown Avenue; Applewhite Street). This latter category is undoubtedly the set of street names that jumps out most clearly. Broker's cowboys are icons and Booth and Hickey are historical figures, but Asahara's attacks in the Tokyo subway, and the mass suicides of Jonestown and Marshall Applewhite's Heaven's Gate cult all occurred in the last forty years and so these renamings draw on a greater shock value.

This category of cult leader works with other elements of Alderney. It is in Alderney that Niko meets Eddie Low, a serial killer who has been at his grizzly work throughout the first part of the first game, as heard on the radio news. It is also in Alderney that Johnny, in *The Lost and Damned*, meets – and inadvertently releases from penal custody – a cannibal

serial killer. While Niko, Johnny and Luis are all criminals, the game does a remarkable job of retaining a sympathetic attitude toward them. They are each pursuing a life of crime for different reasons, but otherwise are charming, polite and decent. Niko in particular retains an awareness of his moral decline in spite of his baroque acts of violence, seeming to cling to his turpitude as a kind of deserved perdition. He is motivated by the need to make money but primarily by the need for vengeance, understood in the game as partly a moral principle and partly a psychological scar of the Balkan War. Johnny's criminal behaviour is a political statement against social convention; one of which he is increasingly weary. Luis, in the game with the most humorous tone, commits crimes first to preserve his hedonistic lifestyle and then to preserve his life. None of them is a 'psychopath' either in the sense of a Jim Jones or an Eddie Low but each character does represent a tension in criminal mythology between the iconic cowboys of Broker and of the American past and the deluded guru or the madman of Alderney and the present.

It might be argued that the real villains of Alderney's streets are not the cult leaders in Alderney City but the nuclear tests that predominate in the south of the island. But while nuclear test series do carry an obvious moral valence, it is primarily their destructive, not their moral character that comes to the fore on the Liberty City map. The south of Alderney is generally represented as industrial, with Acter Industrial Park at the base of the island, construction yards south of Alderney City, and poorly paved roads that suggest the passage of laden trucks. This industrial atmosphere is supported in the naming of many of the streets after famous inventors, the changing of New Jersey's Pulaski Skyway to Plumbers Skyway, and the coincidence that many of the nuclear test names used have an industrial feel: Anvil Avenue, Tinderbox Road, Plumbob Avenue. But it is an industrial zone in which nothing is getting done. Driving through the area even in the middle of a weekday we see few workers in the yards. Compared to the other regions in the game, Alderney, particularly in its southern neighbourhoods, seems lifeless.

Certainly, given the commitment to creating rich and vibrant neighbourhoods in the other boroughs, this is not a simple question of Rockstar saving memory by skimping on pedestrians. In its empty-seeming warehouses and factories, southern Alderney signals the industrial triumphs of its past as much as the desolation of its present. The non-functioning industrial zone of southern Alderney seems to be an allusion to the recession of the last three years, which is referenced throughout the games. The nuclear test names here betoken disaster, destruction, and even the eerie stillness of a nuclear winter. Of course, this is over the top, but this excess is in keeping with the overall tone of the game's social critique. If the

game really is the world as seen through a hysterical media, then recession as apocalypse fits the role of media hyperbole.

As the westernmost area of the game, Alderney is introduced as the gateway to America. As one character assures Niko in *GTA IV*, Alderney is 'the real America' (Rockstar North, 2008). This is inscribed in the street names of Leftwood and Westdyke. The inclusion of mountain ranges, for the most part from northwest US, has the effect of imaginatively stretching the state west. If the cowboys and glorious battles of Broker and Dukes are America's mythological past, then the badness, madness and desolation of Alderney is its real present.

We can get a good idea of how these distinctions between the past of the eastern boroughs and the present of Alderney emerge in relation to the individual stories by looking at the geographical focus of each game as outlined in the following graphs (Figure 12 and Figure 13). In *GTA IV*, which is the longest game and one in which the player-character's safe-houses move throughout the game, there is a clear global westward trajectory. As seen in Figure 12, the first third of the missions strongly feature Broker, Dukes and Bohan; the second third Algonquin; and the final third Alderney. This leads to an overall balance between the boroughs in the game as a whole, as seen in Figure 13. In the other, shorter, games, in which the characters' safe houses do not move from their home-boroughs, there is no very clear global trajectory. As can be seen in Figure 13, these games mainly focus on the home-boroughs of Johnny and Luis; Alderney and Algonquin respectively. It must be borne in mind that these graphs only show the main missions and do not take into account side missions and exploration, which provide the player with more options for moving about the map. However, this analysis is based on how street names relate to the main story of each game. Since the story unfolds almost exclusively though the previously explained cut-scene/main mission rhythm, it is possible to focus exclusively on these patterns for present purposes.

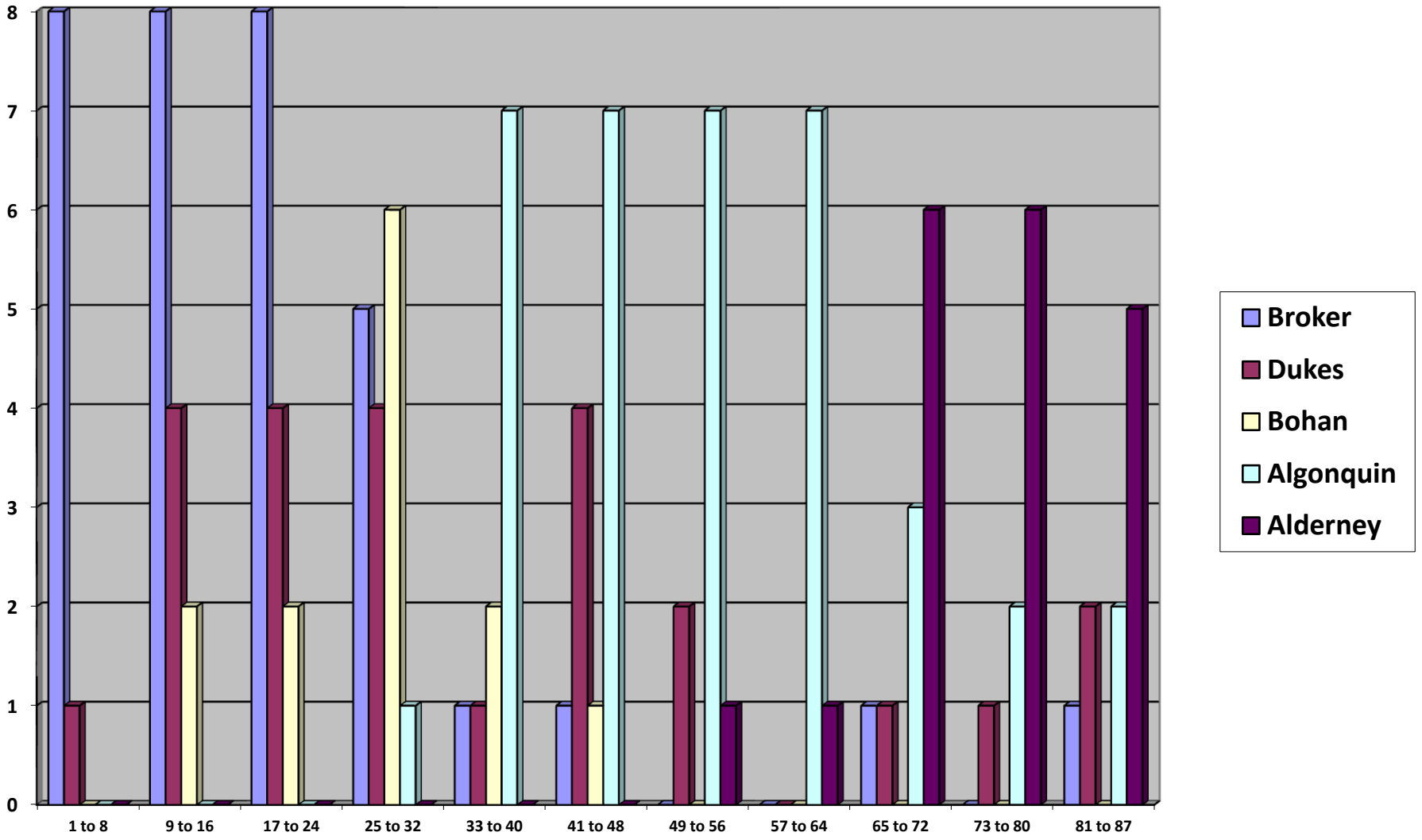


Figure 12: Missions in *GTA IV*, listed chronologically in groups of eight and by regions featured. Note this refers to one possible order of completion. However, the same general pattern, though with some variation, will emerge regardless of how the game is played.

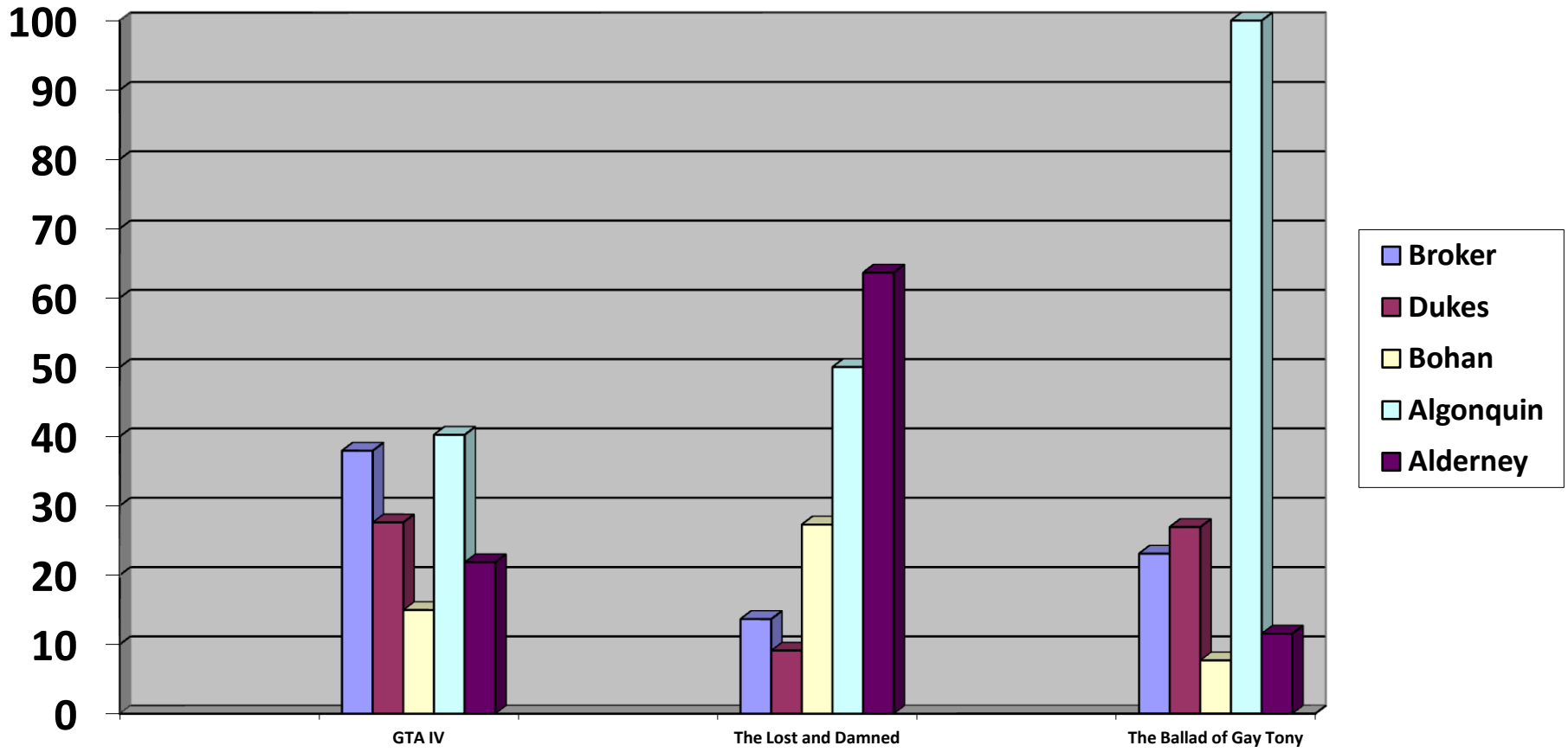


Figure 13: Percentage of missions in each game featuring each borough.

Niko's adventures in Liberty City have a clear westward trajectory, with the main missions from the first third of the game focussed on the easterly boroughs of Broker, Dukes and Bohan, the middle third on Algonquin and the final third on Alderney. This trajectory is emphasised by the inaccessibility of Algonquin and Alderney in the first part of the game. This westward movement is coupled with Niko's own growing disillusionment with America. He steps off the boat in Broker full of enthusiasm founded in the letters from his cousin, Roman, who has promised Niko a life of plenty in 'the land of opportunity' (a phrase used twice in the game's opening cut-scene and several times throughout) (Rockstar North, 2008). He is immediately disappointed as Roman leads him to a cockroach-infested apartment in a rundown part of town. This motif of the American dream gone sour is developed throughout the game as Niko encounters one crook after another and is drawn quickly into the kind of violence and betrayal that he thought to escape in America.

This general narrative arc of disillusionment with America as redemptive opportunity is echoed spatially in the street names. Moving westward leads us, and Niko, from street names reflecting the glorious, iconic (if somewhat troubled) past in the cowboys of Broker and the Revolutionary Wars of Dukes to the grubby present in the cult leaders and recession motif of Alderney. This characterisation of past and present, mythology and reality, east and west is encountered not only in the story and in the street names, but even in the entertainment venues available. The entertainment venue in Niko's first neighbourhood, East Hove, is 'Perestroika,' a Russian cabaret bar that reflects Niko's naïve European view of America in its cowboy gun-show. Alderney's entertainment venue, featuring in the opening cut-scene of the final mission of the game, is 'Honkers,' a strip-joint with none of the charming innocence of 'Perestroika.'

In *The Lost and Damned* Johnny has his base of operations, the Lost Clubhouse, in Alderney. While much of the game frames Johnny and his biker gang as modern cowboys, they are ironically positioned not in the toponymically cowboy area of Broker but the ignoble Alderney. While Niko is engaged on a journey from an idealised notion of America to disillusionment, Johnny begins with a profound sense of disillusionment with contemporary American mainstream culture which he is unable to shake. The missions involve him in a generally eastward trajectory, but in the end of the game he is back in Alderney, symbolic of Johnny's failed attempt to reconnect with a mythical American past. Johnny remains, in the words of one character, a 'sixties throw-back' (Rockstar North, 2009).

The focus and trajectory in *The Ballad of Gay Tony* is different again. As seen in Figure 12, all of the missions in this game involve Algonquin, and Luis leaves the central island relatively rarely. This is a consequence of the centrality of Algonquin and the location there of the three main places in this game: Luis' house, and the nightclub and apartment of his boss, 'Gay Tony.' In terms of street names, Algonquin adopts Manhattan's grid system, with 7 vertical avenues and 24 horizontal streets stretching from one side or end of the island to the other. Both axes of this grid are named acrostically: the avenues are named from A to G after current or former US state capitals; the streets are named from A to X; 17 after stones or minerals and 7 after elements. Streets that fall outside this grid system follow a less methodical naming practice with puns, associations with New York names, and descriptive tags.

The acrostic naming of the bulk of Algonquin's streets and avenues is clearly in imitation of the numerical system employed in Manhattan north of Houston. But while a numerical system establishes an essential equality between streets and a refusal to attach through naming an anything but arbitrary and functional meaning to the street, the acrostic system, while retaining this functionality, combines it with an expressive force. There is a certain tension between these two modes, the functional and the expressive, which is exacerbated by the fact that characters in the game invariably refer to the streets by their initial letter but accord the avenues their full name.

Algonquin parodies the largest number of New York landmarks and is the most vibrant of the five neighbourhoods. It is represented as the seat of power and wealth in Liberty City. Though all five boroughs have both good and bad neighbourhoods, Algonquin is altogether the most affluent, demonstrated by the higher class of car to be stolen here.

Several of Algonquin's avenues are named after stones noted for their value: Amethyst, Diamond, Emerald, Garnet, Ruby and Topaz. This supports the game's characterisation of the area as wealthy and glamorous. The streets of Algonquin are, at least nominally, paved with gemstones. But the streets of Algonquin are also paved with less valuable material. In an ironic move, pyrite, or fool's gold, names the street to which Roman and Niko move just as their star seems to be on the rise. Their turn in fortune transpires to be short-lived as they become more deeply embroiled in Liberty City's underworld. This street also plays home to Yusif Amir, the caricatured more-money-than-taste Arabic property developer and lover of solid gold phones, gold-plated guns and other such trinkets of the excessively rich. Base metals – iron and nickel – and other non-precious metals – barium, calcium, manganese and silicon – are mixed into Algonquin's nomenclature, debasing its value and reflecting the

invariably grubby tasks delegated to the player-character, be he Niko, Johnny or Luis, that covertly sustain the city's wealth.

It is telling that the most northerly street named after a precious stone is Topaz Street, running along the north edge of 'Middle Park' (Central Park). Further north in the poorer districts of North and East Holland and Northwood (site of much project housing) we get the far less glamorous Uranium Street, Vauxite Street, Wardite Street and Xenotime Street and, off the grid, the altogether gloomy Grummer Road. Of course, this results from an alphabetic requirement rather than necessarily a conscious effort to differentiate these northern areas from their more prosperous neighbours to the south. Nonetheless, the relative obscurity and ugliness of the street names north of the park serves to separate them from the fashionable section of the island.

The clear separation – in toponymy, architecture and demography – of the area north of Middle Park from downtown is essential in creating the tension between Luis' roots in North Holland and his career in downtown Algonquin. But while Luis experiences a conflict between his roots and his ambitions, Tony is proud that he has left behind his home in Dukes for the more glamorous Algonquin. In fact, Luis' struggle to reconcile the worlds of his career and of his childhood friends peters out after the first third of the game, and it is Tony's return to Dukes that is given emphasis in the game's denouement.

Tony's commitment to Algonquin as the centre of the universe is echoed through many channels: characters encountered, cynical radio DJs, bitchy internet bloggers, pedestrian dialogue and so on. Toponymy also has a role to play here. The naming of Algonquin's 7 avenues after former and current US state capitals incorporates these cities within Algonquin, substantiating, at least imaginatively, the claim in the game's manual (presented as a guidebook) that Liberty City is 'the capital city of the world' (Rockstar Games, 2008, p. 4) or at least of the US. This effect is the opposite of the stretching effect of the mountain names in Alderney. The difference results from two factors. Firstly, the context already suggests Alderney as 'America' whereas Algonquin is continually differentiated from the rest of the US and, playing on New Yorkers' alleged snobbery, placed above it. Secondly, while the name of a city is easily dissociated from the city and attached to a street without any imaginative transportation of an image of the city itself, this is harder to achieve with a mountain range. A mountain is expansive, it belongs imaginatively to nature, and its invocation brings us outside of the city. A city, on the other hand, is enclosed and of the same general category as a street.

Bohan is the smallest of the boroughs. This rundown area with a strong African-American and Hispanic demographic takes break-dancing moves for its street names and US prisons for its avenue names. The break-dance moves play on the advice on the map (also presented as a tourist guide) about the neighbourhood's genesis of hip-hop: 'Also, please bear in mind that every neighbourhood in Bohan believes that it invented hip-hop so, in the interests of self-preservation please try to humour the locals' (Rockstar Games, 2008). If break-dancing represents the pride of minority culture and its contribution to mainstream America, then prisons represent a more negative side. The inequality in US prison populations by race is well-documented (West, 2010) and incarceration has been described in one study as 'a new stage in the life-course of young low-skill black men' (Pettit & Western, 2004, p. 151). The game plays off this link between race and incarceration.

As seen in Figure 12, Bohan becomes a significant presence toward the end of the first section of *GTA IV*, and just before the bridges to Algonquin open up. After betraying some Russian gangsters, Niko and Roman return home to find their Hove Beach house and business in flames. They flee to Bohan where some Puerto-Rican friends of Roman's girlfriend provide them with a flat and an opportunity to make some money by, of course, nefarious means. Bohan, particularly around South Bohan and Fortside, which constitute Niko's base of operations for this section of the game, draws on the Bronx's reputation as an impoverished, predominantly non-white neighbourhood. Most of the missions in this section are received from a rapper named Manny and a drug dealer named Elizabeta, operating out of a tenement a couple of blocks from Niko's flat.

The perils of ghetto life are signalled explicitly in the events encountered in Bohan: in Manny's hip-hop inspired quest to clean up the streets, ending in his murder, and in the arrest of Elizabeta, which closes this section of the game. Just as the cowboys and Indians of Broker set up a dialectic that is continually enacted, more consciously for some players than for others, by the traversing player-character, so here the dialectic between the quixotic vigilante Manny and the pusher Elizabeta is mirrored in the criss-cross of Bohan's streets and avenues. Both sets of binaries caricature the alternatives on offer to the ghetto community. With his hip-hop background, Manny is associated with the break-dance moves. On the one hand we have an annoying character whose death is met with indifference by Niko; on the other a set of markers not only of hip-hop culture but also of a misplaced satisfaction on the part of the locals who must be 'humoured.' In both cases what comes through is a risible public-spiritedness and community pride. Elizabeta, who is characterised as a more legitimate community leader, is associated with the prison names. These names – Sing Sing, Folsom,

San Quentin – saturated as they are in a mythology of far greater weight and solemnity than their break-dancing counterparts, strike a resonant, even tragic, note. This section of the game is resolved when Elizabeta is betrayed from within her organisation and sent to prison, living out a narrative that seems to be inscribed on her streets.

One of the defining factors in the *GTA* series is the sheer amount of content. This content – characters, stories, fictional brands, restaurants, and radio and TV stations – all contribute in different ways both to the establishment of a coherent world and to the overarching narrative and satirical ambitions of the games. *GTA IV* is the first group of games in the series to make sustained use of street names as a strand in these ambitions and signals a way in which videogames can open up toponymy as a serious textual strategy. This is only one way in which onomastics can be used in looking at game worlds. Further research in this area could deal with the way in which players name game areas, for example in team-based first-person shooters in which co-ordinated navigation is essential to success, and how these names pass through internet forums to become widely adopted in the game's community.

The grid and the viewpoint in *Civilization*

While *GTA IV* demonstrates one way in which a game can use place to create fully intentional political resonances, very often aspects of a game put in place to allow certain kinds of gameplay can be read politically due to the way in which they interact with other elements of the game. This can be seen in how *Civilization*'s manner of presentation parodies its central theme of imperial progress. At the heart of many videogames is the idea of progress. While a film sequel that improves upon the original is generally regarded as the exception rather than the rule, particularly as franchises limp toward their third or fourth chapter, videogame players have high expectations of new instalments, even in long-running series. As Iain Simons has said, the business cycle in the game industry functions on the principle that 'the next game is always the best game' (Parkin, 2011). Within games themselves the prospect of progress is often a chief motivation to play – and to replay – and its successful realisation is rewarded with level-ups, new stages and more spectacular bosses. A game may be finished, but there is always room for the committed player to continue progressing beyond this putative terminal – a harder difficulty level, a higher points tally, a faster time.

Figure 14: The expanding Celtic empire in Civilization III: 4000BC, 50AD and 1410AD

We can see the centrality of progress in each of these senses clearly in the empire-building strategy game series *Sid Meier's Civilization*. The original game (Microprose, 1991) spawned, apart from numerous updates, ports and unofficial versions, three PC sequels, *Civilization II – IV*, and one console sequel, *Civilization Revolution*. Each of these was marketed as an improvement on the last in some significant way. *Civilization II* (Microprose, 1996) was bigger. *Civilization III* (Firaxis Games, 2001) had better artificial intelligence. *Civilization IV* (Firaxis Games, 2005) boasted richer graphics. *Revolution* (Firaxis , 2008) was more accessible. The progress of the series is mirrored in the game itself, in the theme of the expansion of a civilisation from a single city to a global empire (Figure 14), in the branching tech tree approach to technological innovation, and in the numerous difficulty levels that encourage the player's advancement.

One more important element of *Civilization*'s explicit characterisation of historical change is the idea of history as a project. This comes across most obviously in its status as game with particular objectives set either by the game or by the player. It is also neatly represented in the more recent games' various openings, which, according to one of the artists responsible for the *Civilization III* opening film, foreshadow the central theme of 'the march or progression through time that the Civ3 player embarks on' (Margo, n.d., para. 3).

The idea of progress that is enshrined in these elements of the game make *Civilization* a compelling experience. But they come to bear a different *expressive* weight when seen in relation to the game's historical theme. This is a central point of the argument that follows: many seemingly neutral elements of a game contain the potential to generate meaning which may only come into being through their relationship with more conventionally meaningful elements of the game. In the case of *Civilization*, the tropes of progress that I have identified bear no relation to the philosophy of history in and of themselves. But they gain such meaning through the game's direct engagement with historical themes.

Writers on *Civilization* such as David Myers (2005) and Alexander Galloway (2004, pp. 99-103) would contest this approach. Myers argues that repeated play of *Civilization* leads to

game elements becoming drained of any extra-game significance. I would counter that while this may be true, especially as expertise increases, the 'back-story' as Myers witheringly puts it, always remains present in the game and available to the player. To ignore this, as Diane Carr (2007) has suggested, is to mount an incomplete critique. Galloway provides a more compelling argument when he claims that ideology in *Civilization* is not irrelevant but is a 'decoy' distracting from the real source of meaning which is the player's engagement with the underlying game algorithm. Again, this argument relies on the idea that the game and the player are only capable of engaging in one form of expression. The idea that one form of interpretation closes off the possibility of another does a disservice to the richness of the game.

Focusing on the game's use of space, specifically in relation to its use of maps, this analysis will describe how *Civilization* generates and challenges notions of human history as a project of progressive development. This will involve an analysis of two features of the game map that smuggle into the game meanings from their cartographic provenance. These are the map grid and its points of view. These features carry latent meanings that are only brought into being by the games' explicit concern with historical change as sketched above.

Figure 15: Civilization I, IBM PC, 1991; Civilization II, Windows PC, 1996; Civilization Revolution, Nintendo DS, 2008.

At first blush the transformation of the main game map throughout the series seems to run parallel to the general trend of progression that characterises *Civilization*'s explicit understanding of human history. As computer game technology becomes more powerful, the map becomes better in a number of ways. Each map learns from the mistakes and shortcomings of its predecessor and brings new graphical and computational capabilities to the design process to fix them. This mode of thinking is analogous to traditional accounts of the historical development of cartography from a form blighted by ignorance and error to one characterised by precision and accuracy (for example, Crone, 1953; Bagrow, 1951). This is criticised by contemporary accounts of the history of cartography that offer evidence that maps at different times and in different cultures have served different functions and therefore

cannot be placed on a simple line of development according to a particular criterion, for example accuracy (Harley, 1989, p. 15).

The same is true of the *Civilization* maps in their rather more limited history. New technological capability, players' expectations of novelty, and changing markets meant that each sequel introduced new game features and a changed aesthetic. Therefore, the impetus to perfect the map of the previous game was combined with a contrary need to rethink the map for a new set of circumstances. It would be an error to see the *Civilization IV* map, for example, as solely an improved version of the *Civilization I* map as they are designed in response to different situations to perform different functions. While the maps belong broadly to the same tradition, it ignores their specific differences to suggest that each map takes its place along a simple line of progression. Rather, each constitutes in itself a blend of compromises according to the needs of the game for which it was designed. The history of the *Civilization* maps is one of development yes, but also of redundancies, rethinks and re-starts. An example of redundancy is found in the persistence of the team-colour sharing of *Civilization I* in *Civilization II* despite the newer game's larger colour palette. Rethinks can be seen in the shuffling of point-of-view not in a direct line of progress based on some coherent idea but according to a more complex interaction of player expectation, technological capability, map functionality and aesthetic concern. The screenshots in Figure 15 hint at a circular rather than linear pattern here - an orthogonal top-down view in *Civilization I*; an isometric view in *Civilization II;* and back to the classic orthogonal view for *Revolution* on the Nintendo DS. Re-starts are particularly evident in the console games' comparatively tiny maps with their bright colours and cartoon-style terrain. Indeed the title *Revolution* seems to pun primarily on the sense of departure from the game and aesthetic style of its predecessors but also on the sense of circularity that the console game brings to the series, for example in the reduction in map size and paring down of features rather than the usual expansions and additions.

But while the history of the *Civilization* maps provides a counterpoint to the game's sense of history it remains peripheral. For the player of *Civilization* the maps derive their importance from what they do in the context of a game.

Figure 16: Geometric space in Simeon DeWitt's 1793 map of New York and in Civilization II.

The lead designer of *Civilization IV*, Soren Johnson, has described *Civilization* as 'fundamentally a tile-based game' (2006). However abstract or pictographic the map features, however smooth or clumsy the animations, however large or small the scale, each of the game's maps derives its meaning as game board from the grid on which it is based. In *Civilization II* and *III*, which employ an isometric view that makes tile distinction more difficult, players can opt to see the gridlines laid out over the map. But even in the other games the player is always aware of the grid's presence. Johnson discusses the importance of the grid at length in relation to the design process of *Civilization IV*. He reveals that the initial prototype maps for the game reflected an aesthetic objective that preferred 'organic' to 'blocky' terrain. But early tests of the 'natural-looking' map presented a difficulty:

> The problem was that people were [...] experiencing a lot of frustration understanding what tile was land and what tile was sea and that's a really important thing. [...] that's not something that people can just guess at. [...] they gotta know these things. [... We said] 'ok, let's just make sure that people know where the stuff is, they know what's land and they know what's sea so it looks terrible of course – you know it looks like a grid – but people were able to play the game, they were able to have fun. Suddenly the game feels better than it did before even though it looks worse. (Johnson S. , 2006)

It is clear from this experience that the grid is essential for players to make sense of space in *Civilization* and for it to 'feel good.' Without the grid, or if it is indistinct, players suffer a loss of certainty about the meaning of terrain and a concomitant sense of frustration.

This is because *Civilization* is based on a geometrical sense of space and if players do not have the tools to experience it geometrically they will lose any sense of knowledge of the space or control over it.

The grid, then, is an essential element of the *Civilization* map in facilitating a player's control over game space and it is in this role that it derives its primary meaning for players. In the history of cartography the grid has exercised an analogous function as a means of controlling space by geometrizing it. This obviously means something different on a map than in a game. On a map the space that is being controlled has a real world referent and the map is being used in relation to this referent. When we talk about controlling this space we are talking about controlling people in this space and we are talking about structuring the relationship that they and the various map users have to the environment.

The two types of grid – game and map – are analogous in that both attempt to put a sense of order on space that would otherwise be difficult or impossible to engage with in the desired way. On the standard world map this control is most often scientific, commercial and political. Laying down a grid is often the first step in claiming land for a particular project. According to Dan Stanislawski (1946) the earliest example of a town set out on a grid dates from over 5,000 years ago in the Indus valley (p. 108). As Stanislawski explains, the grid-pattern town has many advantages over other kinds of settlement patterns. Its generic form makes the city extendible in all directions without compromising the city's organic unity; it facilitates the apportioning of property; it is sketched easily and laid out without the need for sophisticated measuring instruments; and it aids military control (Stanislawski, 1946, pp.106-107).

As used on world or chorographic maps or on sea charts the grid has a more recent provenance. The earliest known use of meridians and parallels on a map was by Eratosthenes in the third-century BC and was transmitted through Ptolemy for use by European cartographers from the fifteenth century on (Snyder, 1993, pp. 1-51). Many of the features that Stanislawski identifies as making the grid-pattern in towns a useful one also recommend its use on maps and charts. In discussing North American maps made between the seventeenth and nineteenth centuries, including the DeWitt map of New York in Figure 16, John Rennie Short (2001) describes the grid as 'the physical form of a future performance' (p. 84). It made sense of the land, imaginatively brought it to heel, and made possible the expansion westward. The grid, he argues, underpinned the very idea of manifest destiny. In another context, David Woodward (2007) states this ability of the grid to establish a project of future expansion and exploration, citing the parallels and meridians of a seventeenth-

century world map as ‘indicat[ing] exactly what needs to be found, inviting new observations to be fitted into the empirical puzzle’ (p. 4). What these observations have in common is a recognition of the grid’s role not only in the administration and logistics of urban, national or imperial expansion but also in the imaginative construction of a space into which expansion is possible, desirable and perhaps inevitable.

A second function of the map grid is its ability to establish the possibility of control over land by drawing it within the same spatial order of the dominating power. It homogenises space by denying the legitimacy of indigenous spatial regimes. Of course, the grid alone does not destroy these regimes but the idea of homogenous space must first be imagined before it can be implemented. Often it was the conflict between this imagined homogeneity of space and the actual resistance of indigenous people to unfamiliar spatial regimes that led to some of the most difficult challenges to colonialism’s sense of legitimacy.

The grid on the game map mimics these forms of control, transforming them into subjects for play. On the standard map, control is exercised first in the imagination in order that it can be exercised in reality. This is not to say that the colonial cartographer took unmapped ground and subjected it to the state’s control by mapping it. As Geoff King (1996) has pointed out inhabited land is never unmapped (p. 15). But the colonial cartographer brought the land into view under a different spatial logic that had the grid as one of its central features. In the game map, imagined and real control is identical in that there is no sense in which the game-world or territory is ever not gridded. There is no prior or alternative sense of space or method of mapping to undermine or challenge the legitimacy of the grid’s spatial logic.

Let us take the example of tribes and barbarians in the game. These are settlements and units encountered early on. Tribes may be friendly or hostile. In the former case they provide some boon such as gold or technology. In the latter case they send barbarian units to destroy player units or even player cities. Tribes and barbarians are more limited than the game’s civilisations largely because they do not function by the same progressive logic. Though tribes may possess advanced technology at the beginning of the game and come into possession of more advanced technology as the game goes on this is not accomplished through research but by some hidden system. There are no barbarian settlers to found new settlements and expand their territory. Hostile settlements will send out units to attack the cities of civilizations but once they have taken a city will not engage in research or build improvements (Douglas, 2002, p. 20).

But barbarians and tribes do inhabit the same *spatial* logic as the games' civilizations because they are confined by the logic of the gridded map. Their movements, like those of the player's and the AI civilizations' units, are determined by the grid that underlies the game. This spatial assimilation of the barbarians to the grid may be read in two ways. In one sense, it is a sanitary retelling of the colonial enterprise where the irreconcilability of the coloniser and colonised is retrospectively fixed. The friction of colonial contact is smoothed out. This is in line with the reading of Nintendo games in relation to colonial travel narratives by Fuller and Jenkins (1995). Alternatively, it is a characterisation of the grid as an inescapable net that ensnares the landscape and all those in it in a way that denies non-European spatialities. Both of these interpretations – a whitewashing of colonial history or an indictment of it – define colonisation as a perfect, though not necessarily moral, success. *Civilization*'s obliteration of other understandings of space does not reflect colonialism but the ideal colonialism. The carving up of Africa at the Berlin Conference of 1884 is an example of this idealising of the straight line in colonial mapping. But while in this case the rationality of the straight line was undermined by the conflicting understandings by the 'natives' not only of the position of boundaries but also of their nature and existence, *Civilization* admits of no such disruption. Barbarians may be hostile, but they are accommodating enough to effect their hostilities according to a European conception of space.

The grid becomes more clearly contradictory when playing as a civilisation whose sense of space is at odds with the sense of space that the game adopts. Critics are divided as to how oppositional *Civilization* can be. For some, for example Kurt Squire (2004) or Barry Atkins (2005), the game offers a space for the revenge of the colonised. With enough skill, I may march the Zulu nation into London. For others, like Kacper Poblocki (2002), this revenge is undermined by the fact that the only way for me to effect it is to adopt Western cultural ideals. Before I lead my armies into London I must set the Zulu civilisation on a process of technological discoveries that are overwhelmingly European and American, build cathedrals and temples in Zimbabwe and so forth. If I choose, Shaka Zulu may conquer the British Empire. But he does so not as a Zulu but as a Zulu mask fronting a constellation of British colonial ideologies. There is no Zululand history – real or alternative – in the game, but there is the possibility of the Zulu mimicking Western history. This mimicking occurs most fundamentally at the level of space, where the grid serves to naturalise a European colonial conception of space. To succeed in the game, I must adopt – and adopt on the part of my chosen civilisation – a colonial attitude to technology. But to even *play* the game I must adopt a colonial idea of space.

This is not to romanticise some 'indigenous' or 'native' notion of space or history, the dangers of which are evident. It is rather to suggest that the game is only capable of modelling a particular spatial logic that has its roots in European colonialism and fails to chime with the spatial logic of many of the peoples it represents. Henri Lefebvre (1991) has identified the importance of a group's generating its own sense of space in order for its members to be able to, in a broad sense, locate themselves. John K. Noyes approaches the issue from another angle, suggesting that the German colonisation of what became German South West Africa was accomplished in part through the construction of a discourse that transformed all space into 'colonial space' (1991, p. 24).

Where does this leave the player of *Civilization*? For Squire and Atkins, my Zulu army landing in Dover is an imaginative challenge to the coloniser. But the colonial spatial discourse is left unchallenged. Does the confinement of my Zulu army within a colonial spatial logic undermine their challenge to history? Perhaps. But it is also possible that a broader understanding of the game's often absurd tone allows for a more optimistic interpretation.

Homi K. Bhaba (1994) sees mimicry as 'one of the most elusive and effective strategies of colonial power and knowledge' but also one which reflects a parodic version of colonial desire back on the dominant culture (p. 122). How might this kind of parody function in *Civilization*? The games are full of anachronisms and anomalies that foster in the player an attitude of amused scepticism rather than earnest belief. The games continually undermine their historic authenticity: ancient warriors beating modern tanks in *Civilization I*, Elvis Presley offering cultural advice to Alexander the Great in *Civilization II* or Ghandi threatening the player with a nuclear strike in *Revolution*. While the spatial mimicry of my Zulu army or the barbarian hordes is not as obviously playful and knowing as these other anachronisms it is more powerful in pointing up the absurdity of colonial discourse. When viewed from this angle the grid's universalising properties do not sanitise the colonial project but instead foreground some of its contradictions.

Figure 17: The world as a stage in a sixteenth-century map of London from Braun and Hogenburg's *Civitatis Orbis* Terrarum and *Civilization Revolution*.

Another aspect of the *Civilization* games that might be thought to carry political weight is its viewpoint. Many writers have understood the cartographic viewpoint as separating the observer from the observed or the surveyor from the surveyed in a way that allows the former to dominate the latter. There are two metaphors that have been extensively employed to describe this relationship. The first focuses on how the cartographic view affects the terrain, which becomes a stage. The other focuses on how it positions the scientist/surveyor, who becomes a god.

The separation that both of these metaphors entail is based on an idea of absolute space that predates Newtonian physics but finds perhaps its most cogent defence in the *Principia Mathematica* of 1687. Here, Newton holds that space is absolute, pre-existing and independent of the objects that fill it. While this proposition was by no means universally accepted, being vigorously debated before and since, it was influential in the development of a particular tradition of cartography that forged a relationship between maps, space, history and science in much modern European thought (Hubbard, Kitchin, & Valentine, 2004, p. 4).

Let us look at these metaphors in turn and how they have been understood in recent criticism. A good example of the world-as-stage metaphor is in the title of Abraham Oretelius' sixteenth-century atlas *Theatrum Orbis Terrarum*, or *Theatre of the World*. Here, one consequence of the map being presented as a theatre is the representation of history as a performance that the reader may observe while perusing the atlas. Henry Turner (2007) cites the preface to the 1606 English translation as specifically recommending this method of reading:

> [T]he Mappe being layed before our eyes ... we may behold things done, or places where they were done, as if they were at this time present and in doing. (quoted in Turner H. , 2007, p. 419)

This conception of history as a performance would become a consistent strategy for colonial writers in imagining space and establishing the position of the historian relative to historical events. In *The Road to Botany Bay* Paul Carter (1988) links this conception of space as a stage to what he calls 'imperial history,' where 'History itself is the playwright' and the historian is 'merely a copyist or amanuensis' (p. xiv). Central to this kind of history is the positioning of the historian off-stage capable of seeing and recording events disinterestedly. Treating space as a stage on which history performs itself drains our understanding of past events of the specificity of people's experience. Carter attempts to reintroduce this by replacing historical narrative as a chronology of set-pieces with analyses of people's diaries, journals and letters.

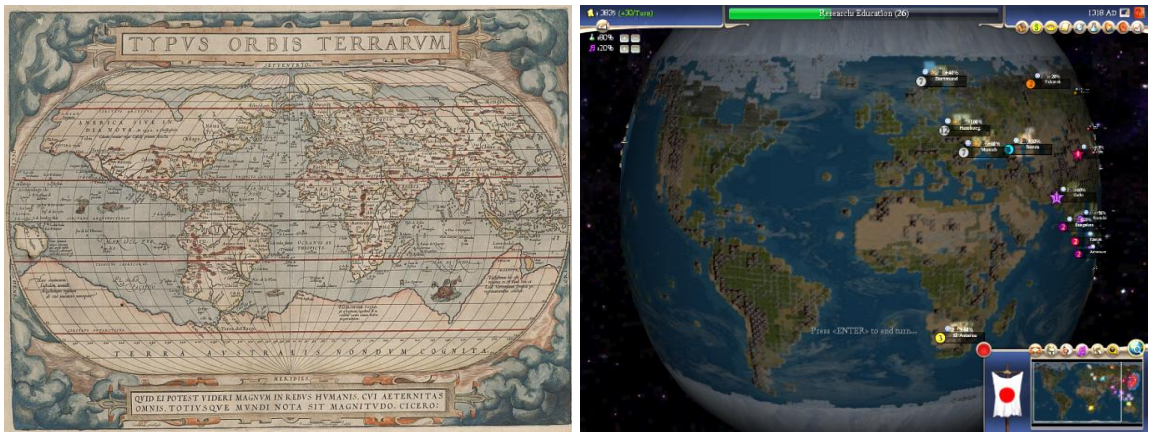


Figure 18: The world from on high. Abraham Ortelius' sixteenth-century map of the world and Sid Meier's *Civilization IV*.

The second metaphor positions the surveyor as God. An example of this metaphor can be found in the eighteenth century assertion of Gottfried Leibniz (1712) that while humans saw the world in the manner of a 'scenography,' or perspective painting, god saw the world in the manner of an 'ichnography,' or map (quoted in Crary, 1992, p. 52). What is it about the map that makes its viewpoint godlike? Most obviously it is a view from above, the traditional positioning of the Judaeo-Christian God. But there are other considerations. The map erases the mark of its author. It is seemingly produced by conventions and by method rather than by

a subjective person. Particularly its perspective denies the map as a picture from a particular point of view and constructs it as a view from everywhere and nowhere (Figure 18).

This perspective is therefore not just the view from god but also the view from science. Donna Haraway (1991) has analysed this connection between the god's-eye view – or the 'god trick' as she terms it – and the scientific gaze, seeing this would-be-objective gaze as dishonest in denying the scientist's 'situatedness' in the world being described (p. 189).

In *Mapping an Empire*, Matthew Edney (1997) applies this line of thinking to the function of British cartography in India. He sees cartography as a means by which Britain in the eighteenth and nineteenth centuries created the idea of a united British India in the minds of her subjects at home and abroad and stamped the colonial project in the subcontinent with the legitimating mark of scientific endeavour. In other words, the map was not solely – and very often not even primarily – a practical tool useful for military tactics, public works or cadastral management, but rather was an ideological tool instrumental in the creation of an image of the British Empire.

For Edney it is the separation of the cartographer or surveyor from the world being mapped that is the element of cartography most implicated in colonialism. The division of the *Raj* into British surveyor and Indian surveyed allowed British India to organise itself in the public imagination according to a series of value-laden binaries already well established. On the one side was the British, masculine, scientific, observing, empirical and imperial. On the other was the Indian, feminine, docile, religious and natural (p. 319). The bulk of *Mapping an Empire* is a description of the contrast between this idealisation of British science and 'the chaotic circumstances of British surveying in India' (p. 30). The ideal of the map was undermined by the reality on the ground.

As can be seen in Figure 17 and Figure 18, the *Civilization* maps trade on the idea of separation implicit in both of these cartographic metaphors. Their perspective serves to position the player resolutely outside the game world in a move that is the dream of the colonial geographer made manifest. It is in the realm of space, then, that the colonial situation – that is, the situation for the coloniser as represented to itself – is most authentically modelled in the game, and it is modelled free from the inherent contradictions that beset real life colonisers as outlined, for example, by Edney.

As already discussed, the main map viewpoint differs across the *Civilization* series. One element of perspective that the games have in common, though, is the view from above. This separates the player from the imagined material world of the fictional men and women

that inhabit it. This view is used by many strategy games. The so-called god-game genre, exemplified by games like *Populous* (Bullfrog, 1989), explicitly connects this perspective with the god's eye view. Others, like *Sim City* (Maxis, 1989) and *Civilization*, ostensibly cast the player not in the role of god but of some powerful individual such as mayor or president. In spite of this the kinds of decisions the player makes and the length of the leader's tenure prevent the player's position being understood as that of a single, mortal individual.

In *Trigger Happy* Steven Poole (2000) identifies the isometric view of *Civilization III* with a kind of narcissistic pleasure for the player (p. 135). But this conclusion ignores the theme of the game – the project of imperial expansion – and in so doing fails to fully grasp the expressive power of the view from above in this context. *Civilization* is not simply a solipsistic power trip. The tenor of this power trip is shaped by the mythology of global empire that the game continually employs.

Ted Friedman (1999) comes close to this in his characterisation of what he calls 'simulation games,' of which *Civilization* is one:

> [T]he pleasure in simulation games comes from experiencing space as a map: at once claiming a place and retaining an abstract sense of it. (p. 142)

But this still fails to account for the way the game links this tension between space and place with the theme of empire-building.

How does this separation of the player from the game world impact on the game's sense of history as a progressive project? Both the omniscient player/god and the plotted performance/history are tropes that cast the player in a particular, dominant position in relation to the world mapped. The player initiates and watches a civilisation's border expand turn by turn into *terra nullius*, through weaker civilisations and eventually into outer space, and repeatedly performs this narrative with greater or lesser success. For writers like Douglas, Poblocki and Tom Henthorne (2003) this is a form of ideological indoctrination where the above narrative is passed off as authentic and complete. This reading not only sells the players short, denying them any critical capacity or imaginative engagement with the game, but also sells the games short. To focus only on the present issue, but it is a point that could be made in relation to many of the ideological criticisms of the *Civilization* series, the player's position in relation to the game always admits of divergent readings.

One such possible reading would be to investigate further the idea of the game as a god's eye view. Gerald Vorhees (2009) argues that there is no god's eye view in *Civilization*

because the player's knowledge is always partial (p. 262). In fact *Civilization* continually reminds the player not of their omniscience but of the patchiness of their knowledge – the darkness that shrouds most of the screen at each game's beginning, the arcane algorithms behind the behaviour of the AI opponent. Is this not, to use Haraway's terms, situated knowledge rather than the god trick? We would do well here to note James Newman's (2002a) warning of the difference between perspective and viewpoint in games. While *Civilization*'s viewpoint may place the player in a privileged god-like position, its perspective relies as much on concealment as it does on revelation, placing the player in a weaker position in relation to the game world than the term 'god's eye view' would suggest.

But these concealments serve not to overwhelm the player with a feeling of ignorance but to construct a world that is, if not known, knowable, setting up a clear timetable for its revelation as a project to be completed. The god's eye view is not one that any player has, but one that every player feels capable of achieving. The darkness will roll back, game guides will reveal the game's mathematics, experience will make good on the map's promise to bring the world it represents to heel.

A more fruitful strategy of interpretation is to pursue the idea of parody we have already outlined with respect to the grid. Here, we might seek out the absurdities and contradictions in the games' point of view that undermine not its own authority as history – for it makes no claim to such authority – but the authority of the spatial understanding it models. Two of the game's more obvious anachronisms that might destabilise the player's dominant position are the fact that the game map predates the player's discovery of mapping on the tech tree and the game calendar, running from 4000BC, predates the discovery of the calendar. Both map and calendar are essential in positioning the player outside the game world looking in. They both offer the player the view from nowhere. But their cultural specificity – the Renaissance map and the Christian calendar – culturally locate the player, undermining the very idea of a view from nowhere. Further, their clearly absurd teleology may be read as a caricature that ridicules through exaggeration the more subtle teleology present in what Carter would call 'imperial history.'

I have offered parody and caricature as features of *Civilization*'s maps that complicate the idea of the game as a simple validation or celebration of human history as a progressive project. These terms may imply an intentionality that is out of place. Unlike the *GTA* series, the games are not designed as satire nor are they necessarily approached as such by players. But the transposition of the map into a game about imperial expansion pulls focus on elements of the map by which a satirical stance is made available to players. While by no

means all players will take up this potential for satire, the availability of this stance must be taken into account in any analysis of the games' political substance.

The three analyses in this section have attempted to demonstrate the ways in which space can involve itself in an interpretation of games at the representational level. The meaning of the landscape in *Oblivion* and of the street names in *GTA IV* are seen to be dependent on the theme of the games as elaborated in their stories. Similarly, game elements of *Civilization* such as point of view and the grid gain their meaning in relation to the theme of empire-building that the game establishes through its fictional elements. However, meaning can also arise directly through the player's embodied relation to space, and it is to the role of embodiment in meaning-making that we now turn.

4. Space syntax – morphology as aesthetic effect

So far the focus has been on representational aspects of game space expression. Setting, toponymy and viewpoint are all aspects of space that matter in all kinds of representations, whether on film, in novels, paintings or most other media. In thinking about how setting, toponymy and viewpoint have been used in a number of games I have therefore drawn upon many methods of analysis that are familiar from analyses of these other kinds of texts, though I have also tried to adapt these methods to account for the differences between these other media and games. In each analysis it has been necessary to think about how the game embodies the player as well as the messages the game communicates. For example, in using literary onomastics to analyse *GTA IV* it was necessary to think about the effect of the player encountering names repeatedly and in unplanned ways as they move through the game space. In thinking about the sublime in *Oblivion* it was necessary to adapt ideas of the literary sublime to a medium which allows exploration of space.

The following analyses, however, have the embodying properties of videogames at their centre. I have already suggested that game environments can be thought of as both representations of places and as places in themselves. Here, the focus is on the latter, and an attempt is made to understand the aesthetic effect of game space not as something seen or read but as something inhabited or traversed.

Though there are many aspects of space that structure the player's experience of moving through game space, this chapter looks specifically at the layout of a level and how this creates certain kinds of atmosphere and may even lead to certain kinds of movement patterns. But to begin let us look at the differences between layout as an object seen (representational) and as a space traversed (embodying) in one game: *Castle Wolfenstein 3-D*.

Morphology and meaning in *Wolfenstein 3D*.

The images in Figure 19 are two different representations of episode 6 level 3 of *Castle Wolfenstein 3D* (hereafter *Wolfenstein*). We might use these pictures to frame the question: 'what does the morphology of this level mean?' Potential answers may be found by approaching the images from two different perspectives. The first is as a cartographic image, as seen on the left. The second is as a traversable space, as represented by the picture on the right. To understand the level as a cartographic image, this chapter will begin by approaching the picture on the left as a hidden feature or Easter egg and discuss the process by which this Easter egg becomes visible and the way in which this process helps to structure different players' relationships to the game and to the designers. To understand the level as traversable space, space syntax, a method put forward by Bill Hillier and Julienne Hanson (1984) for spatial analysis of buildings and urban formations, is employed to describe the relationship between morphology and the experience of moving through the level.

Figure 19: Episode 6, level 3 of Castle Wolfenstein 3-D as seen through MapEdit (left) and on the ground (right).

Videogames frequently contain hidden features and content, known as Easter eggs. These hidden features do not advance the gameplay or confer extra powers on the player-character. Rather, it is the fact of their secrecy, and the sense of discovery and achievement they give rise to, that is the source of their pleasure. Easter eggs can be accessed in one of two ways. The first is through extensive play. Here, the Easter egg is a reward for skills and knowledge that is accessible from within the game. The most famous example of this type of Easter egg is the secret room in *Adventure* that featured a message from the game's author: 'created by Warren Robinett' (Robinett, 2003, p. vii). This room was difficult to access because it required the player to pick up a hidden pixel-sized dot from one room and carry it to a different one in order to open a secret door. The second type of Easter egg requires

specific knowledge or technology that is not available from within the game. In *Streets of Rage 3* (Sega AM7, 1994), for example, several of the bosses are playable on inputting certain button combinations shortly before dying. In the Japanese version of the game, *Bare Knuckle 3*, one of these playable bosses is the gay stereotype Ash, but he is removed (both as a playable and non-playable character) from the western versions of the game. However, he can be unlocked as a playable character on the western versions using a cheat cartridge such as the Game Genie (GameWinners.com, n.d.). In the first case the bosses are unlocked through knowledge gained from outside the game, for example in game magazines; in the second case Ash is unlocked through technology from outside the game; that is the Game Genie. Most Easter eggs are some combination between knowledge and skills gained within the game and knowledge gained outside the game. For example, to fight Reptile in *Mortal Kombat* (Midway, 1992) the player must win in the Pit stage when the moon is partially occluded without losing any energy and without blocking an attack (Mortal Kombat Wiki, n.d.). In this case, even knowing how to access the Easter egg from an outside source does not guarantee the player will be able to access it without a great deal of skill in the game. Also, the same Easter egg may be accessed by some players without recourse to outside resources – through perseverance, skill or blind luck – and by others through knowledge gleaned from walkthroughs, game magazines and conversations with other players.

Easter eggs often take advantage of the spatial nature of games, with secret rooms being a popular feature. However, level 6-3 in *Wolfenstein* is a different kind of spatial Easter egg than Robinett's secret room. Here, it is not the rooms that are hidden, but rather the form of the overall space. Or rather the level exists in two different registers – the traversable space and the cartographic image – the first unhidden and the second hidden. Once discovered, both are simultaneously available but not simultaneously accessible. That is, when I am traversing the level I may be aware of its cartographic appearance but the full resonances of this image do not come home to me. Similarly, when looking at the image on the left of Figure 19 I can imagine what it would be like to traverse, but this is a theoretical rather than practical or phenomenological knowledge of the level as traversable. It is tempting to think of this doubleness as a spatial pun, though the flickering between alternate meanings that is delightful in the pun is not present in this double space, since to move from one register to the other is a more laborious task.

Empirically speaking it may be the case that many players come to 6-3 firstly through the cartographic image. However, for most players it is firstly – and perhaps exclusively – encountered as traversable. In any case it is certainly intended to be primarily a traversable

space, with the cartographic image a discoverable Easter egg. Even if a player discovers the cartographic image before traversing the game space, it would still be recognised as belonging to the secret, less accessible register. How, then, is this Easter egg accessed? There are four possibilities. First: some players may be able to piece together in their head the overall map-image while traversing the level. Second: players may draw a map as they traverse the level. Third: players and non-players may access the game's code through the creation or use of map editor software designed to view the levels as maps rather than as environments seen on the ground. Fourth: players and non-players may see representations made with pen and paper or map editor software and distributed in magazines or over the internet. The first two of these possibilities are examples of the first kind of Easter egg, which is discovered through the player's efforts within the game. The third mode of access – through map-editor software – and the fourth – through published images – are examples of the second kind of Easter egg, which is discovered through knowledge and technology from outside of the game.

I am not arguing that the cartographic image in 6-3 is in itself particularly sophisticated. Easter eggs always have some content associated with them – a cool animation, an interesting image, unlocked characters – but the value of an Easter egg is not necessarily connected to its actual content. Often what is more important is the amount and kind of effort required to access it. The *GTA III* series plays with this fact, making some of its most inaccessible Easter eggs wilfully anticlimactic. Jumping through one fake wall in Vice City leads to a room containing a chocolate egg. Ascending to the top of the Gant Bridge in San Andreas reveals a sign saying 'There are no Easter eggs up here. Go away.' Certainly, the swastika pattern in 6-3 may be controversial in its use of this sensitive image in an insensitive way, and this may be linked into a reading of *Wolfenstein* as ushering in a particular phase in videogame history where the moral responsibility of the game industry became an important talking point. *Wolfenstein* was released in the same year as *Mortal Kombat*. The U.S. congressional hearings on the marketing of games to minors would take place in the following year and the ESRB rating system would be launched the year after that. While *Wolfenstein* was not mentioned in the hearings, the bad-boy attitude of its designers is certainly a part of the way in which a new angle on videogames as a harmful form of entertainment emerged in the early 1990s (Kushner, 2004).

However, the content of this Easter egg is perhaps of less importance than the way in which it categorised its fans. Easter eggs are always about elitism and they always differentiate fans according to some criteria. Depending on the type of Easter egg, these

criteria are a mixture of skill, time spent with the game, community membership, cultural knowledge and technological or technical ability. The cartographic image of 6-3 may have been discovered by players around the world in any of the ways listed previously, but it garnered widespread attention through the hacking community who soon after the launch of the game began to release software to edit levels. The most popular and long-lived of these was MapEdit, initially developed by Bill Kirby (1992). In this context, the swastika Easter egg seems to be a nod to the initiated who can access the image through use of this type of software. John Carmack and John Romero, the main founders of id Software, both had an affinity with the hacker community, and, while the enthusiasm with which this community modified *Wolfenstein* may have been unexpected, it was nonetheless welcomed (Kushner, 2004). Secrets for those who could access images of the level from above may not have been intended to create a hacker community around the game – they may simply be an in-joke for the developers – but they certainly helped to establish two tiers amongst *Wolfenstein* fans – those who knew the code and those who didn't. There have always been people interested in modifying games, but *Wolfenstein* seemed to specifically go about rewarding people who engaged with the game on this other level. For example, id Software did not bring legal claims against people who distributed *Wolfenstein* mods online, despite advice to the contrary (Kushner, 2004). The accessibility of the swastika image to those who knew the code was just one way of establishing hackers as a special kind of gamer.

However, *Wolfenstein* also contains an example of this benign relationship between hacker and developer breaking down. Perhaps the most famous of *Wolfenstein*'s mazes comes in episode 2, level 8, which contains over 150 secret rooms (Figure 20). This maze contains a boss, an extra life and, in a room that is particularly difficult of access, a message instructing the player to call Apogee, the publishers of the game, and say a code word. According to Joe Siegler, an employee at Apogee, this was originally intended as a competition, but the idea was abandoned almost immediately because software like MapEdit meant that the otherwise near-impossible to reach secret room became relatively accessible, resulting in hundreds of calls before Apogee had even decided on a prize (Stoddard, 2005). The level works in a contrary way to 6-3. In 6-3 the map image reveals a second meaning to the level for those players who have the wherewithal to access the cartographic image. This creates a sense of collusion between the designers and a certain class of gamer. But here the image as revealed by the hacker undermines the designers' intention. This intention is to reward not the players who, through hacker-developed tools, step outside the game and look down into it but the players who spend hours running around the maze looking for secrets

from within the legitimate game space. In 6-3 the hackers and the designers are on the same side, but in 2-8 they stand in opposition.

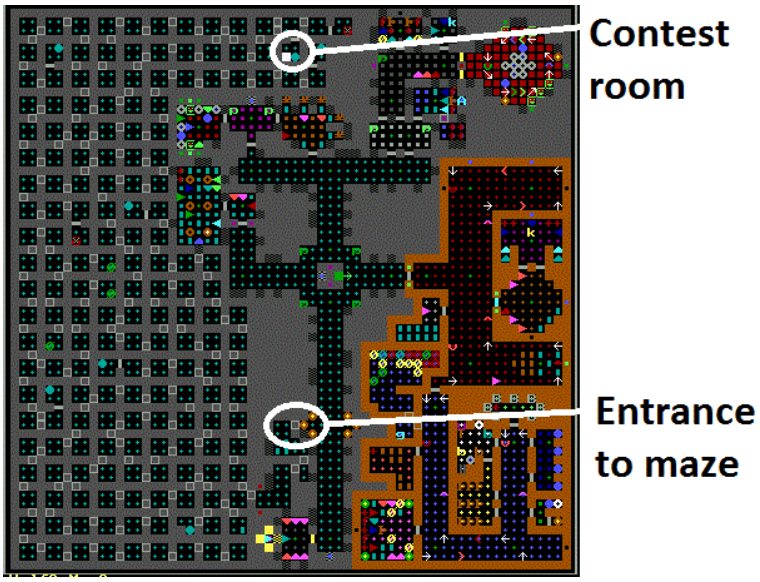


Figure 20: Level 2-8; with this map it is relatively easy to traverse an otherwise impenetrable maze.

While *Wolfenstein* established a categorical difference between how different people engaged with the game this was by no means set in stone, and the secrets gleaned by those in the know were quickly shared with the community at large, as the 'call Apogee' episode demonstrates. This process only became more streamlined with the development and spread of the World Wide Web. The hit that *Wolfenstein* made with hackers also directly led to the inclusion in subsequent id games of a more hacker friendly architecture (Kücklich, 2005). Games in the *Doom* and *Quake* franchises were specifically made to be moddable, even to people without a great deal of programming ability. Over the course of the 1990s looking down into the game became as legitimate and almost as accessible an activity as playing the game.

The cartographic register of 6-3, then, points to a particular moment in the history of modding, in which the hacker was both recognised as a special kind of gamer and the fruits of hacking began to be widely distributed throughout the gaming community. But the cartographic image has more immediate formal effects on the game that have nothing to do with controversial Nazi imagery, Easter eggs, or the history of modding. These effects are to do with how a configuration of seven swastikas structures a player's experience of the level visually and kinaesthetically. But how do we get at the range of experiences that the morphology of a particular game space makes available to the player? One way is to create

various models of the level as a spatial system. This may be through understanding a game's environment as the combination of high level structures. Michael Nitsche (2008) identifies several kinds of spatial structures that we find in games, including tracks and rails, labyrinths and mazes, and arenas. By putting these forms together in different ways designers control the kind of experience that a level offers players.

These models help to calculate measures that describe the player's relationship to the environment and how this changes as the player moves about the level. In this way morphology, which is characteristically spatial, is connected to performance, which is characteristically temporal.

This kind of analysis draws a parallel between architecture and videogames in that both create structures and spaces which are not only to be looked at but also to be inhabited and moved through. Several writers have looked at game space design in terms of architecture. Ernest Adams (2002) examines architecture in games, by which he means both buildings and landscape, and suggests it serves primary and secondary functions. The primary functions are to do with gameplay and include constraint, concealment, obstacles and exploration. The secondary functions are to establish the game world, give it a certain atmosphere and provide the player with information. Chen and Brown (2001) adopt a similarly architectural approach to level design. Drawing on Francis Ching's introductory architectural textbook they look at game space in terms of circulation patterns and overall organization of the space. Hullett and Whitehead (2010) have taken a more focused analytical look at design patterns in single player first person shooters. They identify nine recurring patterns in the genre, such as sniper positions and choke points, describing them and detailing their impact on the game.

Each of these writers takes a similar high-level approach as Nitsche, identifying figures that are found across games and which frequently serve similar functions. While these writers have rightly identified the relationship between form and experience in videogame space, we do not have a method for looking in detail at the configurations that underpin this relationship. The tendency is to look at broad types of spaces: arenas, sniper points etc. rather than the local spatial relationships that give rise to these types. In order to establish an approach to the morphology of game space that can analyse game space at this more abstract level, an adaptation of the architectural and urban planning theory of space syntax is proposed.

First described in Hillier and Hanson (1984) space syntax is a method of investigating the internal relationships of a spatial system. Just as linguistic syntax refers not to individual units of speech but to the way in which these units are arranged into sentences, so space syntax focuses on the arrangement of discrete spaces in a larger system. This goes beyond

looking at the relationship of contiguous spaces. Knocking through a wall to connect neighbouring rooms in a house clearly affects the character of those rooms, but it also affects the house as a whole. Specifically, it will affect the way the house is used by its inhabitants, who may begin to prefer different routes and neglect routes that were previously preferred. This in turn alters the function and atmosphere of the rooms affected.

Space syntax seeks to describe this set of relationships. It is based on the insight that the character of a spatial system, whether a house, a museum, or a city district, is determined not only by visual properties such as material, décor and architectural set-pieces such as colonnades and architraves, but also, and often primarily, by the relationship of each space to every other space in the system. This set of relationships is known as configuration and is defined by Hillier (2005) as 'the simultaneously existing relations amongst the parts which make up the whole' (p. 97).

While much architectural theory aims at the conscious level – those things we see and consciously grasp – space syntax looks at aspects of architecture that are intuitively felt, but not easily vocalized. They are, Hillier (1996) suggests, 'non-discursive,' working 'below the level of consciousness' (p. 28). But these relationships are, it is claimed, central to how space is used. They are also instrumental in reflecting and maintaining existing social relations and establishing new ones. One of the concerns of space syntax is how particular configurations generate patterns of encounter and avoidance amongst people and how this affects such things as social cohesion, people's attitude to their environment and crime levels.

Space syntax takes complex three-dimensional systems and models them in two dimensions. The model is then used to describe relationships of vision and access throughout the system through a series of measures. Here the models are generated and the measures calculated using Depthmap, a piece of software developed by Alasdair Turner (2004)

The first model attempts to describe how the visual information provided to the player changes. This represents the level as a set of isovists. An isovist, as defined by Benedikt (1979), is a polygon on a two-dimensional plan representing what can be seen from a particular point. By looking at the area of these isovists we get an idea of the amount of visual information the player has over the course of the level. This is based on isovist analysis as put forward by Benedikt and developed elsewhere (e.g. Batty, 2000).

Figure 21 shows a simple corridor system as described through isovists analysis. The isovists in the first image show the area that can be seen from two points. The isovist's area is simply the number of points contained in the polygon. The second image shows the isovist field for the system by breaking the system into a set of points and representing the area of the isovist from each point in the system. Warmer colours represent larger isovists.

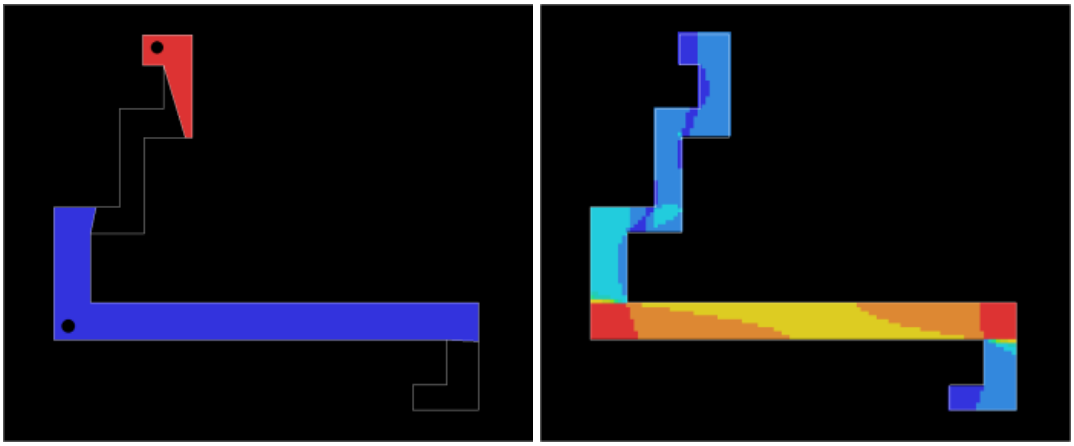


Figure 21: Isovists in a simple corridor system

In terms of amount of visual information available to the player, the swastikas in 6-3 set up a steady pulse over the course of the level. As the player moves from the end to the crook of the arm, from the crook to the middle of the arm, from the middle to the crossroads, and then back toward the next end, the visual field continually expands, contracts, and expands again. This can be seen in Figure 22 in the fluctuation between blue, yellow and red areas that can be seen in each swastika. If we take the most efficient route from the entrance to the exit of this level as indicative, the player's visual field expands and contracts in this way several times. Firstly, the player passes through the swastikas marked A, B and D, then enters the very different visual environment of the lower corridor. Here, the visual information is never as plentiful as it is in the main swastika area, but is instead fairly uniform across three corridors connecting two small rooms. The player must reach the end of this sequence, collect a silver key, and then return to the main area. Here, there is the same expansion-contraction of the visual field as before, though this time the sequence is punctuated by the wide corridor marked X between D and E. At the end of F, the player either exits or collects a second key and returns, this time passing through five swastikas in the same expansion-contraction sequence, to the secret exit near the start (Figure 22).

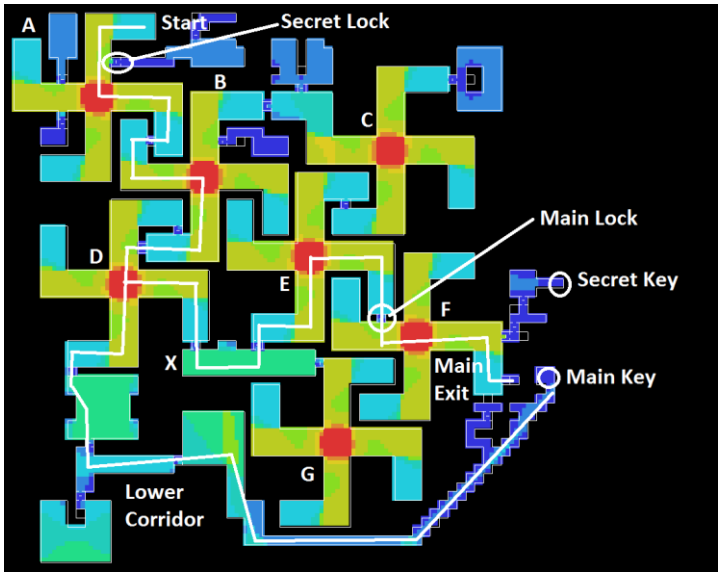


Figure 22: Expansion and contraction of visual fields as player traverses level 3. The white lines show the most efficient route.

This is an unusual level in *Wolfenstein* not only because of how the level looks from above, as a picture, but also because of how the symmetry of that morphology sets up a repetitive rhythm in terms of the amount of visual information the player has. This in itself can be disorientating, since radically varying amounts of visual information in different areas of the level would act as a landmark that aids navigation. The repetitiveness of the expansion-contraction pulse does not provide this variation and so cannot be relied upon as a means of orientation. Of course there are other aspects of the environment – such as different colours and textures of walls, different enemy spawn points and patrols, and different statues, pictures, furniture and pickups – that do provide variation across the level and so run counter to this repetitive rhythm.

If we look at the nine other levels in the episode, there is not nearly so regular a pulse in terms of isovist area. In the other levels asymmetry in morphology gives rise to an unpredictability that is central to the game's aesthetic.

We find the expansion-contraction motif in level 2, but with a difference (Figure 23). Here, the player begins in an area of small isovists, which is a simple matrix of corridors rather than a difficult maze. This area that affords little visual information gives onto a spiral of long, wide corridors, which have larger isovists, especially at their corners. As the corridors spiral toward the central exit, the visual fields naturally contract, and this contraction is exacerbated at the centre due to the narrower corridors. Here, however, the expansion-contraction only happens once, and not repeatedly as in level 3.

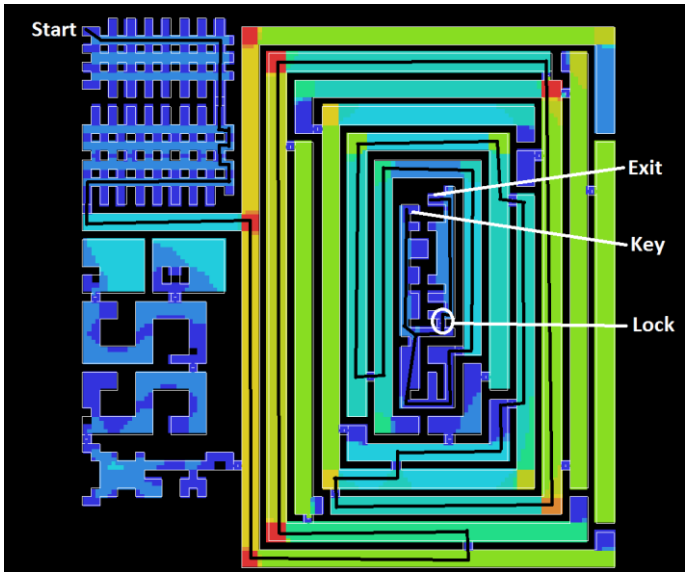


Figure 23: The unrepeated expansion-contraction motif in level 2, with an indicative route in black.

The idea of level 2's morphology giving rise to a *rhythm* may be a misleading analogy. Because throughout 6-3 the expansion-contraction rhythm is repeated continually, or almost continually, and at a local level, we are justified in examining the most efficient route as indicative of the level's overall rhythm. However lost a player gets, this rhythm is maintained because the seven swastikas form the core part of the level. But describing the unrepeated expansion-contraction of the most efficient route in level 2 as the level's isovist rhythm is incorrect. In fact it is only the rhythm of one, or possibly a small number of, possible routes through the level. For example, this rhythm may be disrupted if the player enters the secret maze in the bottom left corner, which, incidentally, contains another possible Nazi-related cartographic image in the sideways 'SS.' But while this may disrupt the rhythm it does not affect the overall pattern that the morphology lays down. Whether the player becomes hopelessly lost, eventually finding the exit after much backtracking, or the player chooses to explore the entire level to collect every item and kill every guard, the entire session will be broadly characterised by this global rhythm because of the low isovist area for the entrance and exit and because of the spiral of decreasing isovist area that separates them. The rhythm

will not be as keenly felt by the player who does not take the most efficient path, and few players will take the most efficient path on their first run through the level. Indeed, the most efficient path is probably more relevant for expert speed runners: players familiar with the level who try to complete it as quickly as possible. Several playing styles and competencies will not give rise to this rhythm. For example a more explorative approach, a more completist attitude, or a lack of orientational awareness will each have rhythms of their own, which will be more likely to involve doublings back, meanderings and dead-ends. For this reason these playing styles and competencies will not have a single journey on which we can base an analysis of spatial rhythm.

Level 3's locally repetitive morphology means that its isovists are relatively uniform across the level. On the map we only see blue areas when we leave the swastika core that constitutes most of the level. Other levels however, tend to have a lot of smaller isovists and relatively few large ones. That is, the player spends more time with little visual information than with a lot. This is central to the game's sense of pace and surprise.

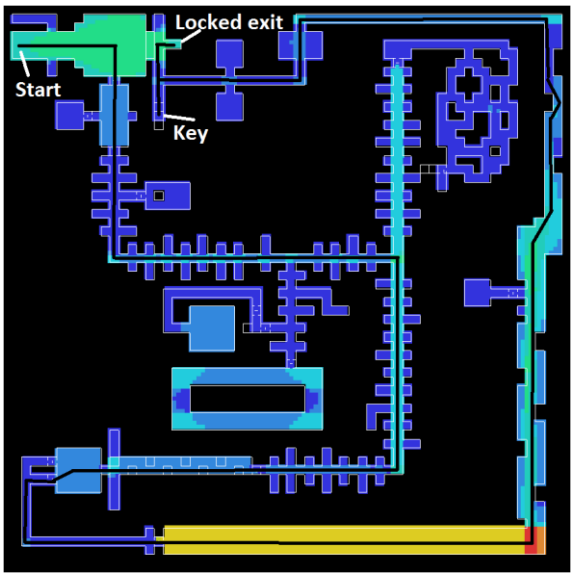


Figure 24: Level 1 isovist areas with quickest route in black.

The combination of areas with large isovists and small isovists leads to variation not just in the way the environment reveals itself to the player but also in the kinds of threats the player faces. Unlike in more contemporary first person shooters, in *Wolfenstein* the player is generally safer at points with large isovists. This is because, apart from bosses, enemies do not have long range weapons. The only time a trooper or dog, the two most common enemies, has an advantage over the player is when the player does not see them coming. However,

large isovists do mean that the player is open to attack from multiple directions simultaneously. Smaller isovists create tension because enemies can easily ambush the player around corners, behind doors or from alcoves, but the player can generally concentrate attention in just one or two directions. Different features that give rise to low isovists such as doors, corner and alcoves, while they all contribute to tension by maintaining a sense of threat, all affect the pace of the level in different ways. Doors that close behind the player were a good way in early first person shooters to divide up space and thereby increase performance speed, but they also led to a particular kind of rhythm, requiring players to come to a complete standstill in order to open them. Corners also slow the player down, though not to the same extent. The player may also naturally slow down at junctions to decide on which way to go. But the player may pass through corridors flanked by alcoves, such as the one in the centre of 6-1 very quickly (Figure 24). The kind of exhilarating tension felt in passing swiftly down a corridor with multiple alcoves is of a very different character to the anticipatory tension felt before opening the door to an unseen room. The constant tension felt in 6-1's alcove corridor might be contrasted with the oscillation between tension and release that defines the rhythm set up by the swastika arms in 6-3.

The isovist analysis of 6-3 suggests that the abiding rhythm of the level is one of increasing and decreasing visual fields. But this is a purely local analysis, describing what can be seen by the player at particular points throughout the level. But while locally all of the swastikas in the level are almost identical, giving rise to this regular rhythm, globally they are very different. That is, each occupies a different place in the configuration of the level as a whole. The relative position of each swastika shows up if we look at the decision points and dead-ends of the level on a simplified graph of the level. The graphs used here are a version of the justified graph as put forward by Hillier and Hanson (1984). The method outlined in *The Social Logic of Space* is to take each room in a house as the base unit or node of the graph and the connections between rooms are taken as the graph's edges. Then take one of these rooms, usually the entrance way, as the root node, and represent on a graph the interconnections in the house. The graph is a visual representation of how each room fits into the overall configuration from the point of view of a particular root node. Here, rather than taking rooms as the nodes, decision points are taken instead, with the paths between these decision points as edges. There are two kinds of decisions in the level, crossroads and junctions. Crossroads offer the player three paths to choose from, plus the path used to access the crossroads. Junctions offer the player two paths to choose from. The graph also shows

dead ends, where the player must return on the same path. This kind of graph should give us a visual representation of how each decision point fits into the overall configuration of the level. FiguresFigure 25 andFigure 26 show the level represented with two graphs of this kind. Figure 25 shows all of the decision points and dead-ends between the entrance and the key. Figure 26 shows all of the decision points and dead-ends between the key and the exit.

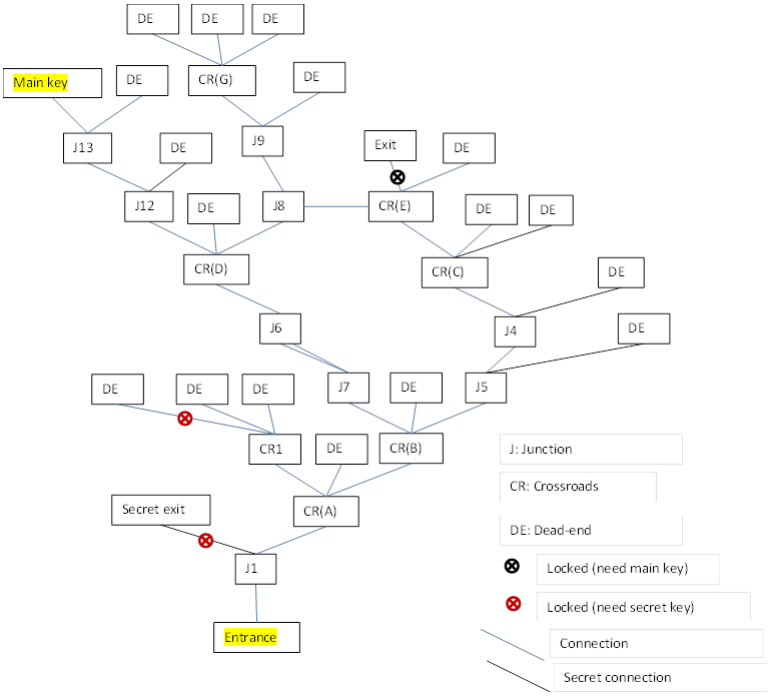


Figure 25: Graph showing interconnections in 6-3 between entrance and key.

There are two routes between the entrance and the key that do not involve any doubling back. This is due to the ring that links B, C, E and D. Of course, there are many more routes that do involve doubling back, usually a short distance, but slightly longer in the case of J8-J9. If we look just at this graph and imagine that each path has an equal chance of being taken, then the chances of the player reaching the key by either route without doubling back at least once is less than one in a hundred. There are, of course, features of the level that reduce these odds somewhat. For example, several of the decision points are between hidden and visible doors, and in these cases the player is more likely to choose the visible door. However, the odds are nevertheless in favour of the player making choices that do not lead directly to the main key. The player may even make the same wrong decision more than once, since many of the level's spaces look similar. The chances of this kind of error are mitigated by the fact that guard's bodies remain after the guard has been killed and therefore mark a particular space as one that has already been visited. Besides the possibility of making wrong decisions, the player may also purposefully make a decision that leads away from the main path.

Frequently dead-ends contain treasure, weaponry and ammo. Getting the key is the only necessary goal to progression, but the player may have many other more exploration-orientated goals. Therefore, there are two reasons why the player may not take the most direct path between the entrance and key: the number of decision points between these two points and the confusion this engenders, and the benefits and pleasures of exploring off the main path.

Indeed, 6-3 makes such exploration likely. If we think of this graph as showing a series of decisions, we can assign different levels which quickly show the distance in terms of decisions between the entrance and particular decision points. The key is nine levels from the entrance, which is almost the maximum distance. This provides the player with many opportunities to become lost or to explore before the key is found. The player, then, may visit many or all of the points on the graph, and may visit them more than once, before finding the key. However, since the player must find the key to proceed through the level (whether through the main or secret exit) there are certain points that the successful player must see at least once. These are the ones marked Entrance, J1, CR(A), CR(B), CR(D), J12, J13 and Main key. On the ring we have two routes that do not entail doubling back. These either take in J7 and J6 or J5, J4, CR(C), CR(E) and J8. All of the other spaces may be visited but are not necessary for progression. The likelihood is, of course, that at least some of them will be visited, but every player who completes this level will certainly see the first set of points and will have at least a one in two chance of seeing the second set. We can use the same method to describe the decisions facing the player between the key and the main exit, and the graph for this is shown in Figure 26.

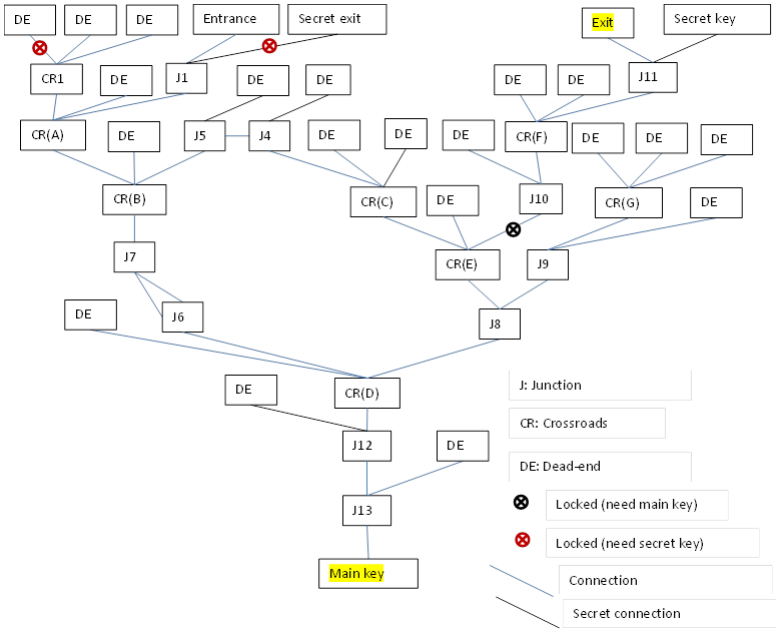


Figure 26: Graph of decision points for 6-3 for level after the main key has been found

Now that the rest of the level is accessible the player must go from the main key location to the main exit or to the secret key, which is located near to the main exit. As with the first phase of the level, the departure point and the destination are a large number of steps apart; indeed in this case the exit is at the furthest level from the departure point. However, at this point the player will have seen much of the level already and therefore may be less likely to get lost. Also, many of the secrets may already have been discovered, and so the player may take a more direct route to the locked door at CRE-J10. Again, there are two routes that do not double back. Just focusing on the crossroads, the first must take in at least D, E and F. The alternative, longer route must take in at least D, B, C, E and F.

If we look at the level in total, we can identify A, B and D in the first phase and D, E and F in the second phase as crossroads that the player must pass through. C is likely to be seen at some stage because it is on one of the optional routes in each phase. G is not on any of the main routes, and so may be missed altogether. This justified graph method can show the relative importance of particular decision points with respect to a root point, in this case the entrance for the first phase and the main key for the second phase. This gives us a set of local measures. However, it has been argued that a feature of 6-3, due to the abundance of junctions and crossroads, is that the player is likely to become lost or to explore off the main path over the course of the level. It might be useful, then, to describe the distance of each point not only from some root point but from every point. This would give a measure of how central a particular point is in general and would therefore be a global measure. One way of

doing this would be to draw a justified graph with each decision point as a root. Instead of this laborious process, Hillier and Hanson (1984) put forward the idea of integration. This method takes a particular model of space that divides the space into discrete, interconnected units and then calculates the average number of steps from each point to every other point in the system. This provides us with the permeability of the system, or the relative accessibility of each of its spaces.

If we do this with the above justified graph we get the graph in Figure 27.

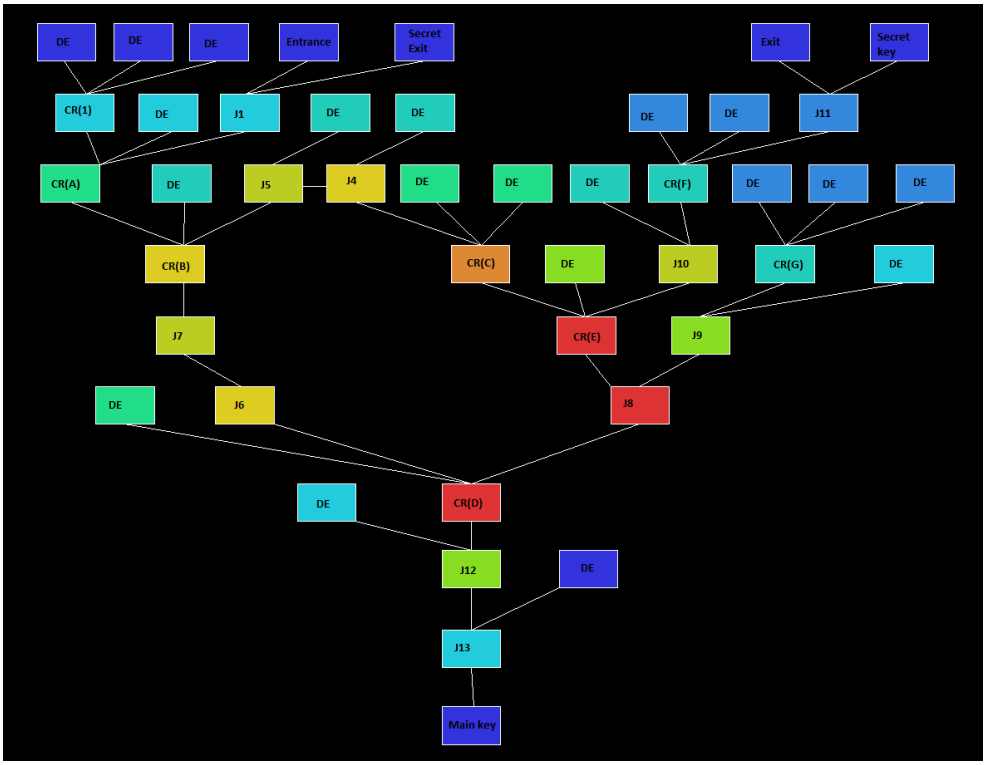


Figure 27: Integration on decision points in 6-3. More integrated points have warmer colours

Note that even though the layout for this graph is the same as the justified graph in Figure 26, here integration is being calculated in terms of the number of connections required to link each decision point to every other decision point. That is, it is not measuring the closeness of each point to one particular point but the centrality of each point in terms of the system in general. This gives a sense of how accessible a particular point is in general, without taking account of the player's starting point or the position of game goals. It is unsurprising that those points on the ring are highly integrated as they are generally accessible. The further we go from the ring the more segregated are the decision points. The entrance, both exits and both keys are highly segregated, meaning that there are on average a lot of decision points between the player and these areas. Note that D, the only crossroads that must feature in both phases of the level, is highly integrated. Therefore, both the

placement of locks and keys and the configuration of the level make D a pivotal point in the permeability of the level.

As mentioned, integration measures the average number of steps from each point to every other point. These steps may be of any kind of unit. In the above example, a step is the connection between one decision point and the next decision point or dead-end. However, we might also define a step in metric terms – that is as distance in feet or metres – as the connection between turns, or as any other kind of spatial relationship. Using decision points as the unit for calculating integration seems intuitive, since choice of paths is an integral part of both mazes and videogames. But by modelling the space in different ways we can arrive at other measures which may capture other features of videogame maze navigation.

The two most common ways of modelling space in space syntax research is through visual graph analysis and the axial map. Visual graph analysis extends the concept of the isovist, which describes local visual properties, to describe the global properties of a system. In the example of the simple corridor in Figure 28, isovist area showed us the visual field from particular points along the corridor. Another way of saying this is that the isovist of point A describes all points that are one visual step away from it. It is in this sense a local measure. But we might also think of points that are two steps away from A. These points cannot be seen directly from A, but can be seen by other points in A's isovist. In the same way we can describe all points in a spatial system as a certain number of visual steps from A. Visual integration is a measure of the depth of every point in the system from every other point in terms of visual steps (Turner A. , 2004). Figure 28 shows the same simple corridor system as seen through visual integration analysis.

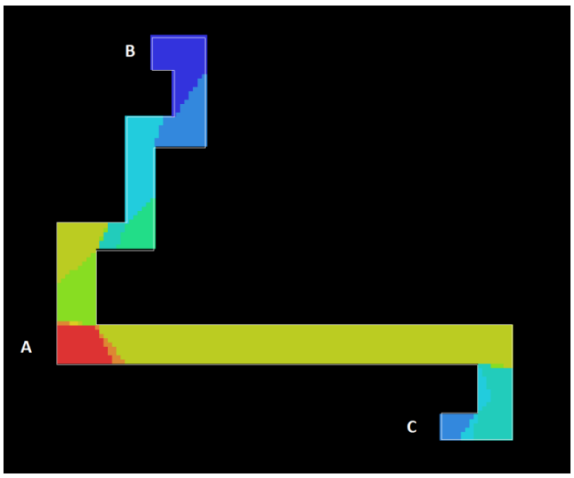


Figure 28: Visual integration for a simple corridor.

Here, the central point A is highly integrated. In a simple corridor like this, the more central points will naturally be visually closer to all points than points toward either end of the corridor. But note that, even though this is a single corridor with no branches, one end of the corridor, marked C, is slightly more integrated than the other, marked B. This is because a person standing at B, due to the proximity of the twisty corridor, must pass through a large number of visual steps to see most of the other points in the system. All of the points along the long corridor, for example, are seven visual steps away. A person standing at C, however, because he or she is close to the long horizontal corridor, gets to see much of the system without having to pass through many visual steps. This is because all of the points along the long corridor are only three visual steps away. This demonstrates how even in a relatively simple system differences arise in terms of visual integration.

While visual graph analysis focuses on visibility, the axial map focuses on movement. This is a model of the space based on the fewest lines – representing lines of sight and movement – that are necessary to connect all of the spaces in the system. With this model it is possible to find integration values for each line in a similar way, using interconnections of lines rather than inter-visibility of points. Figure 29 shows the same simple corridor as an axial map, with the integration values depicted through line colour. We get a similar result, with lines near the centre of the corridor more integrated than those at the periphery. However, the axial map has the most integrated line closer to the twisty corridor, while the visual graph shows the most integrated area at the end of the long corridor.

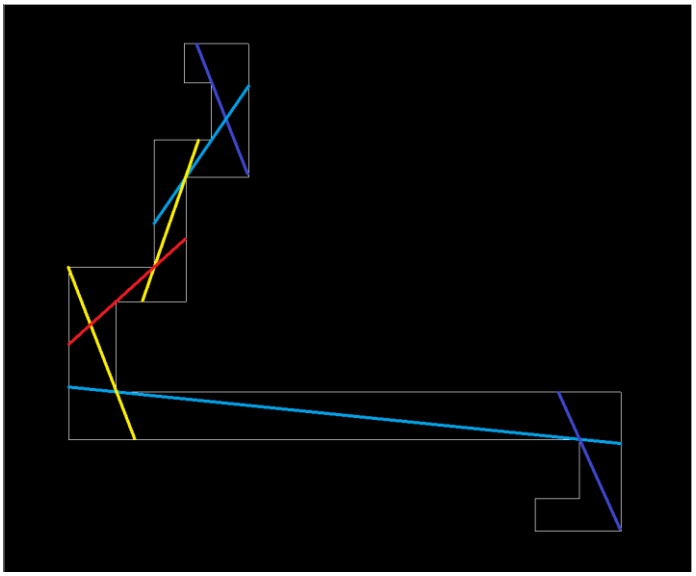


Figure 29: Axial map for simple corridor.

The difference arises because of the metric element in the calculation of visual integration that is not present in axial line integration. The fact that the long corridor contains many points on the visual graph does not matter to the axial integration measure. It only takes into account the number of interconnections and is not sensitive to corridor length. The twisty corridor has many interconnections. Therefore, even though it is less integrated on the visual graph it is more integrated on the axial map. This difference is important. An axial map will tend to put the most integrated area, or the integration core, where there are many interconnections regardless of the length of the lines. The visual graph will take into account the size of the different isovists, tending to put the integration core near areas with large isovists. The axial map is based on simple journeys that do not require many turnings to complete. That is, if a person starts a journey at a random point in the system, they can probably reach highly integrated lines with fewer turnings than are required to reach segregated lines. In the visual graph, number of turnings still matter, since we cannot see around corners, but so too does the amount of visual information that can be seen from each point. If a point has a large isovist then this isovist will contribute to its integration regardless of the point's position in the system as a whole.

What is the benefit of modelling a spatial system in these ways to measure integration? Firstly, sets of buildings with different topologies have been found to assign similar social functions to rooms with similar integration values. This has been found in homes (Hillier & Penn, 1991) and in factories (Peponis, 1985). Secondly, integration has been found to be predictive of aggregate movement, with integrated routes preferred to segregated routes during search tasks (Peponis, Zimring, & Choi, 1990). Most space syntax studies look at this relationship between integration and aggregate movement in real-world spatial systems. The movement that can be attributed to the configurational properties of a spatial system has been termed 'natural movement' (Hillier, Penn, Grajewski, & Xu, 1993). High correlations have been found between visual integration and movement patterns in public buildings (Hillier & Tzortzi, 2006; Turner & Penn, 1999; Lu, Peponis, & Zimring, 2009). The axial map has more often been used with respect to street systems, where integration has been found to be a good predictor of pedestrian movement (summarised in Penn, 2001). Little empirical work has been done with respect to game spaces, though studies have repeated correlations between movement patterns and integration on the axial line from the real world in virtual environments (Conroy, 2001) and in *World of Warcraft* (Cho & Kim, 2007). However, without further empirical investigations claims about the relationship between configuration and player behaviour need to be treated with care. It is important to be mindful of how both

local aspects of a gamespace and the particular demands and affordances of the game interact with the space's global configuration.

It must be emphasised that integration is generally used in space syntax to analyse systems in which many users are making journeys from multiple departure points to multiple destinations, for example on city streets and in art galleries. Because integration tells us about the accessibility of the space in general, it fails to take account of the way in which a space might privilege certain journeys and not others. This does not matter so much where users are engaged in different kinds of journeys, since their personal motivations tend to cancel each other out. But in games there tends to be a much more prescribed set of journeys, even in relatively complex spaces like 6-3. It is unlikely therefore that in a level like 6-3 integration will predict player's movement patterns. For example, points like A, J11 and the Main key are found to be highly segregated spaces. This would suggest that there will be little player movement here. But clearly any successful game session must take in these spaces. We would expect a more integrated space like C to attract more movement. However, as we have seen, it is not on a compulsory path and therefore it may be ignored completely. However, permeability may still be a relevant factor in describing how the level's morphology structures player behaviour when the player becomes lost or engages in exploration-orientated behaviour.

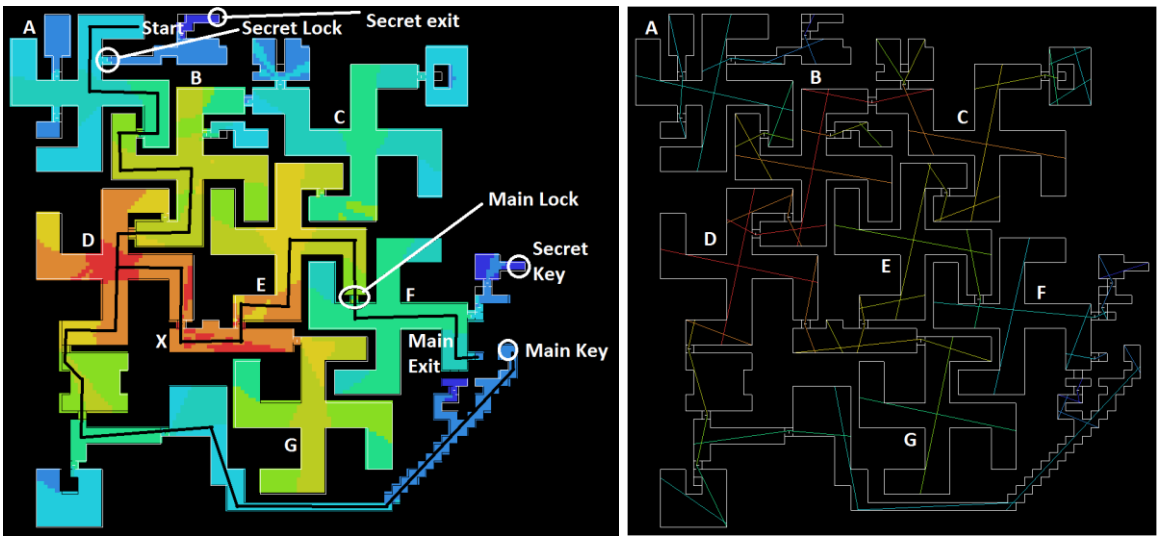


Figure 30: Visual integration (left) and axial integration (right) for level 6-3, with swastikas marked 1-7.

As with the decision points graph, integration on both the visual graph and the axial map is found to be highest around the ring comprising B, C, E and D (Figure 30). However, the visual graph appears less sensitive to this ring as an integrator as it has C, which is on the

ring, as less integrated than G, which is off it. The axial map has D, B and C as containing the most integrated lines. This differs from both of the other graphs, which have a highly integrated E and relatively more segregated C. The axial map's privileging of C is easier to see if we just display the 10% most integrated and the 10% most segregated lines, as in Figure 31.

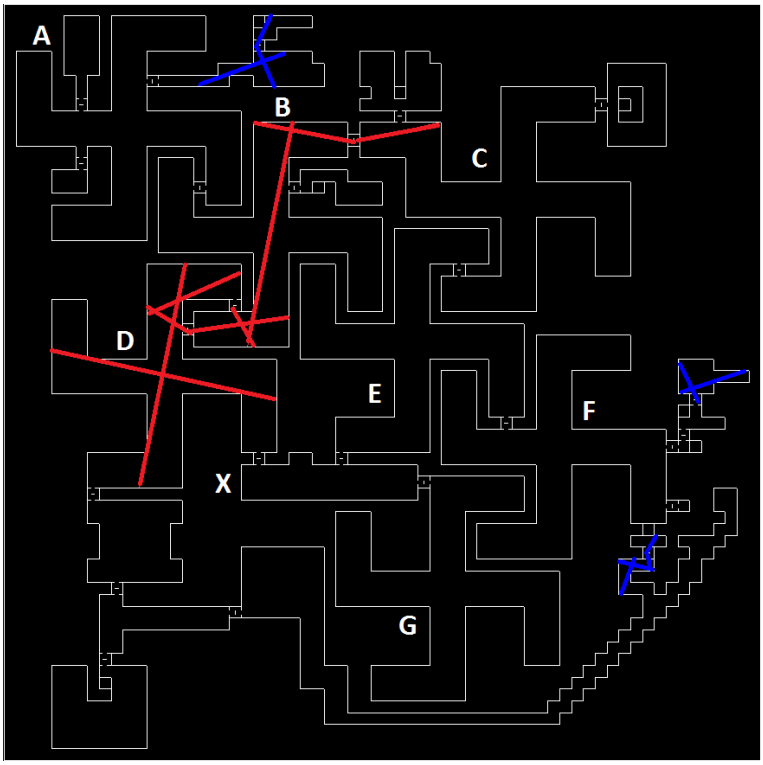


Figure 31: 6-3 with the 10% most integrated lines (integration core) in red and the 10% most segregated lines (segregation core) in blue.

Here we can see more clearly that the integration core comprises all of D and parts of B and C. Both the visual graph and the axial map show D on the integration core. However, the visual graph does not extend the core into B and C, but rather into X and E. This is explained by the difference between the two measures of integration already encountered in the simple corridor example. Here, the axial map is showing the numerous connections around B and C that are due to the small rooms off A, B and C. While these rooms are small they can be quite complex in terms of turns. These rooms do not have as great an effect on the visual graph as, though they contain many turns, they do not contain as many points as the interconnections around D, X and E. Figure 31 also shows the most segregated lines in three areas: the room in the bottom right where the secret key is found, the room near the entrance where the secret exit is found, and the small area near where the main key is found.

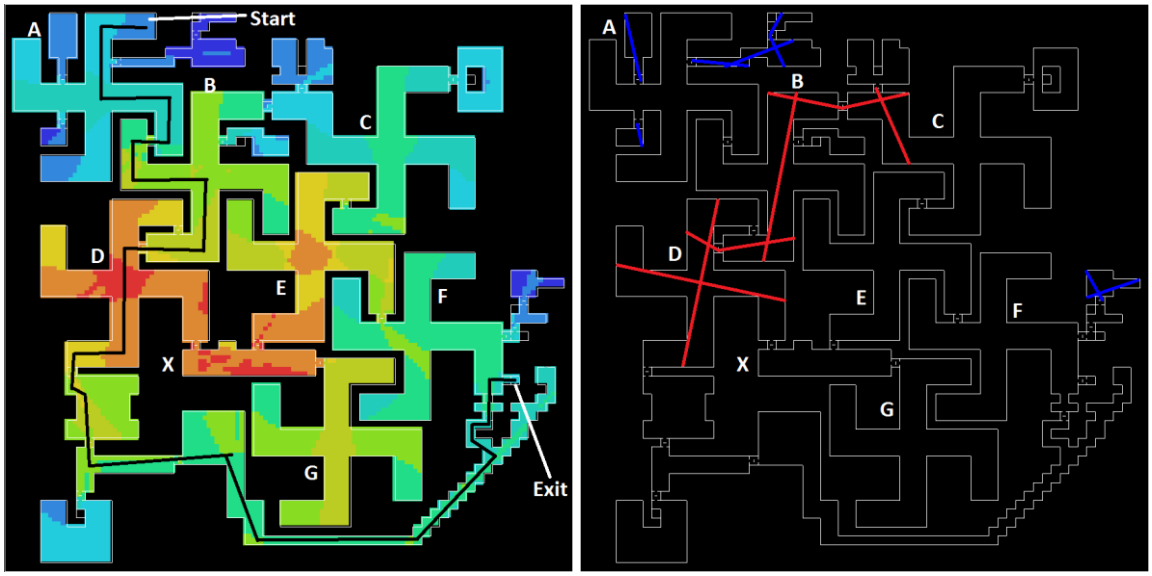


Figure 32: Visual integration (left) and axial line integration (right) with connection made between F and lower corridor system.

We can examine the effect of the level's configuration on integration values by changing the connections in the system. We might suggest that D is highly integrated due to the fact that it is the only gate to the lower corridor. To test the importance of this we can make a connection between the lower corridor and F and see how this affects integration (Figure 32). In this revised version of the level the visual integration core shifts slightly to the right, with E and F becoming slightly more integrated due to the passageway opening up between F and the lower corridor. But the effect is not marked, and D remains a highly integrated space. On the axial map the effect on the integration core is even less, with just a slight movement into C. More noticeable is the effect on the segregation core, with the extra connection to the lower corridor obviously making the lower corridor more integrated.

Perhaps more important than the fact that it is the only gateway to the lower corridor, D has a large number of connections to other subsystems. It is connected directly to B (by two doors) and, through the short central corridor X, to E and G. B has one more connection than D, but it connects to more peripheral areas and so these connections do not contribute as much to its integration values. If we disconnect B and D and add a connection between B and E instead, then we get a big shift toward the topological centre both in terms of the visual and axial integration core (Figure 33). Now E connects up directly to three swastikas and indirectly to two more. At the same time D becomes considerably more segregated because the player must now pass through E in order to access it.

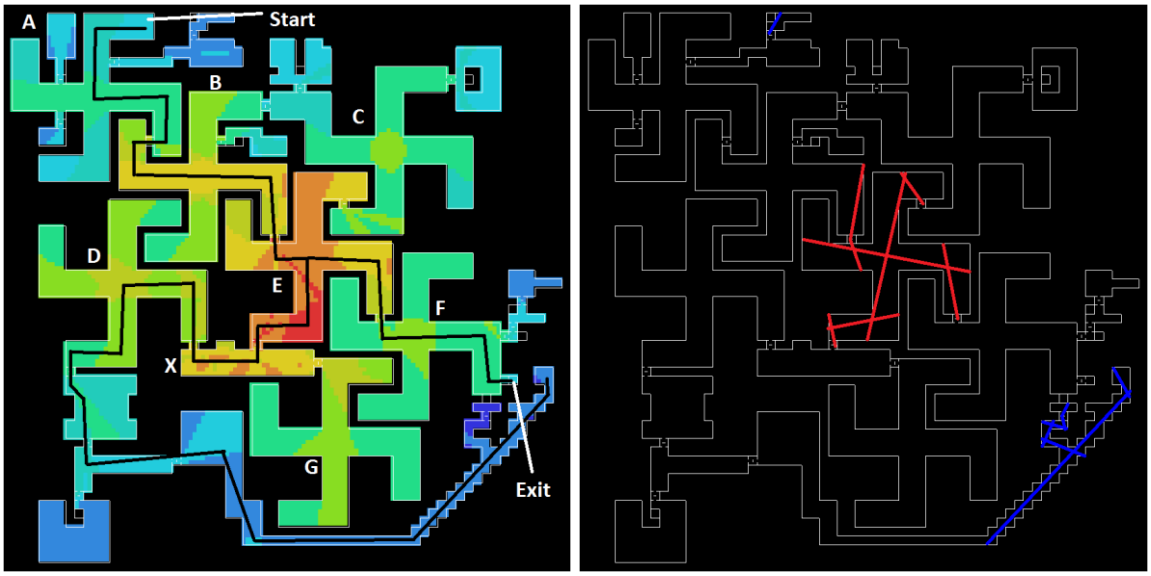


Figure 33: Visual integration (left) and axial line integration (right) once the connections between B and D have been removed and a connection between B and E inserted, changing the integration across the system.

This method of experimenting with connections between sub-systems allows the critic to think about how a particular level works in terms of accessibility and visibility by thinking about how it might work with a different configuration. But it may also be useful in the design process, giving an insight into the character of a level without building and testing it. This may also be of use in establishing criteria for the procedural generation of levels. Of course, this theoretical analysis could not replace the empirical investigation of play-testing and interviews with players but it may help to provide initial clues as to how different configurations might give rise to different experiences by making certain areas more accessible or visible and others less so.

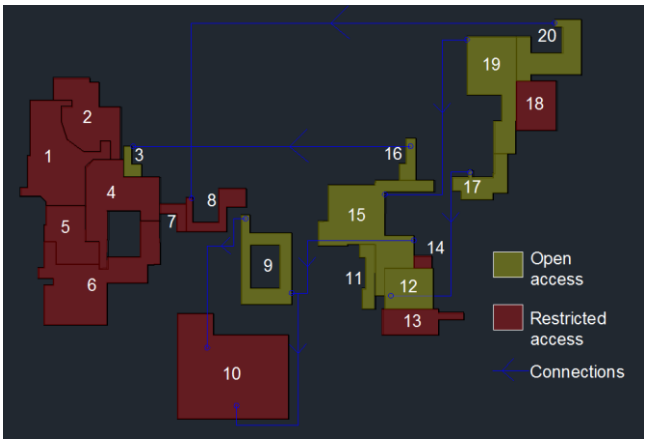
What these integration analyses demonstrate is that even though locally in terms of visual information the swastikas provide a regular beat, globally they each have their own character due to their placement within the system as a whole and the interconnections they allow. Because the more integrated areas are relatively close to all other points in the level we would expect players exploring the level or players becoming lost in the level to revisit these areas again and again, making them an important landmark.

Level 6-3 in *Wolfenstein*, then, articulates meaning in two ways. On the one hand, as an Easter egg its form interpellates and helps to construct a certain kind of *Wolfenstein* fan who can see down into the game. This works in the representational mode, providing a readable message to those players who are able to read it. On the other, it structures player experience in the game by alternating areas of high visibility with areas of low visibility in a steady

rhythm and, through its system of choice points between sub-systems, privileging certain areas and isolating others. This latter process involves the layout of the level embodying the player in a certain way. In order to look further into the way in which level layout can embody the player let us turn to a similar space syntax analysis on a different kind of game space: the stealth game *Splinter Cell: Double Agent*.

Splinter Cell

In *Splinter Cell: Double Agent* the player takes on the role of Sam Fisher, a National Security Agency (NSA) operative who has infiltrated a terrorist organization named John Brown's Army (JBA). This analysis will focus on three of the levels set in in the JBA headquarters (Figure 34). In each of these levels Sam has a particular set of objectives from the NSA and from JBA and is given a limited time in which to complete them. Completing tasks for JBA increases Sam's trust level with the terrorists, but may decrease his NSA trust level; completing tasks for the NSA may have the reverse effect. If too much trust is lost with either party, the game is over. In each level, Sam gains access to parts of the complex previously off limits. At the same time, some parts of the complex become closed off. The purpose of this analysis is to consider the relationship between the changing configuration of the headquarters as understood through syntactical measures and the character of the different areas of the complex.



1	Courtyard	6	Surveillance area	11	Training course	16	GQ entrance
2	Emile's quarters	7	LSC entrance (East)	12	Garage	17	Furnace
3	LSC entrance (North)	8	Enrica's office and corridor	13	Docks	18	Server
4	Low security corridor (LSC)	9	Rooftop access	14	Infirmary back office	19	Common area
5	Officers' quarters	10	Rooftop	15	General quarters (GQ)	20	Mine assembly

Figure 34: Plan of the JBA headquarters.

In the first level set in the complex, JBA assign Sam tasks in the training course area, located just off the long corridor in the main area. The primary NSA tasks are located in the server room and on the rooftop, with secondary tasks in the back room of the infirmary. Only about half of the total complex is accessible at this stage. Of these, the three areas necessary to the NSA missions are restricted, and if Sam is caught there JBA will lose trust in him.

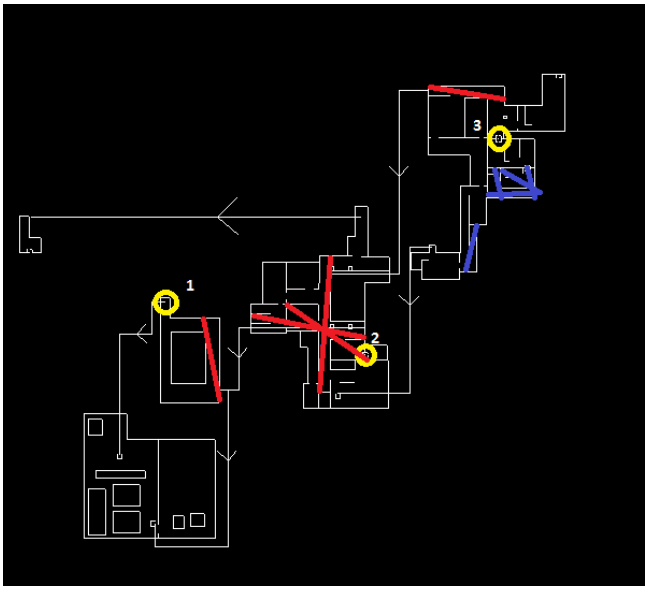


Figure 35: First level. The integration core is in red, and the segregation core is in blue.

Figure 35 shows the axial map reduced to integration and segregation cores. The first observation to make is that the integration core corresponds closely to the busiest area in terms of non-player character (NPC) movement. Similarly, the segregation core is found in quieter more isolated areas. This correspondence helps the player believe in the complex as a real building. The NPCs are following scripted patrols, but these patrols seem to be acting in line with what we would expect from this building. Highly integrated areas attract movement; segregated areas tend to be quieter.

Let us look at the three points of interface between the open and restricted areas. These are circled in Figure 35 and are located 1) at the rooftop, 2) between the infirmary and the infirmary's back office and 3) at the server room door. These are the three points where Sam must move between open and restricted areas and so are particularly conducive to tension. One of these points, the infirmary, is on the integration core. The other two are one and two steps away from it. This difference in proximity to the integration core has a major impact on how anxious it feels trying to cross the threshold without being observed. Tension is highest when Sam must perform stealth actions in the busy integration core in trying to access the infirmary.

The integration core is a single unit of interconnected lines. This firmly establishes the area around the long corridor in the general quarters as the complex's hub. This is an essential means by which the player is orientated. Sam initially enters the complex by way of the north entrance to the main area on the ground floor, which offers a view of much of the ground floor and the TV area on the floor below (Figure 36). Each level begins with Sam being led on a different trajectory through this area by one of the JBA members. The area is therefore not only central in terms of its configuration but also in how it is presented.

Figure 36: Sam and the player's first impression of the JBA complex.

One of the primary NSA missions is in the server room, which is in the segregation core. The placement of a mission in the relatively deep area of the segregation core provides the player with a challenge given the time constraint of the level. The structure of the mission involves two different kinds of challenges. There are two navigation style challenges – getting to and from the mission location – on either side of a more stationary challenge – this time planting a bug in the organization's server. This is a recurrent mission structure in games, and one we find many times in the JBA headquarters levels of *Splinter Cell*. By placing the mission in a segregated area of the building, the game emphasizes the navigation aspect of the task.

In the second level more of the complex has opened up, and now Sam can enter the areas around the low security corridor (LSC) as well as the courtyard and the docks. The surveillance area is still inaccessible, and the access to the rooftop from the first level has been blocked off. During this level, the JBA missions are located in the mine assembly area, the furnace room and the training course. The main NSA mission is in Emile's quarters. There are also secondary missions in the officers' quarters and in Enrica's office.

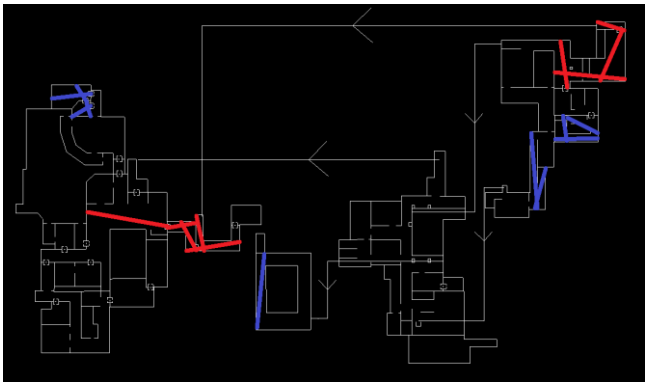


Figure 37: Second level integration and segregation core.

As seen in Figure 37, the integration core has now shifted away from the main corridor to straddle the open access and restricted access areas at a different point. This is between the mine assembly area on the open side and the LSC and adjacent corridor on the restricted side. This shift eastward is due to the opening up of a door in the mine assembly area and reflects an increase in the importance of this space, which is the site of the main JBA mission Sam is tasked with. This also brings the integration core to the door of the restricted server room. As noted above, the previous level has the main interfaces between the open and restricted area just off the integration core. The shifting of the integration core brings it onto the main interface between the open and restricted areas. The balance between tension due to the busy integration core and relief due to the relative isolation outside it is maintained in this level.

The main NSA mission is located in Emile's office, which is near the segregation core. This is still in a fairly deep part of the complex, putting the same kind of time pressure on the player as was evident with the server room mission in the first level.

In the third level, the docks access has been closed off and the roof is still inaccessible, but Sam is now able to get through to the surveillance area. The primary JBA mission is located in the common area with secondary tasks in the training course and the mine assembly area. The primary NSA mission is in the surveillance room with a secondary mission in Enrica's office.

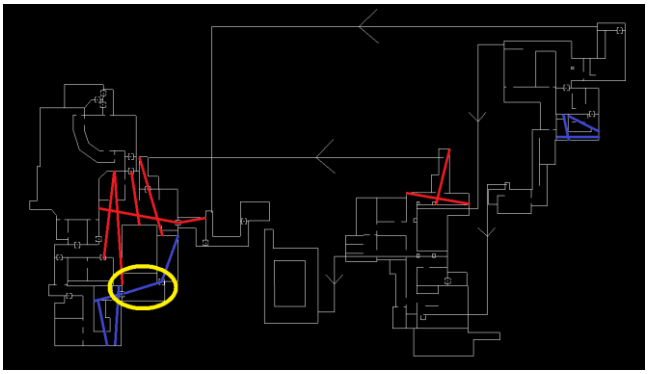


Figure 38: Third level integration and segregation core. The surveillance room is circled.

Figure 38 shows that the integration core shifts back to the west in this level due to the opening up of the door to the north of the LSC. This gives a direct point of contact between the main open access area and the main restricted area around the LSC without the intervening passages we get through the mine assembly area. As was the case with the location of the infirmary in the integration core in the first level, there is now a greater sense of tension when Sam is moving between the two zones. This is somewhat tempered by the fact that the north door to the low security corridor is on a dog leg and so is hidden from the view of the general quarters, but the difference between entering the restricted zone via the north entrance and via the mine assembly area is still marked.

The north entrance shortcut allows Sam to move from the common area, where he begins the mission, to the low security corridor quickly. This is essential given the expansion of the main restricted complex in this mission. But this new rhythm, where there are no quiet passages between the main area in the open access and restricted access areas, gives a more intense feel to this level when compared to the second.

In this level the main NSA mission is again on one of the most segregated lines. However, while the site of the task – the surveillance room, marked in Figure 38 with a yellow circle – is highly segregated in terms of access it also has many visual connections since its windows look directly down on the atrium around the general quarters and common area. If we were to weight connections according to visual connectivity, as suggested in Dalton and Dalton's 'layered-graph' approach (2010) we would find that the surveillance room is very deep with respect to access but it is relatively shallow with respect to visibility. This discrepancy between the depth of the surveillance room in terms of access and in terms of vision is important to establishing its character and is a phenomenon that we will explore further later in the analysis.

Because it focuses on lines of potential movement the axial line is used for analyses of movement through the system. But in stealth games like *Splinter Cell* how inter-visibility between spaces is handled is of great importance since the player is acting largely on the visual information that is available and estimating the visibility of spaces occupied by Sam. To account for this an analysis of isovist fields is useful. FiguresFigure 39 andFigure 40 show the site of one of the secondary NSA missions in level 3: Enrica's office. Here, Sam must enter by the door in the northwest, sneak past the JBA member Enrica, who is sitting at the desk in the northeast with her back to the room, and get to the computer at the desk in the south. When he gets to the desk there is a trigger point that sends Enrica on the path marked in blue to the filing cabinet in the southeast corner. When she returns to her own desk Sam can hack into the computer, which is his task. He can then look in the filing cabinet to complete a secondary NSA mission.

On the right of Figure 40 is the same room under visual graph analysis showing isovist area. From each point in the room we can draw an isovist. These isovists are drawn from a crouching perspective, which is the position Sam adopts on entering the restricted area. Each isovist will have a particular area, which reflects the amount of space that can be seen from the isovist's starting point. The VGA graph colour codes this information, with large isovists shown in warm colours and smaller isovists shown in cold colours.

Figure 39: Sam enters Enrica's office and looks through files.

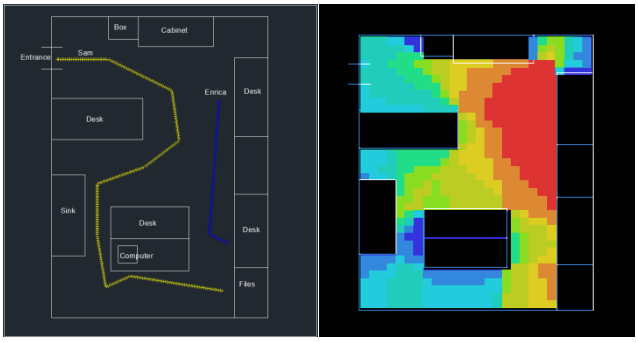


Figure 40: Enrica's office plan (left) and VGA showing isovist area (right).

Enrica's position at her desk is in the middle of the most visually dominant area of the room. If she were to turn around she would be able to see a large part of the room. When Sam enters the room he is in the middle of a series of small isovists, thanks largely to the desk next to the door. An isovist of small area has two meanings in a game like *Splinter Cell*. On the one hand it prevents the player from getting the lay of the land due to a restricted visual field. On the other, it hides Sam from enemy patrols. The tension that is essential to stealth games is based on this trade-off.

Another source of tension in stealth games arises from the requirement for the player to continually put the avatar in harm's way. In the above example we can see that Sam must move from relatively safe positions (the blue areas close to the wall on the left) to more dangerous positions in the centre of the room in order to get to his goal. He must also occupy the orange position by the filing cabinet for the secondary task. Enrica stays in visually dominant positions throughout the task, going between the red and orange areas.

Thus the room is designed in such a way that a rhythm of tension and relief is established, first by forcing Sam toward the 'warm' area near Enrica and then by bringing Enrica close to Sam. The exact quality of these two forms of tension creation is different. The first form is due to the player being forced to act in a way that is risky. I do not want to go so close to Enrica or expose Sam in a large isovist but it is the only way to the goal. Here, player action increases the player's anxiety level. The second form is due to the player being forced to react to a threatening change in the environment. Now, the action – hiding under the desk – decreases the player's anxiety. Of the two forms of tension-creation, the former is undoubtedly the more disturbing, since the ratcheting of the tension has its roots in the player rather than in an external agent.

The same pattern can be seen in a large space if we look at the low security corridor in the third level (Figure 41).

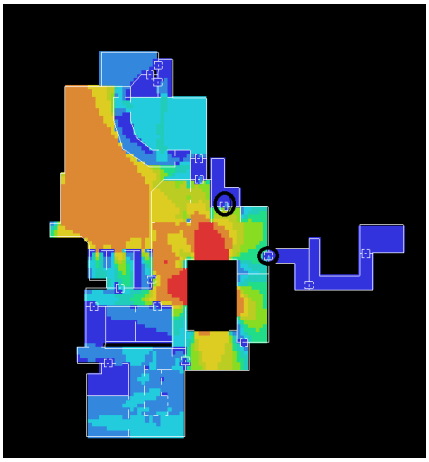


Figure 41: Isovist area for the low security corridor in the third level.

In this level Sam enters the low security corridor through either of the doors circled in Figure 41. His goal is the surveillance room to the south. Whichever door he uses, Sam must move through the two red blotches by the window that overlooks the atrium. Again, we have a situation where the player is forced to put Sam in harm's way in order to get to the goal. The difference between the two doors also shows up on the graph. From the east, Sam enters the low security corridor into a set of relatively small isovists. The player has time to spot the patrols and look for cover. If entering from the north, Sam comes straight into a set of fairly large isovists, which make for a more stressful entrance. As already noted, this northern door represents a shortcut between the complex's two sub-systems. The difference in the kinds of isovists that each entrance gives onto is part of how the game balances the benefits of this short-cut.

One important aspect of many videogames – and of stealth games in particular – is the discrepancy between visibility and accessibility. Frequently, games show the player a space but do not supply an obvious or simple method of getting there. Indeed, we have already seen this in level 6-1 of *Wolfenstein* (Figure 42). The first view that the player has of the level takes in the level's exit, however it is blocked off by three pillars. The player must navigate around a large part of the level to get to the other side of these pillars. In this opening view of the level the exit is close in terms of visual steps but distant in terms of access.

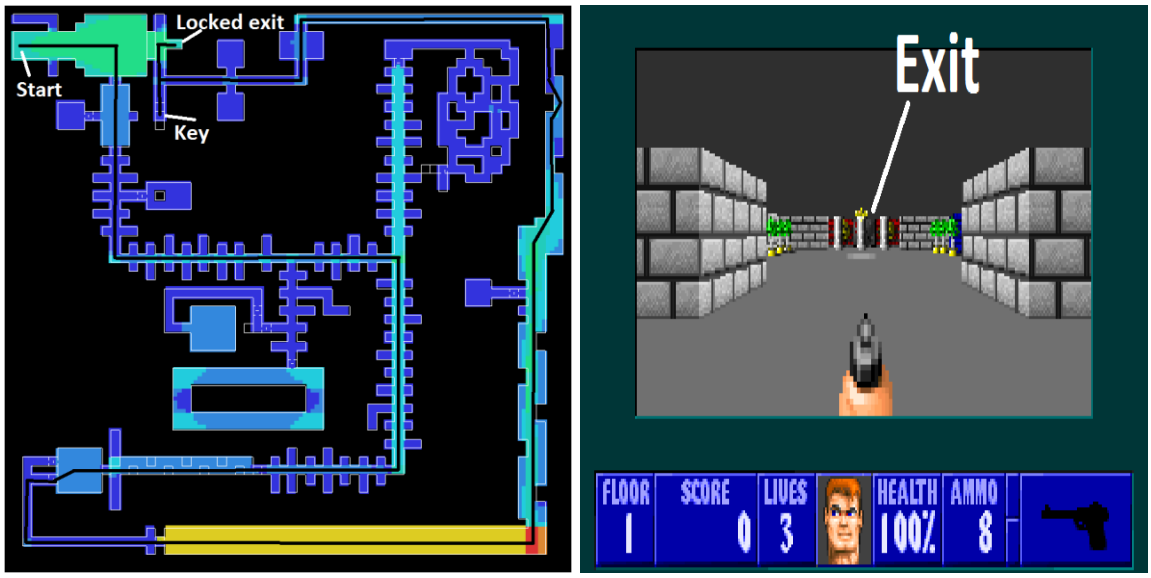


Figure 42: Level 6-1 in Wolfenstein, with the exit viewable from the start but not accessible due to the three pillars blocking the way.

Here, a measure is suggested that helps to identify where in a level this is happening and to quantify it in a fairly simple way. John Koch (2010) describes a number of different figures for the ways in which a space's accessibility and visibility may relate to each other. One of these is 'the balcony,' another is 'the catwalk,' and a third is 'the glass box.' All three of these are figures where the object is one step away from the viewer in terms of visual connection, but in terms of access it is either entirely disconnected or several steps away. The balcony and the catwalk are both stages but they are the reverse of each other in terms of who is doing the viewing. In the first, the few in the balcony can view the many below. In the second, the many in the audience view the few on the catwalk. Context and conventions can determine whether the stage in question is a balcony or a catwalk, but there do seem to be some spatial elements that influence whether a stage is more likely to be one or the other. The occupants of the balcony are relatively hidden from the public gaze and the occupants of the catwalk are relatively exposed to it. This may be accomplished by the arrangement of the

lower floor either in such a way as to direct attention to or away from the stage. Lighting also serves to direct attention. Balconies will often have a railing or half wall that obstructs part of the viewer's body from the people below, whereas the catwalk requires its occupant to be fully visible. Balconies usually allow the viewer to move quickly to a more secluded, private area, whereas catwalks thrust out amongst the viewing public, not only preventing an easy escape from the glare but also allowing the occupant to be viewed from several angles at once.

The glass box refers to the display cabinets used in shops to house expensive and exclusive cosmetics and jewellery. In this case, what seems to be close is in real terms far away. The contents are made tantalizing by their visual proximity, but they retain an air of exclusivity and unattainability by their distance in terms of access. This, according to Koch, gives rise to desire.

This discrepancy between the visual and the accessible is a fundamental aspect of much game design. Several writers and designers have applied 'weenies,' a concept drawn from theme park construction, particularly Disneyland, to the design of game environments (Clarke-Wilson, 1997; Kreimeier, 2002; Rogers, 2009). These are large landmarks that can be seen from a distance – such as Sleeping Beauty's castle in Disneyland – that draw guests' attention, help guests orient themselves, and give them cues for navigation. A measure of visibility/accessibility discrepancy (VAD) offers a way of describing the relationship so that different instances of this relationship can be compared.

VAD is designed to measure the discrepancy between visibility and accessibility described by Koch. It is based on the convex map, which is a representation of the system as a set of convex spaces. A convex space is a polygon in which a straight line can be drawn between every point and every other point it contains. Convex maps are used to model co-presence in the system as each person in a convex space can see everyone else in that space.

VAD is measured by calculating the depth of a space measured in terms of access from the spaces with which it has a direct visual connection. This is the real depth between two visually contiguous spaces. The VAD value is only calculated for spaces which have some discrepancy. In the example in Figure 43, room A is visually directly connected to the atrium and the stairs below because of the window but separated from them in terms of access. It therefore has a high VAD value, represented in red. The next highest value is for the atrium, since it is visually connected to only one distant space, room A. The stairs is also visually connected to room A, but since A is closer to the stairs (3 steps) than it is to the atrium (4 steps) the stairs has a lower value than the atrium. The visual connections from rooms B and C do not reach beyond their accessible connections and therefore they do not have an applicable VAD value and are given a value of zero.

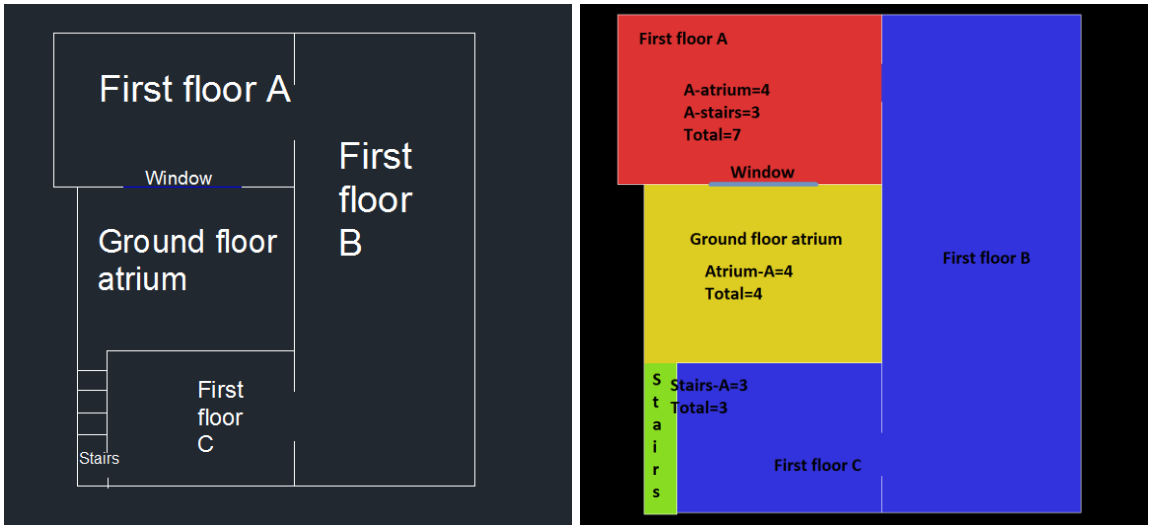


Figure 43: Example plan of two floors with window connecting atrium and room A, which are separated in terms of access by 4 spaces.

We can expect a space that is a good surveillance spot to have direct visual connections to many spaces that are far away. But VAD can also identify areas which are vulnerable to surveillance and areas which may be landmarks that act as attractors. In the first case – the sniper spot – the high VAD area is a balcony, in the second – the area vulnerable to surveillance – it is a catwalk and in the third – the attractor – it is a glass box. We must look at contextual factors such as relative elevation, player position, lighting, and game and task type to differentiate between these three figures.

The discrepancy between the visibility and accessibility of the level's convex spaces are represented by the graphs in Figure 44 andFigure 45. In order to find comparable values the graphs show the log of the VAD values.

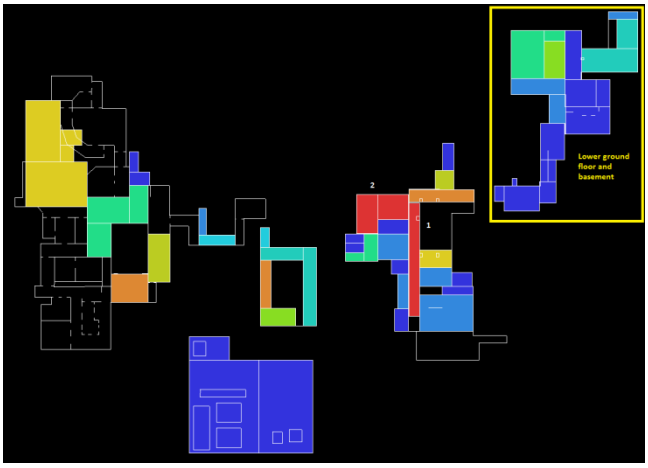


Figure 44: VAD values for the first level. Warmer colours indicate higher values. 1: Long corridor. 2: Kitchen and sleeping area.

At the start of the game, the highest values are found in the general quarters. The numbers in Figure 44 identify the two areas in the general quarters with the highest values. These are 1) the long corridor and 2) the kitchen and sleeping area. A high VAD value means that these areas have visual connections to relatively inaccessible areas. In the case of the long corridor, this is due to a lot of visual connections to spaces that are fairly close (the back of the general quarters, the common area and the rooftop access) and a couple to areas that are distant (the low security corridor and the surveillance areas). In the case of the kitchen and sleeping area the high VAD value is due largely to the view of the courtyard, which is very distant. We can think of the general quarters as a balcony in Koch's sense. It allows the player to take in spaces that will be important during the game. Most important in this respect are the restricted areas that are viewable from the start of the game. The view from the kitchen and sleeping area onto the courtyard gives the player a glimpse of a currently inaccessible area that will become important in the second level, when the courtyard provides an alternative, hidden route to Emile's quarters. By including visual connections to the courtyard in the first level this hidden route is announced to the player, but in a relatively subtle way.

But these warm-coloured convex spaces around the general quarters may also be thought of as a catwalk. Visual connections to the surveillance area allow the player to see into the restricted area, but they also put Sam on display. This effect is particularly pronounced in the long corridor because the surveillance room is higher up than the general quarters, giving its occupants an advantage over Sam. This configuration establishes the theme of surveillance, emphasizing the feeling that Sam is continually observed.

As can be seen from the screenshot in Figure 36, the surveillance room is a part of the visual field for the player on entering the compound for the first time. However, it is on the upper periphery of the visual field, whereas the player's attention is generally directed horizontally and downward through the light sources from the TV and the corridor that leads to the training course, the direction of travel of the NPC Sam is instructed to follow, and the low roof of the balcony corridor, which partially obstructs the upper levels. This establishes the surveillance room, but does not give it an immediate importance in terms of access. Firstly, this registers it as a long-term goal in contrast to the short-term goals of the training course, the infirmary and the TV area, which are important spaces in the first mission. Secondly, it gives the surveillance room a more insidious presence than those rooms that are announced in a more straightforward way and occupy a more conscious part of the player's first impression of the compound. The surveillance room here demonstrates how weenies of this kind can function not only as long or short term goals that structure motivation and orientation, but also as a constant threat that establishes atmosphere.

In all three levels there is a clear distinction between the main area and the restricted area on the one hand and the lower ground floor and basement (the right hand complex on the plan, inside the yellow rectangle in Figure 44) on the other. This lower area, particularly as we get away from the common area, has low VAD values, giving the area a labyrinthine feel. The player generally only sees into directly accessible spaces rather than distant, inaccessible spaces. In areas with higher VAD values journeys can be planned in advance to a greater degree. In areas with lower VAD values the player is forced to make choices on the spot. That is, junctions and possible alternative routes are not announced in advance but only when the player arrives at them. The lower floor is associated throughout the game with particular horrors, and this sits well with the labyrinthine configuration. It is here that Sam is asked by the JBA leader to kill two innocent people, that Sam must dump a dead body, and that we find the executed body of Enrica. It is also here that we witness the explosion of a cruise ship. These events all serve to give this area of the complex a morbid atmosphere, but this atmosphere is already intimated by the area's configuration.

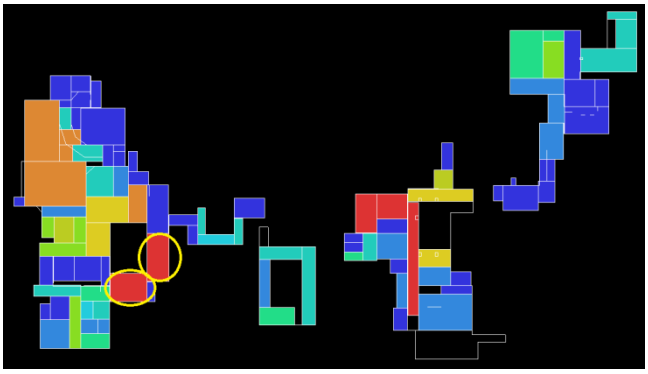


Figure 45: VAD values for the third level. The two main rooms in the surveillance area are circled.

In the third level the player can finally access the surveillance area, and this is the location of the main NSA goal in this level. We see here that the two main rooms in the surveillance area, both circled in Figure 45, have the largest discrepancy between visibility and accessibility; the largest VAD value. They each provide a venue which can see onto several areas but they are each relatively inaccessible, being at the end of a long series of spaces. Their high VAD score imbues these areas with a particular atmosphere that is evident throughout the game. This atmosphere is somewhere between the balcony and the glass box. As already mentioned, the surveillance room has an ambivalent presence in the player's visual field on entering the complex. The player registers that Sam is being watched by the surveillance team on the balcony. But the surveillance room – closed off for the first two levels and then the deepest area in terms of access – remains an attractor. Of course, the player only gradually learns how deep the surveillance area is and only knows the full discrepancy once the room is attained. The VAD score is therefore revealed over the course of the game rather than being immediately obvious. There is a sense of triumph in getting to the room since it is signalled so far in advance. This visual foregrounding of a distant goal is seen in several games as a navigational aid but also as a means of stoking curiosity, maintaining the importance of the goal in the player's mind, and creating a sense of achievement once it is attained.

This chapter has used space syntax and visibility analysis to discuss how configuration impacts on the navigability and atmosphere of *Wolfenstein* and *Splinter Cell*. A similar approach could be taken to other genres. VAD seems to play a part in puzzle games in particular, where the discrepancy between a highly visible but highly inaccessible goal is often a key pleasure in the genre. First person shooter maps rely a great deal on lines of sight and on the circulation paths through a level to control pace and offer different kinds of

strategic challenges. Axial maps and VGA may prove useful in evaluating these kinds of maps.

Two problems with this approach might be noted with a view to further work in the area. Firstly, this approach contains certain assumptions that empirical work would help to clarify. For example, are these models meaningful in relation to game spaces? Much of the authority of space syntax as a method lies in the empirical work linking traffic and pedestrian flows to space syntactical measures. Games studies requires a body of similar work in game spaces. This would not only be useful in honing critical evaluations of game spaces but also in designing spaces in ways that can control player movement without seeming to hamper player freedom.

Secondly, Depthmap is a piece of software that models three-dimensional spaces in two dimensions for the purposes of analysis. While workarounds are possible to take account of the vertical dimension (Chang & Penn, 1998; Turner, 2004) and attempts have been made at three-dimensional isovist analysis (Morello & Ratti, 2009) and three-dimensional space syntax analysis (Schroder, Mackaness, & Reitsma, 2007), this remains a problem, particularly in larger spaces. The problem is particularly felt in analysing games, where the vertical dimension can be of particular importance. In the present study the visual graph analysis was restricted to a single floor in order to avoid this limitation of Depthmap, but if an analysis were to take on, for example, recent first person shooter multiplayer levels this would be an untenable approach.

5. Action as aesthetic effect

Embodiment in skating games

The previous chapter looked at some ways in which the configuration of a game space might impact on a player both in terms of atmosphere and player behaviour. The aim of this chapter is to look more closely at some of the ways in which the player and game are inter-related through game space, particularly making use of the ways in which the player, avatar and game space inter-relate in two skateboarding games: *Tony Hawk Project 8* (hereafter *THP8*) and *Skate 2*. This will draw upon the idea of the avatar as tool, or means of action and perception, and as image, or object of perception, as put forward in the first chapter. These skating games are chosen for four reasons. The first is that the avatar in each has a vivid visual presence as well as being the main agent for player action. They therefore serve to illustrate the avatar as simultaneously ready-to-hand and present-at-hand. The second is that they offer different control schemes for similar sets of actions and so they demonstrate the impact of control scheme on the playing-body. This focuses on the avatar as ready-to-hand. The third is that they represent skateboarding slightly differently in terms of viewpoint, the body, and replays. This demonstrates the importance of presentation on the playing-body, focussing on the avatar as present-at-hand. The last reason is that each constructs a different relationship between avatar and game environment. The relationship between player, avatar and environment is used to represent skateboarding in markedly different ways. The playing-body that emerges in these games is a representation of a particular kind of culturally specific and politicised body – that of the skateboarder. However, the form of each game represents this body in different ways, with the embodying and representational modes of the *Skate 2* avatar allowing for a greater range of expressive possibilities in its avatar than in that of *THP8*.

In *Skateboarding, Space and the City* Ian Borden (2001) suggests that the skateboarder is a representation in two ways. Firstly, there is the photograph, photograph sequence, and video. Borden details some of the techniques used by skateboard photographers, including fisheye lenses to exaggerate height and posture, stroboscopic and blurred images, multi-image frames and the use of flash with slow shutter speeds ‘to portray a sharp skater overlaid onto their blurred movement across surrounding terrain’ (2001, p. 116). While these photographs aim to imbue the static image with a sense of movement through these techniques, the published image of choice in skating culture quickly came to be through

video. During the 1980s video became the main means by which professionals promoted themselves and new skating moves were disseminated. Since the late 1990s tricks have been represented online through verbal descriptions, choreographic ASCII code, photographs and moving images (Borden, 2001, p. 118). These descriptions have two purposes. The first is to learn new moves; the second is to enjoy the move as spectacle.

Borden, however, rejects the skateboard image as 'pure image':

> we must consider that skateboard imagery is significant not only for its instructional properties, for images per se are only an *apparent* stage of the representation process within the skateboarding production of space. Instead, skateboarders use imagery less as pure image, and more as an integration and representation of that imagery through skateboarding practice. The lived representation of skateboard images occurs when skaters undertake the moves themselves, reliving and re-producing photographs, video footage and the internet movie clips through the agency of the body. (2011, p. 120)

In other words, there is an ephemeral *move* that is both image and action. It is, as Borden puts it, a 'lived image' (2011, p. 125). This emerges during skating and is referenced in videos and photos. The move is image/action both for the skater performing it and for fellow skaters who see themselves reflected in the performing skater.

This has clear parallels in the skating videogame. As image – if we follow John Martin's idea of inner mimicry outlined in this thesis' first chapter – the skater-avatar is re-lived by the player. Simultaneously, as action the skater-avatar is a (distorted) reflection of the player as his or her own lived-image, constituted by player movements required by the game and control mechanism. The distortions in this reflection are due to the fact that the actions required by the player always bear a somewhat arbitrary relation to the actions performed by the skater-avatar; the game may use a simplification of the skater-avatar moves, as in those that use some form of gestural control, or the game may map skater-avatar to player move in terms of difficulty level but not in terms of kind of movement required.

The relationship between player, avatar and space in *THP8* and *Skate 2* can be understood in terms of the development of this relationship in skateboarding games over the last 25 years. Up to the mid-1990s skateboarding games used two viewpoint styles, often within the same game. The first, less common viewpoint was an isometric presentation that allowed the player to explore an environment, usually a suburban neighbourhood. This is the

presentation we get in the early arcade skating game, *720º* (Atari, 1986;

Figure 46) and most of *Skate or Die!* (Electronic Arts, 1987), a game for home computers released the following year.

Figure 46: Isometric view in the street sections of *720°*

The second viewpoint is a side-view of the action, either scrolling or non-scrolling. In the arcade version of *720º* the ramp (or half-pipe) skate park adopts an isometric perspective but a far more common way of representing the half-pipe was used in the NES port. Here, the event is presented from a side-on view (Figure 47). The half-pipe events in several games have a side-on view, including *Skate or Die!* and *California Games* (Epyx, 1987). We get a slight variation on this with *Skate or Die 2* (Electronic Arts, 1990), which has a double ramp

presented from the side with a screen that smoothly scrolls back and forth. This sideways representation of half-pipes is retained in several contemporary free online flash games such as *GMax SkateBoarding* (GMaxSkateBoarding.com, n.d.).

Figure 47: Halfpipes represented in isometric view in the arcade version of 720° (top left) and from a side view in (top row from left to right) the NES version of 720°; Skate or Die, (bottom row, left to right) California Games; Skate or Die 2; and GMax SkateBoarding.

Most games before the mid-90s, however, adopt either a multiple screen non-scrolling presentation, as in the Atari 2600 *Skateboardin'* (Absolute Entertainment, 1987) and *Super Skateboardin'* (Absolute Entertainment, 1988) (Figure 48) or side-scrolling, as in *Town and Country Surf Designs: Wood and Water Rage* (LJN, 1988), its sequel *Thrilla's Surfari* (Sculptured Software, 1992), and *Skate or Die 2* (Figure 49).

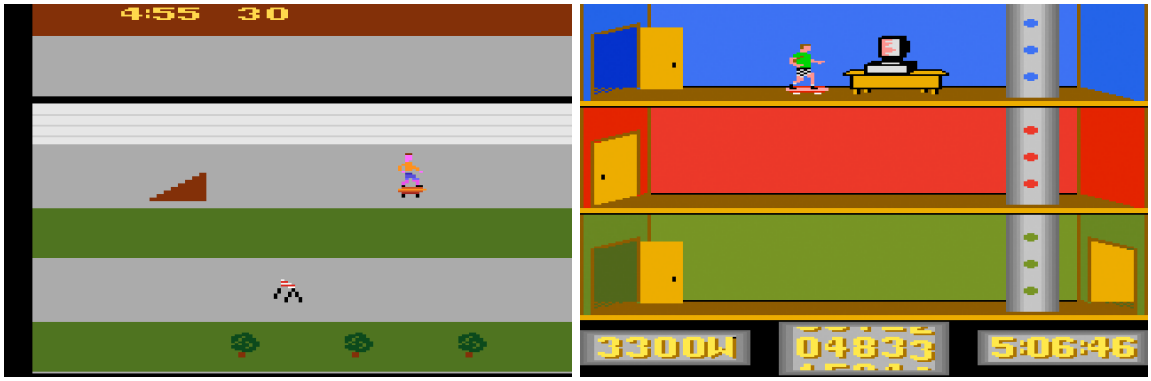


Figure 48: Skate Boardin' and Super Skateboardin' have multiple screens but without smooth scrolling.

Figure 49: From left to right, *T&C Surf Designs. Wood and Water Rage*, *Skate or Die 2*, and *Thrilla's Surfari* have side-scrolling presentation.

There is a third mode of presentation in these skate games that occurs through cut-scenes, which take the form of still pictures or very simple animations with text overlaid. For example, *Skate or Die 2*, unlike its predecessor, has a series of still images between levels that vaguely imbues the skater-avatar with a personality.

In this era of skating games the avatar as a means of action took several different forms through a variety of control schemes. The arcade game *720º* has an unusual non-centring joystick to control the skater's direction. This is a unique solution to allow the player's movements to mimic the fluid turning motion of skating. Alongside the joystick are a button for accelerating and a button for jumping. Like *720º*, *Skate or Die!* is structured around multiple events. But unlike the arcade game, which retains a similar control scheme throughout, *Skate or Die!* changes its control scheme for each event. For example, the NES controller 'A' button is used to increase speed in the half-pipe event but it is used to turn, jump or duck in the race, with the direction pad being used to increase speed. This makes for a more fractured experience and has an effect on the relationship between avatar and player, with the avatar lacking continuity in terms of its functionality. The later platform-style games

use a generic platform game control scheme, with directions for movement and buttons for jump and, sometimes, fire weapon. A slight variation is found in the original *T&C* in which the player can jump off the skateboard by pressing A or grab the skateboard and jump with it by pressing the left direction and A at the same time.

In all of these pre-3D games, the avatar is drawn as a sprite with a small number of pre-set animations for different moves. When we get into the 3D era we start to get more complex animations in which a large range of tricks can be differentiated. At the same time, controllers become more complex. After the release of Sony's Dual Analog controller in 1997 analogue control sticks became standard on home consoles, allowing for greater subtlety of movement in 3D environments. Also, more buttons and triggers allowed for a much larger repertoire of tricks and jumps. Motion capture and ragdoll physics were used in parts of some of these 3D games, allowing the avatar to react to the environment in a way that the earlier skate games could not convey. These developments, then, allowed for a more nuanced relationship on the one hand between player and avatar and on the other between avatar and environment.

In 1997 Sega released the arcade machine *Top Skater* (Sega, 1997), the first 3D skating game. In terms of presentation, this established the viewpoint that has been used for major skating games since. The view trails the avatar, with the avatar moving forward along the z-axis. In the previous games the avatar occupied a small part of the screen, but here the avatar looms much larger and is front and centre (Figure 50). The repertoire of tricks available has also increased and subtly different tricks are differentiated by noticeably different animations. Playing the previous games usually involves attending to the obstacles and ramps in the environment, with little focus on the avatar itself. Especially in the side-scroller games, attention is generally fixed a short distance to the right of the avatar, anticipating changes in the environment. With the 3D presentation there is a much more fluid shifting between environment and avatar, partly because of the positioning of the viewpoint, which allows the player to take in the environment along with the avatar; partly because the trick animations are worth looking at; and partly because the tricks last longer, giving the player time to dwell upon them as images.

Figure 50: The avatar is front and centre of a 3D environment in Top Skater.

While previous games had separated out different kinds of skating, getting the player to perform different kinds of tricks in different event spaces, the 3D space of *Top Skater* allowed for the integration of different tricks and styles of skating into a single run. It follows the arcade motif of racing through checkpoints for extra seconds, but also includes points for tricks along the way, which earn the player extra time. There is a sense of continuity not found in, for example, *Skate or Die!* that is reinforced by the skateboard controller that was part of the cabinet. This controller allowed the player to control the avatar by imitating skateboard moves not with manual combinations but with board movements. Similar attempts at natural mapping had been made with the Atari 2600 Joyboard for the skiing game *Mogul Maniac* (Amiga, 1982) and would later return to skateboarding games with *Skate It* (EA Montreal, 2008) using the Wii's balance board and *Tony Hawk: Ride* (Robomodo, 2009) and *Tony Hawk: Shred* (Robomodo, 2010) using a specially designed skateboard controller.

This arcade/racing approach is also adopted in *Street Sk8er* (Atelier Double, 1998), the first PlayStation skating game. Here the skater-avatar is once more a relatively large presence on screen compared with previous skating games. When a trick is performed the game camera pulls closer to the avatar, which takes up the centre of the screen (Figure 51). This allows the player to clearly see the animation for each kind of trick.

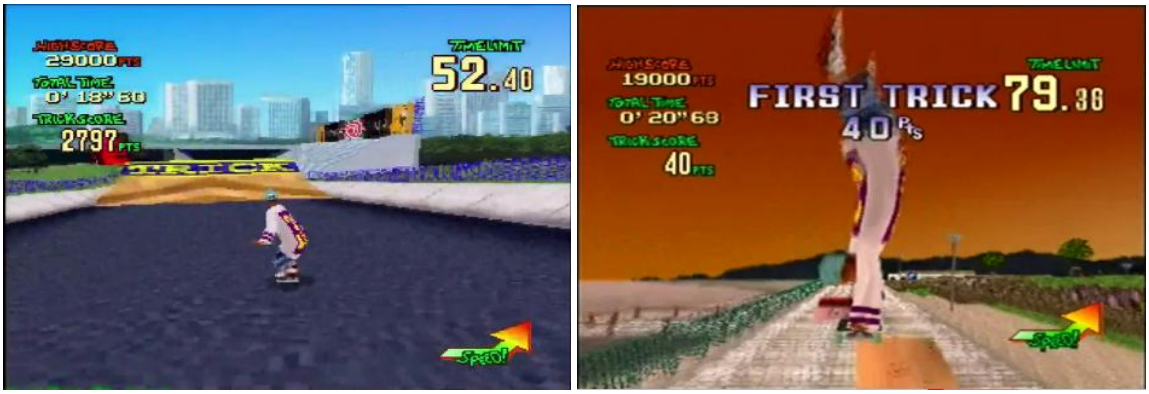


Figure 51: The camera pulls in to see the avatar perform tricks in Street Sk8er.

Two skating games released on the PlayStation in 1999 would abandon this complete-the-course-in-time arcade approach. *Thrasher: Skate and Destroy* (Z-Axis Ltd., 1999) and *Tony Hawk's Pro Skater* (Neversoft, 1999; hereafter *THPS*) focus less on speed and more on style, with the player in a street environment with no finish line (Figure 52). There was still a timer, but now the tasks mainly involved putting together impressive trick combinations or 'lines.' With this re-focusing on style, the animation's ability to differentiate between different tricks becomes more important and how the avatar looks while it is performing these tricks and trick combinations becomes a large part of the games' pleasure. The look of the avatar is reinforced as a source of pleasure by the inclusion in *THPS* of pro-skaters as playable characters, each with their own trick repertoire.

Figure 52: Tony Hawk Pro Skater (left) and Thrasher Skate and Destroy (right).

The two games differed in two respects. Firstly, lacking the celebrity endorsements of *THPS*, *Thrasher* went for an underground, gritty, urban aesthetic. While *Thrasher* does have sponsorship and competitions as one of the means of progression, it is more focussed, especially in the early levels, on skateboarding as an anti-authoritarian activity, with chases from security guards and police ending each run. Secondly, and more importantly, the control

scheme for *THPS* was far more accessible. The left thumbstick or direction pad is used to move the skater about and to keep balance when grinding (moving along a rail or the corner of an object). To accelerate, the player holds X. By releasing X the skater performs an olly. The olly, perhaps the fundamental move in contemporary skating, is a move in which the skater jumps with the board. Once in the air, pressing one of the other buttons pulls off a trick: ▲ to grind a nearby railing, ■ to flip the board (kickflip), and ● to grab hold of the board. These basic tricks can each be tweaked in 8 different ways by simultaneously pressing one of the eight directions on the left thumbstick or directional-pad. With certain additions and adaptations this would be the basic control scheme for all the main *Tony Hawk* games up to the introduction of the board peripheral with *Tony Hawk: Ride.*

In *Thrasher* the controls are more difficult to master. The player can accelerate with X, hold and release ■ to olly, hold and release ▲ to kickflip, and hold and release ● to olly and turn 180˚ in the air. As in *THPS* these tricks can all be tweaked using the 8 directions at the same time as the button is pushed. Once in the air X will cause the skater to grind a nearby surface and ● to grab the board. These can also be tweaked with the directions. The main difference between the control schemes, then, lies in way the skater goes into the air, but this is such a fundamental action in the game that it leads to a completely different relationship between player and avatar. In *THPS* the skater is sent into the air simply by releasing the button used for acceleration. The player can decide what kind of jump it is (normal olly, kickflip or grab) once in the air. In *Thrasher* the player must release the acceleration, then decide to either kickflip or olly before taking off. This stacks all of the decision-making and trick execution at the front of the trick, instead of spreading it out over the entire trick as in *THPS*. *Thrasher*'s control scheme makes for a much steeper learning curve because the player must plan tricks and lines in advance instead of relying on improvising while in the air. There are still decisions to be made in *Thrasher* late in the trick – whether to grab or grind out of an olly, for example – but these options are closed off if the skater takes off in a kickflip. This is in contrast to *THPS* in which all options are still open after the olly has been performed and the skater is in mid-air. In *Thrasher* once the trick has been chosen and executed the player is somewhat taken out of the equation. While it would be wrong to say that mid-trick the player of *Thrasher* is just a spectator, certainly the player of *THPS* is busier over the course of the trick.

Much has been made of the fact that *Thrasher* is a more difficult game than *THPS* (Perry, 1999; Gerstmann, 1999). It is certainly true that *Thrasher* is more of an unforgiving sport simulation than a simple arcade game. There is less help with balancing grinds, aiming

and timing needs to be more precise, differences in surface materials has a greater effect, and amazing tricks are rarely fluked through button mashing. But the embracing of the *THPS* model rather than the *Thrasher* model for the slew of skateboarding games that followed has, I think, as much to do with the more fluid control of the skater over the course of the trick in *THPS* as does difficulty level. The success of EA's *Skate* franchise ten years later demonstrated that gamers are not afraid of a simulation approach in a skating game, so long as the sense of control over the skater is kept high.

What is at issue here is the role of the player in the game space; a role that changes moment to moment, especially in action games, and can frequently be framed in terms of the player's relationship to the avatar. I have presented this changing relationship as a flickering between the avatar as a tool that the player uses and an object that the player perceives. Both of these relationships can be pleasurable for the player, but, as *Thrasher* demonstrates, they must be managed carefully. Losing ownership of the avatar at the very moment when the player ought to feel most in control – in the middle of the trick – is deeply unsatisfying, however pretty the animation is at that point.

After the success of *THPS* the *Tony Hawk* franchise dominated the skateboarding videogame genre, releasing a top selling game every year over the next decade. In 2007, however, EA mounted a challenge to this dominance by releasing *Skate*, a game that revised the skating videogame control mechanic that *THPS* had established and renewed the simulation approach to skating that had been seen in *Thrasher*. The remainder of this analysis will focus on the difference between the player-avatar-environment relationship in *Tony Hawk Project 8 (THP8*), which was released two years before the original *Skate* and the second iteration of the *Skate* series, *Skate 2*, released the year after it. This will demonstrate the ways in which differences in the relationship between the avatar, the player and the environment can feed back into each game's representation of skating and of the body. What is at issue, then, is the way in which each game embodies the player and how these embodiments, to paraphrase Jane Desmond (1998), codify social identities and duplicate, contest, amplify or exceed norms of bodily expressions within specific historical contexts (p. 154). Specifically, the playing-body as it emerges in these skateboarding games reflects upon 'the body' as a site of athletic achievement, of failure and punishment, and of political resistance. To see how this reflection works it is first necessary to apply the theory of the doubleness of the avatar as put forward in the first chapter and explain how the playing-body emerges in these games.

Let us first look at the avatar in each game as a present-at-hand image. As has been noted, the avatar as present-at-hand can be both character and spectacle. In *THP8* and *Skate 2* this mode is mainly as spectacle because the story element of the games is generally not emphasised. The skater's body is more or less customisable in both games, but this does not affect the way the skater behaves or performs in the game or on the way the career/story mode proceeds. In neither game does the career mode do a lot to encourage a sense of the skater as a real character. The aim of *THP8* is to learn new tricks, win competitions and generally skate well enough to move up the rankings and join Tony Hawk's skate team. *Skate 2* does not have an overall aim of this kind, though it has several smaller aims, such as getting your photo on the cover of the skate magazine *Thrasher* or buying a skate park for the city. But in neither case does the character of the skater really matter. There are moments when the skater is interpellated as a real character, with professional and amateur skaters directly addressing the skater in both games. In *Skate 2* there is more of an effort to suggest that the skater inhabits a real social world. References are made to the skater's escapades in the previous game and we get a constant stream of banter from Reda, the buddy who is constantly filming the skater. But the skater in both games remains silent, and is capable of changing looks and even gender in the middle of the game without onlookers raising an eyebrow.

The skater as a social being with an emotional inner life is not strong in either game, and, in so far as the skater's body exists for us as a human body, it is a spectacle rather than the outward representation of an inner character. But despite being in this sense extra-societal, the body as spectacle is always culturally constituted, and in this case it is the culture of skateboarding that acts as the frame within which the spectacle of the avatar's body is formed. This is particularly true in *THP8*, in which the player can skate as various pro-skaters whose individual styles have been reproduced through motion-capture technology. But in both games the avatar's body is tied to skater culture through posture, style, facial and hand gestures and clothing. There are opportunities to select against this grain. For example, in *THP8* after certain challenges have been achieved it is possible to skate as the dad, the security officer etc. But this is presented as a kind of parody that works because of the clear establishment of skater culture through the preferred avatar types. We get a similar kind of use of skate culture in an ironic way in games like *Skateboarding Santa* (Deus X Games, 2008) in which Santa skates through an urban setting collecting presents and avoiding skating elves to the strains of a heavy metal version of jingle bells.

In both *THP8* and *Skate 2* the skater's body as spectacle can be a cause for admiration, when we see our skater pull off a gravity-defying trick at speed, or for disparagement, when the skateboard hits a curb and the skater gracelessly bails off the board and into a pedestrian. In both of these instances, the skater's body can tend toward the object or tend toward the human. As an object, the skater-avatar is an articulated machine responding to forces applied by the player through the controller and by aspects of the environment such as curbs, walls and ramps. Games frequently transform their avatar into objects, often for comic effect. Perhaps the most striking example of this is in the Casino Night Zone of *Sonic 2*, in which Sonic at times takes on the form of a pinball, knocked about by the game environment as much as the player's input. But the human (or hedgehog) form means the avatar retains the capacity to arouse pathos, admiration and identification. This is the doubleness that Tillis (1992) ascribes to the puppet: it can be imagined as both dumb object and sentient being at the same time.

In both *THP8* and *Skate 2* the skater-avatar as spectacle (either human or object) comes to the fore at moments when the player is not in control of the avatar's body and at moments when the game-play demands placed on the player are relatively low, either through changes and fluctuations in the game-play, increased player proficiency or the adoption by the player of a spectatorial attitude. One of the moments when game-play demands are low is during character selection. In *THP8* the player selects a character from five types on display in the skater's suburban back yard. The chosen type can then be further customised on a screen set in the skater's room (Figure 53). In both screens the character adopts a stereotypical skater attitude of mildly aggressive nonchalance and wears different named brands of skating apparel, establishing the avatar as a skater-body not only in that it 'does skating' but also displays an affinity for skater culture. The only other time in the game when the skater's body is so clearly on display is just before skating contests. At these moments the view slowly rotates around the skater gripping the board with an attitude of determination.

Figure 53: Character creation in *THP8* establishes the avatar as belonging to some aspect of skater culture.

Throughout the rest of the game the skater's body is, of course, viewable, occupying the central part of the screen in a trailing camera configuration. But its displaying of itself is not its primary function. The avatar as spectacle is coupled with the avatar as means of perception and action. These two modes fluctuate in importance as the gameplay demands change from moment to moment. This fluctuation is particularly evident in the 'Focus' mode, which had been added to the *Tony Hawk* games in *Tony Hawk Underground 2* (Neversoft, 2004), and 'Nail the Trick' mode, which was new to *THP8*. The player enters the Nail the Trick mode by clicking on the two thumbsticks as the skater is in the air. We will return to this mode to discuss the game's control mechanisms but for the moment let us focus on how this mode alters the spectacle of the avatar (Figure 54). On entering Nail the Trick the sound and image slow down and the background goes out of focus as the view moves to the side of the skater, pulling focus on the feet and the board.

Figure 54: Presentation moving from normal mode – in which the avatar's whole body is seen – to Nail the Trick mode – in which the focus is on the interface between board and feet – and back to normal mode.

Focus mode is similar to Nail the Trick. This mode can be enabled after the player performs a certain number of tricks without bailing. This fills up the 'special metre' which, once full, allows the player to enter Focus mode by pushing forward on the left thumbstick. Again, we get a slow motion presentation but instead of moving around to the side of the board the view focuses on the feet and board from behind while the noise of the wheels rumbling across the ground is brought forward in the soundtrack.

In both modes the presentation concentrates not on the skater-avatar as an independent character but rather on the interface between skater, board and environment. This is not only due to the closing in of the view but also the slowing down of the action. The slow motion reveals the intricate footwork involved in tricks that, in normal play, pass by too quickly to be fully appreciated. This is a conventional use of slow motion in skate videos. But it also lightens the player's cognitive and performative load, giving space for a more contemplative attitude toward the avatar to emerge. The radical alternation of the relationship between avatar and player that the Nail the Trick mode allows is identified by an enthusiastic Eurogamer review:

> It's just sublime. It's breathtaking. You're riding your skateboard through the huge city, and then at any moment, you click both analogue sticks, and you're in. It's bullet time, it's slo-mo, it's the high-def filming of a kingfisher diving into a pond. It makes you just stare and stare, and then inevitably crash into a railing, bail, and smear your face halfway down the street. But all so *beautifully*. (Walker, 2006, p. 1)

This paragraph neatly points to the tension between the avatar as spectacle and as means of action. The player that is made to 'just stare and stare' transforms the avatar from ready-to-hand equipment to a present-at-hand object, but the transformation is not total and even at this most seductive of moments the avatar demands to be seized as well as seen. The reviewer that loses sight of the avatar as equipment in this ecstasy of the spectacle is immediately punished. This is only the most obvious example of a flickering that proceeds throughout the game. As the skater-body performs its line it both conceals and reveals itself.

But the skater body is not only presented as a graceful spectacle for the player to admire. Its failures can also be a source of pleasure. *THP8* was the first in the *Tony Hawk* series to aestheticize bails by allowing the player to control the skater's body when falling off the board. The more the ragdoll body bounces off walls and pavements the more bones break and the higher the hospital bill. Rather than being a punishment, broken bones and a hefty hospital bill are framed as a reward, with several challenges requiring the player to intentionally bail and rack up a large bill. One of the features of the *Tony Hawk* series is accessibility, and this feature ensures that even unskilled players can enjoy their failures. But it has further effects on the way the body is represented and on the relationship that it posits between the body of the skater and the player. While the avatar-player relationship is conventionally thought of as one of symbiosis and protectiveness, players frequently enjoy punishing the game object with which they are ostensibly identifying or sympathising, whether through torturing Sims (Sample, 2008) or making Ska singers perform heavy metal songs in *Band Hero* (Kuchera, 2010). Indeed, the central premise of some games revolves around inflicting pain not on enemies but on the player-controlled character: for example *Pain* (Idol Minds, 2007) and *Stair Dismount* (Lauha, 2002). We will return to this undertone of comic hostility between player and avatar body in discussing *Skate 2*, which takes this punishment motif further than does *THP8*.

The skater-avatar in *Skate 2* is more often a spectacle than it is in *THP8*. Throughout *THP*8 – except in the character creation screen, before contests, and in the Nail the Trick/Focus mode when the skater is more or less on display – the player takes the same position with respect to the avatar's objective body. In *Skate 2* there is a much more fluid moving around this body as the avatar is presented to the player in a number of modes and from a number of angles. Impressive tricks and spectacular bails are automatically played back to the player. The skater-body as reproduced image is a theme that runs through the game, and in the manual we are warned 'Without footage it's fiction' (EA, 2009, p. 7).

Career mode in both *THP8* and *Skate 2* involves the skater getting noticed by performing amazing tricks, winning competitions and sponsorships, doing demos and putting together skate teams. But while *THP8* measures success in terms of ranking – with the ultimate goal to get into the top eight – in *Skate 2* success is measured by photos of the skater performing tricks published in skate magazines. When challenges are completed there is an instant replay of the skater from a different angle; on photo challenges the player selects which image of the skater should appear in the magazine; and when the skater suffers a serious injury the reward is a slow motion instant replay complete with crunching sounds. But even while the player is controlling the skater the footage motif persists. The view that the player has is that of the skater's garrulous buddy Reda, following on a board with a camera (Figure 55). The fish-eye lens and the default low angle ensure that the skater's body is displayed in the context of skater culture.

Figure 55: In *Skate 2* the player's view is explained as a trailing camera held by the skater's buddy.

The avatar is also on display in loading screens, which show the avatar performing tricks in a black space. The screen that explains how to perform tricks also features this black space, again with the player's avatar performing the tricks (Figure 56). This contrasts with *THP8* where the trick guide is just text. In *THP8* it is possible to watch unlocked tricks being performed, however we do not see our own avatar performing them but rather motion captured pro skaters.

Figure 56: The loading screen and trick guide screen in *Skate 2* show animated film of the player's avatar performing tricks.

With this greater focus on the avatar as a spectacle it is not surprising that more attention is paid in *Skate 2* to the skater's appearance. The character creation process generally makes for a greater range of character types than in *THP8*, as the game allows subtle changes in facial features, a larger number of hair styles and even offers a choice of gestures the avatar can perform in the game (Figure 57).

Figure 57: Character creation in *Skate 2*.

In *Skate 2* the skater's body is not only displayed back to the player. The player also has a hand in constructing the image of the skater for others. Because Reda is always filming, it is possible to pause the game at any point and watch the last 30 seconds or so from a number of different angles and at different speeds. By downloading a 'filmer pack' it is also possible to move the camera independently of the skater and use various camera effects to imitate the aesthetic of skateboarding videos. These videos can then be uploaded to skate.reel on the *Skate 2* website, where the skater's body becomes a pure spectacle, unencumbered by the role of instrument/tool. Here, the avatar becomes a spectacle not just for the player but also for a much wider community. In this community the aestheticization of bails that has been noted in *THP8* is developed.

As mentioned, *THP8* introduced ragdoll physics into the Tony Hawk series so that when the avatar bails, the body, instead of following a pre-scripted animation, falls according to the effects that objects in the environment have on individual limbs. This also allows for the player to control the falling skater, pressing buttons to bounce off surfaces. This leads to an aestheticization of bails, where a good bail is one which results in a lot of damage to the avatar body. In *Skate 2* this is taken further. Throughout the game are 'Hall of Meat' challenges which require the player to bail in some spectacular fashion and inflict particular kinds of damage on the avatar body. If a Hall of Meat challenge is achieved there is a slow motion instant replay in which the screen has nerve endings superimposed, followed by a screen displaying a contorted body composed of X-ray printouts alongside details of the damage inflicted. In *Skate 3*, the Hall of Meat challenges are handled slightly differently, with the X-ray showing up in-game and not as a separate screen (Figure 58).

Figure 58: The skeleton of the avatar displayed in *Skate 2* (left) and *Skate 3* (right).

The gallery of *Skate 2* videos is no longer accessible, but in skate.reel, the gallery of user-created videos for *Skate 3*, a substantial number of the videos depict skaters falling off

their boards, crashing into objects, knocking over pedestrians, being knocked down by cars or otherwise bailing. On the *Skate 3* website, which allows viewers to easily search between 20 different video categories, almost 15,000 videos are labelled as 'bail' and 28,000 as 'accident,' making them the sixth and eighth most common video type in the gallery (EA, skate.reel). Videos depicting skaters' skills at various tricks and at stringing tricks together are more frequent, but even these displays of skating skills frequently conclude with spectacular, surprising or comic bails.[1]

In these bail videos the body is consistently presented as a mechanical object that is subject to outside forces. One video shows dozens of beach balls bouncing down a stair case, referencing an ad for Sony Bravia, with a rolled up skater bouncing down the concrete steps in their midst.[2] Frequently, the videos feature giant dominos, either set in motion by the skater, or with the skater following the dominos and being battered by them in different ways.[3] This chimes with the skittle motif in the game, where, if the player knocks over objects or pedestrians while bailing, a skittle icon appears on screen.

A lot of the videos are about taking animations that are intended for one purpose and putting them to another purpose, often sexual,[4] but not always. For example, having a skater kick a pedestrian[5] or having two skaters high five each other.[6] In these videos the intention of the skater's body is removed from the skater and repurposed. The skater is hollowed out and turned into a functional object rather than an intending subject. While puppetry attempts to imbue a piece of wood with a soul, elevating it from its status as object to the status of intending subject, these videos strip the skater's body of its intending possibilities and so reduce it to the status of object. However, they rely for their comic effect on the skater retaining some trace of humanity.

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[1] All following links to skate.reel accessed on 06/08/2011:
http://skate.ea.com/gallery?contentType=SKATE_REEL&subType=VIDEO&platform=xbox#sortBy=TOP_RATED&filter=ALLTIME&slice=search&galleryType=ALL&subType=VIDEO&contentType=SKATE_REEL&itemId=1697061

[2] http://skate.ea.com/gallery?contentType=SKATE_REEL&subType=VIDEO&platform=xbox#sortBy=TOP_RATED&filter=ALLTIME&slice=search&galleryType=ALL&subType=VIDEO&contentType=SKATE_REEL&itemId=182197

[3] http://skate.ea.com/gallery?contentType=SKATE_REEL&subType=VIDEO&platform=xbox#sortBy=TOP_RATED&filter=ALLTIME&slice=search&galleryType=ALL&subType=VIDEO&contentType=SKATE_REEL&itemId=338395

[4] http://skate.ea.com/gallery?contentType=SKATE_REEL&subType=VIDEO&platform=xbox#sortBy=TOP_RATED&filter=ALLTIME&slice=search&galleryType=ALL&subType=VIDEO&contentType=SKATE_REEL&itemId=798563

[5] http://skate.ea.com/gallery?contentType=SKATE_REEL&subType=VIDEO&platform=xbox#sortBy=TOP_RATED&filter=ALLTIME&slice=search&galleryType=ALL&subType=VIDEO&contentType=SKATE_REEL&itemId=326092

[6] http://skate.ea.com/gallery?contentType=SKATE_REEL&subType=VIDEO&platform=xbox#sortBy=TOP_RATED&filter=ALLTIME&slice=search&galleryType=ALL&subType=VIDEO&contentType=SKATE_REEL&itemId=483722

There is an obvious point of reference here to slapstick comedy. One of the points the skater's body has in common with that of the slapstick comedian is the deadpan attitude. This is partly due to the cool attitude of skaters and partly due to the fact that the facial animations do not keep up with the re-purposings to which the player has subjected the skater's actions. The seeming obliviousness of the skater to the violences and indignities being visited upon him or her by the player is reminiscent of Buster Keaton's 'Great Stone Face.' While the sadness of the slapstick comic lies in his transformation from human being into mechanical object, perhaps most clearly demonstrated in the famous machine sequence in Chaplin's *Modern Times* (1936), the skater-avatar exists in a perpetual limbo between mechanical object and human being. This is linked in general to the avatar's function as instrument and, specifically, to the game's relative neglect of the establishment of character, with the skater as an interchangeable, silent object with limited back-story. Of course, in the skate.reel gallery, even this limited back-story and character is removed.

This reduction of the human body to an object is central to comedy in Henri Bergson's theory of laughter. Bergson (2008[1924]) writes 'The attitudes, gestures and movements of the human body are laughable in exact proportion as that body reminds us of a mere machine' (p. 18). In the skate.reel videos the avatar is cast as machine in spite of the game designers' efforts to imbue it with human characteristics through impressive artwork and physics. The avatar as machine peeps through.

As noted by Muriel Andrin (2010), in much early slapstick there is no indication of real pain and 'wounds or broken limbs are nowhere to be seen on screen; whatever the shocks perpetuated, temporary dizziness seems the only apparent effect on these bodies under attack' (p. 231). Many of the videos in skate.reel ascribe to this aesthetic of painlessness. But there are also a large number of videos where the attack seems if not more real at least more nasty. The hyperbolic gestures of the slapstick comic lead to laughter. The cuts and bruises of skate.reel frequently lead to wincing. Skaters are knocked about in many of these videos in a way that seems to be hostile to the body rather than sympathetic to it.

James Newman and Iain Simons (2007) have observed of *Stair Dismount* that the comic exclamations of the falling man save the game from being a sickening experience (p. 158). This seems to be in line with Andrin's sense of the aesthetic of early slapstick, but Andrin goes on to describe the way in which later slapstick increasingly retains marks of violence. She suggests this is a darker version of slapstick that we get glimpses of in the battle scenes of Buster Keaton's *The General* (1926) as well as The Three Stooges, and more recent films like *There's Something About Mary* (Farrelly & Farrelly, 1998). We could add to

this ‘dark slapstick’ genre the MTV show *Jackass* (Knoxville, Jonze, & Tremaine, 2000-2002), in which pain is central. This show, which ran between 2000 and 2002, in which a group of stuntmen inflict injuries on each other, was intertwined with skateboarding culture in general as well as skating videogames in particular, with the casting of pro skateboarder and Jackass member Bam Margera as a central character in *Tony Hawk Underground 2*.

The critic Sean Brayton (2007) has described *Jackass* as a post-civil rights portrayal of white male victimhood. Brayton draws upon the idea of ‘reflexive sadomasochism’ as put forward by David Savran (1998), who argues that since the US war in Vietnam the increased concessions made to the civil rights and feminist movements and to multi-culturalism has led to a perceived disempowerment amongst some white American men. This has resulted in a victimized identity which ‘has the effect of splitting the subject’s ego between a sadistic half and a masochistic half. So the reflexive sadomasochistic, rather than humiliate and master others, turns this impulse back upon himself’ (Savran, 1998 p. 129, quoted in Brayton, 2007, p. 59). Reflexive sadomasochism allows the white male to cast himself as victim (of a feminized, multicultural society) while retaining the characteristics of the ‘pre-civil rights’ empowered, aggressive, controlling white male.

As Brayton acknowledges with respect to *Jackass*, the problem associated with this interpretation lies in the assumption that the demographic make-up of the audience can be inferred from the demographic make-up of the *Jackass* team. Just because the *Jackass* crew are white men does not mean those who watch the show are. It is difficult to argue, therefore, that the popularity of the show is due to a ‘reflexive sadomasochism’ on the part of the audience. The same problem arises if we attempt to understand the punishment of the body in skate.reel through this lens. Certainly skateboarding is a predominantly male activity (Borden, 2001, p. 144) though people of many racial and ethnic backgrounds participate from around the world (p. 140). In any case, it would be a mistake to infer in the absence of empirical research that people who play skateboarding games are skaters. We can say that the vast majority of skater-avatars on skate.reel are white and male, though again this may not tell us much about who is playing. The default character in the character customisation screen is white and male and this might possibly account for the large number of white male avatars on skate.reel. What we can say is that the *Skate* games provide a space in which the kind of impulses Brayton identifies in *Jackass* can be played out.

It should also be noted that the videos in skate.reel are not all pratfalls – they more frequently depict the male body displaying remarkable athletic prowess. Taken together the videos hold the (most often male) body in tension between powerful and graceful on the one

hand and comical and clumsy on the other. This is seen in the slapstick of Chaplin and Keaton, who are amusing not because they fall over, but because they fall over with a kind of clumsy grace.

Let us now turn to the avatar in *THP8* and *Skate 2* as a means of perception and action. According to Barton and Loguidice (2009) 'it was *Tony Hawk's Pro Skater*'s sense of motion and authentic feel that really won over gamers' (p. 2). Indeed, this *feel* is the hallmark of the series as a whole. While these kinaesthetic pleasures cannot be entirely divorced from the games' presentation and animation style, a more important formal element in this regard is the control scheme.

The fluid motion of the rotary style joystick was a major factor in the success of the arcade version of *720°* and helps account for its superiority over the NES port of the game, which used the 8-directional NES gamepad instead. The PlayStation's Dual Analog thumbsticks brought this same sense of smooth movement to *Tony Hawk Pro Skater*; a sense that is retained throughout the *Tony Hawk* games. But these games differ from *720°* by integrating this smooth mapping of directions with continuity in trick combinations. In earlier skate games the player is at any moment either performing a trick or traversing the environment. There is a clear rhythm set up between these two kinds of actions. In the *Tony Hawk* games, particularly after the third game, by which time manuals, a move where only two wheels touch the ground, and reverts, a move where the board is spun on its back wheels, had been added, the player-character could perform long combinations linked together by manuals, reverts and grinds.

In *THP8* tricks are performed in the main using combinations of button presses and directions on the thumbstick. For example, perhaps the most fundamental skateboarding trick is the olly, where the skater jumps in the air, bringing the skateboard up without holding onto it. The skater starts with back foot on the tail (the back of the board), front foot in the centre of the board, and knees bent. The more the knees bend the higher will be the olly. The back foot strikes down hard on the tail and as the tail touches the ground the skater jumps into the air. The front foot drags along to the front of the board, guiding it into a parallel position to the ground so that when the skateboard lands all four wheels come down at the same time. The move is accomplished, then, by various tensions between up and down and back and front. The player may be unfamiliar with the sequence of moves necessary to perform an olly in real life but the animation of the avatar gives a good sense of these moves and the tensions involved.

How is this achieved in *THP8*? By pressing down on the A button (on the Xbox 360) the skater pushes forward to accelerate. By releasing the A button the skater performs an olly. Here, the sense of 'up and down' and 'backward and forward' is transformed into a more general sense of 'hold and release.' The nolly, which is a reversed version of the olly, in which the tail comes up first, is performed by pulling on the left trigger while performing an olly. The left trigger, then, has an arbitrary relationship to the nolly stance.

But while most of the tricks in *THP8* map according to a broad logic of tension and release, Nail the Trick has a more natural mapping. Once in the air, the player clicks both thumbsticks. At this point the avatar will kick the board with the right foot if the player uses the right stick and the left foot if the player uses the left stick. The kick will flip the board in the direction the stick is pushed. The result is that the player has a greater sense of responsibility for the trick performed, as noted in the Eurogamer review:

> Get enough air and you can pull off the most astonishing moves, and not because you pressed X, but because *you* moved your foot at the exact right moment to be that awesome. (Walker, 2006, p. 2)

Perhaps more important than the natural mapping involved in Nail the Trick is the fact that it makes the player responsible for the style of an individual trick. In the face-button tricks the player's responsibility for style is only in terms of the larger combination and the landing. But in Nail the Trick, the player is able to control the style of the move itself. Just as *THPS* allowed the player control across the length of the trick as opposed to *Thrasher*, in which control was mainly concentrated at the front of the trick, so in *THP8* Nail the Trick allows for decisions on avatar action well into the trick. A jump that allows for two or three button push tricks in normal mode might allow five or six kicks to the board in Nail the Trick mode. By breaking the trick down into more primitive units of kicks, the player has a greater sense of building a bespoke trick rather than stringing together a number of discrete and complete or generic tricks.

Arriving the year after *THP8* the first *Skate* game took the natural mapping of Nail the Trick and applied it to the game as a whole. Instead of the arbitrary mapping of button presses to specific move types, *Skate* differentiates the moves and tricks almost exclusively through the triggers and the right thumbstick. Grabs are not executed by pressing one of the buttons but by pressing the right trigger for the right hand and the left trigger for the left hand. More central to the gameplay, however, is the 'flickit' control scheme. It follows from the use

of the thumbstick in games like *Fight Night* (EA Sports, 2004) in which the right thumbstick is used not to control movement of the avatar or the player's view but to control a particular action. In *Fight Night* this control scheme, which EA dubbed 'Total Punch Control,' essentially adopts the generic control scheme of fighting games as exemplified by *Streetfighter 2*, but instead of a movement of the joystick followed by a button combination, the thumbstick movement determined the type of punch on its own. This demoted the importance of buttons, with action controlled almost entirely with the right thumbstick and movement with the left. While hand movements in *Streetfighter 2* are experienced, at least by the beginner (and especially on systems without a joystick), as a sequence of discrete button presses, it is a smooth flow in *Fight Night*.

The analogue stick can be understood in two ways. In the first schema, up and down on the stick are considered as up and down in the screen's y-axis. In the second schema, up and down on the stick are considered forward and backward in the z-axis. These schemas overlap. In *Skate 2* some tricks make sense as a natural mapping according to both schemas while in others one or other of these schemas breaks down. Compare, for example, the olly and the nolly. In *Skate 2* the olly is translated as follows: The player points down with the right thumb stick. The longer it is pointed down the higher the olly will be. It is then quickly moved directly up to jump, and it lands automatically as long as it is on an appropriate surface. Obviously, the game is not simulating the full complexity of the real life olly. But it does simulate the tensions in the olly not just in terms of hold and release but in terms of up-down and back-front. The thumbstick movement gives the sense of tension or contrast between crouch and jump and between the downward movement of the back foot on the tail and the immediate countermovement of the board. Here, up and down on the thumbstick translate more or less directly to up and down for the skater. We start off by pressing down and the skater bends the knees, up and the skater and board go into the air. However, it also could be thought to signify the position on the skateboard – that is the position of the skater in the z-axis. When we press down the skater not only crouches but also shuffles the back foot to the tail of the board in preparation for slamming down on the tail. When we press up the skater not only goes up in the air but also drags the front foot forward to level out the board. The nolly is an almost identical trick except the skater strikes down on the nose (the front) of the board instead of the tail, with the back foot dragging backwards to level out the board. In the game, this is accomplished by pointing the right thumb stick up, again for a longer time for a higher jump, and then quickly moving it directly down. This makes sense in terms of board position in the z-axis since it is a movement from the front (pointing the thumb-stick up

causes the skater to move toward the nose) to the back (pointing the thumb-stick down brings the back foot back to level out). But it does not make sense in the y-axis. This dissociation of the two schematic mappings of the thumb-stick that are unified in the olly makes the nolly a slightly less intuitive trick in the game. This dissociation is most keenly felt when initially learning the trick, but even after a great deal of practice the olly remains a smoother mapping between player and skater.

Buttons and sticks on the conventional game pad have a number of possible ways of mapping onto the game's action. Firstly, they may be entirely arbitrary. There is no necessary or logical connection between pressing A and moving forward; it could just as intuitively be X. Secondly, they may make sense in terms of direction, such as analogue sticks. Thirdly, they may make sense in terms of pressure. Perhaps the best example of this is the left and right trigger controls as accelerators or brakes in racing games. Degrees of pressure are also used in *Skate 2*, which allows the player to perform a manual (the skater moves with only the back two wheels touching the ground) if it is pushed a certain distance down or a nose manual (only the front two wheels are touching the ground) if it is pushed a certain distance up. The judging of pressure gives a degree of ownership over the skater's move that is lacking in moves executed by discrete button presses.

While *Skate 2*'s olly control schema maps the kinaesthetic image of the trick onto the player's hands in a way that has a primarily kinaesthetic logic, the olly control schema in *THP8* maps using a primarily semantic logic. Of course in the case of both games there is a kinaesthetic image associated with the player's hand's movements, but this image maps smoothly onto the trick in *Skate 2* whereas it bears a more arbitrary relation in *THP8*, requiring the intercession of a semantic explanation. This is not to say that *Skate*'s control schema is a pure mapping of the trick to hand and controller, but that it is smoother than the mapping in *THP8*. Both games contain a semantic element. *Skate 2*'s mapping is further smoothed by the trick list, which shows the skater perform the trick with the required button, stick and trigger combination and a brief explanation on the right side of the screen. The trick list in *THP8* is composed only of the required button, stick and trigger combination without any images that show the trick itself.

The semi-gestural *Skate 2* flickit controls posit the controlled body as mechanical object. Unlike controls based on button presses, the flickit controls have a certain dynamic shape, which relates to the shape enacted on screen by the avatar. At its most satisfying, the flickit control takes the most salient aspects of the complex body movement of the avatar and translates these into a simple schema that can be performed by the thumb. This leads to a

concentration of energy in the thumb that helps to make up for the reductions that are necessary in the game. The thrill of skateboarding depends in large part on the risks it entails, and these risks are obviously erased in the game. Some of this thrill is recaptured in the concentration of energy through the enactment of, in the words of Sudnow, 'big looking movements through little feeling ones' (2000[1983], p. 28).

Another aspect of the control scheme in *Skate 2* and during the Nail the Trick moments of *THP8* is the way in which the avatar body is constructed primarily as a set of interconnected limbs rather than as an entirely integrated being. The player controls the avatar as a whole, but does so through controlling individual body parts with individual buttons. This might be contrasted to the main part of *THP8*, in which the skater's body is a single unit, responding to the player not limb by limb but all at once. In the first case, the avatar is an integrated body that is primarily experienced in its exterior form. In the second, the avatar body is articulated and primarily experienced in its skeletal structure. A similar kind of articulated body is seen in *Ragdoll Kung-Fu* (Healey, 2005) in which the player controls the head, arms and legs of the Kung-Fu doll individually by clicking on them with the mouse and dragging in the desired direction.

These differences in how the avatar embodies the player in game space have implications for the pleasure involved in each of these games but they also have implications for how the games represent the body. For Ted Friedman (1999), 'in a simulation game you don't imagine yourself as filling the shoes of a particular character on the screen, but rather, you see yourself as the entire screen, as the sum of all the forces and influences that make up the world of the game' (pp. 146-7). This is true even in games where the player seems to have an identifiable avatar on screen. However, in these kinds of games many of these forces are embodied in the avatar. The forces are attributed to a body and so the game is expressive of what it is to have a body in space. While Friedman suggests that the pleasures of strategy games lie in 'learning to think like a computer' (p. 135), the pleasures in action games lie in acting in the manner of an action. By representing action through action these kinds of games clarify action not in visual but in kinaesthetic terms. And these kinaesthetic terms are not the result of a synesthetic transfer of the visual to the kinetic, as it is in the aesthetic theory of Vischer, the dance theory of Martin or the film theory of Aaron Anderson (1998). Rather it is kinaesthesis understood through kinaesthesis. In the same way that poetry may investigate language through a heightening of language, action games investigate action through an intensification of action. Part of this intensification is achieved through the miniaturisation of the control schema.

As already noted, Jenkins and Fuller (1995) see Nintendo characters as means of accessing spectacular places:

> Once immersed in playing, we don't really care whether we rescue Princess Toadstool or not; all that matters is staying alive long enough to move between levels, to see what spectacle awaits us on the next screen (p. 61).

But this emphasis on the spectacle as pulling force is slightly skewed. Spectacle is important, and its importance should not be neglected, but new ways of acting – new transformations of the playing-body which may help to clarify the body – are also central motivators that keep us playing.

So far the focus has been on the relationship between the player and the avatar as tool that is both ready-to-hand and present-at-hand. However, as tool, the avatar bears an important relationship on the other side to the avatar's environment. The nature of this relationship is another important part of how game space emerges during play. Here, the avatar is considered as a means of perception since it is primarily through controlling the avatar that the environment is revealed.

Walter Benjamin (2001[1936]) discusses the way a person must approach the city or the work of art. For him, Eugène Atget's photographs of Paris 'already call for a specific type of reception. Free-floating contemplation is no longer an appropriate reaction here. They unsettle the viewer; he feels obliged to find a specific way of approaching them' (p. 1173). The effect of these photographs in structuring a response is similar to Ludwig Wittgenstein's (1980) insight that good architecture 'makes one want to respond with a gesture.' (p. 22). Videogames always call upon the player to approach their objects in a specific way. Even the most open of videogames sets the limits within which the player can engage with the game. This is not to suggest that players are incapable of playing contrary to *designer* intention. The limits are set not only by the game designer but by the technology itself. Even a modified game, and indeed the act of modifying a game, takes place within limits set by the game as software.

But the game as designed does, for most players most of the time, structure the player's approach or the gesture that the player is called upon to respond with. The avatar-environment-control schema determines the kinds of gestures with which the player is able to respond to the game's architecture. This both limits and stretches the player's sense of the

body's abilities. The skaters in *THP8* and *Skate 2*, for example, can clear eight foot gaps but cannot climb five foot walls. For Barry Atkins (2007), the avatar is central to how the player 'reads' the game's landscape. This reading rests in 'the player's ability to decode the landscape according to the key provided by the available movements of the avatar' (Atkins, 2007, p. 238). This can be equally applied to most games that include an avatar but is of particular importance in skating games where there is a creative cooperation between avatar body and game architecture/landscape. While some games structure the player's approach in a heavy-handed way, others take a more subtle approach. In the context of a skating game this has a large effect on the way the spatial politics of skating is represented.

The relationship between avatar and environment is very different in *THP8* and *Skate 2*. *THP8*'s hometown is a skater's paradise, where the designers have essentially created a skate park and then laid a town over it. The town does not make sense as a functioning town. There are no cars. Pedestrians do not seem to be on their way anywhere, and are happy to just stand around being amazed by the skater's antics. The suburbs constitute a single cul-de-sac with four houses. The home-town is a theme park, whose theme is the American town as skate-park. This skate park is clearly visible from the off. Every building tapers into a quarter-pipe that can be used to skate up the wall; every material – grass and mud as well as asphalt and concrete – can be skated; potential lines and combinations can be found in every direction with little effort.

In contrast San Vanelona, *Skate 2*'s city, is presented firstly as a city. It still affords many opportunities for skating, but the skate-friendly architecture is masked. Whereas in *THP8* the city-as-skate-park stands already revealed, in *Skate 2* the player is invited to uncover San Vanelona's potential. Because this potential is not immediately apparent, as it is in *THP8*, the skater-player must consciously look for lines, though there is assistance provided through tasks that require the player to skate specific lines at specific locations. But these tasks do not reveal all of the lines the city has to offer, instead teaching the player how to spot similar lines elsewhere. In this way the player is cast in the role of explorer and archaeologist, uncovering the supposedly non-preferred functions of the architecture. Noting the difference between the *Tony Hawk* series and the first *Skate* game, an IGN reviewer commented '*Skate* asks gamers to think more like a real skater, to envision their own lines from everyday objects' (Goldstein, 2007, p. 1).

Of course, in real terms San Vanelona has been built to be skated, but imaginatively it is a city that has been built for habitation, transport and commerce. These three activities pass as the city's primary functions, with the skaters engaging with the city in an alternative and

non-preferred way. This is not an enactment of skateboarding's capacity to re-appropriate; rather it is a representation of it. San Vanelona is as meticulously planned and skate-functional as is the town in *THP8*, but *Skate 2* nonetheless presents skating as a counter-cultural force in a way that *THP8* does not. San Vanelona is populated by pedestrians and drivers who seemingly go about their own business, oblivious to the skaters unless they get in their way. The architecture is skater-friendly but it generally makes sense in terms of the city's primary functions. The skater as countering the city's primary functions is reinforced in the story. Since the previous game the San Vanelona burghers have cracked down on skating. A company named Mongocorp has placed anti-skating caps on many of the best skate spots and employed security guards to enforce no-skating zones. Many of the game's tasks require the player to reclaim these spots by skating there.

In terms of space perhaps the most important aspect of skateboarding as a political act is how the relationship between skater and space – particularly urban and suburban street space – is framed. Borden (2001) calls the way in which skaters see architecture 'the skater's eye' (p. 218). This process denudes architecture of its 'historical, symbolic or authorial content,' focusing entirely on 'how surfaces present themselves as skatable surfaces' (Borden, 2001, p. 218). The bench and the curb belong to the same functional category of grindable objects, with the bench being a taller and the curb a shorter version of this. The fact that for non-skaters the bench and curb serve entirely different purposes is irrelevant to the skater. However, the intended, functional and utilitarian purpose of the skated object is fundamental to the politics of street skating. Borden sees the use of objects intended for safety, for example handrails or ramps, being repurposed for highly risky skating activities as a particularly stark example of skating as opposition to the dominant culture that physically shapes space through urban planning and development. The handrail, like the fire hydrant, the traffic signal and the bus bench, is 'a *signal*, a material element within an urban *semantic field* of precise and imperative utilitarian objects that condition us and with which we cannot converse' (Borden, 2001, p. 191). By misusing or abusing these signals skaters offer, consciously or not, a 'critique of the signal' (Borden, 2001, p. 192).

In *THP8*, Borden's 'signals' take on a different form. Their message is not the capitalistic one that Borden identifies in real streets. Rather their functionality is one of skate utility. For Borden, the handrail as a signal to do with safety is turned by the skater into something to do with risk. For this irony to be evident both senses must be kept in play. The handrail remains a signal of safety even as it is being misused by the skater. But in *THP8* the handrail has been transformed entirely into a skate rail. It cannot be, and has not ever been

capable of being, used for safety. In *Skate 2*, however, even though the handrail has only a skate utility in reality, it can retain through the creation of a seemingly living breathing city its utilitarian function in the imagination of the player.

Like many games *THP8* and *Skate 2* use space as part of their system of rewards. Thinking about space in games as a reward structure Alison Gazzard (2011) suggests a distinction between exploration rewards and environmental rewards. Discussing the puzzle platformer *Limbo* (Playdead, 2010), exploration rewards are defined as 'rewards that allow players to move along paths that have now been unlocked in the gameworld,' while environment rewards 'allow for new obstacles to be positioned along the path, as further puzzles to be solved' (Gazzard, 2011, section 5, para. 1). In *THP8* there are exploration rewards as certain areas are only opened up once the player reaches a high enough ranking. There are also some rewards of this kind in *Skate 2*. In this game almost the entire map is accessible from the beginning of the game, but completing certain challenges will allow fast travel to difficult to reach places. But the spatial rewards in these games are more like what Gazzard describes as 'false rewards.' These rewards:

> help players to learn the rules of the game and gain high-score opportunities, but they do not open up any further opportunities for the player, in terms of new areas to be discovered. Instead, they help the player to recognise areas they have previously completed. (Gazzard, 2011, section 6, para. 1)

Over the course of *THP8*, for example, the word 'owned' appears in graffiti on various walls or curbs in the town, signifying a rival skater's claim to the area. The player can go to those areas in order to perform a longer line than their rival. If successful, the graffiti changes to the player's, who now 'owns' the space. A similar set of tasks appears in *Skate 2* as the 'own the spot' challenges. In completing these 'skate the line' and 'own the spot' challenges the games teach the player to see certain lines and combinations that can be used elsewhere. However, there is more going on here than tutorial hand-holding, at least in terms of how the challenge is framed and in the kind of reward that is presented.

Apart from the three kinds of rewards Gazzard describes, another kind of spatial reward lies in giving the player a sense of ownership of a space. This ownership is a kind of reward of exploration in games based on territorial acquisition, for example strategy games like *Civilization* or *Age of Empires* (Ensemble Studios, 1997). But this exploration dimension can be separated from a less functional aspect. This is especially important in open world games

in which the player frequently returns to the site of the challenge after the challenge has been achieved. Especially in open world games, but in all games that are extensively re-played, frequently visited sites accrete a history based on the player's personal experiences there. They stand as testament to particular moments of gameplay: challenges overcome or failed, friendships made or lost, glitches found and so on. This history gives players a sense of ownership of these areas which can act as a powerful reward for time spent playing. In many games this is a natural outgrowth of the player's engagement with the game, but in others the game overtly manages this sense of ownership.

The 'skate the line' challenges in *THP8* and the 'own the spot' challenges in *Skate 2* provide this kind of reward while making use of a form of ownership that accords with skateboarding culture. In skateboarding culture the idea of 'owning' a spot is transitory. Ownership has no legal basis and is dependent entirely on the performance of the skater in the space (Borden, 2001, p. 242). In *THP8* the only property the player-character has is the room in the skater's parent's house. But through skating prowess various spaces around town can be owned in this performative sense. In *Skate 2* this ownership is even more transient. In the 'own the spot' challenge and in the various photo and video challenges the spots are only 'owned' for as long as the player is skating them. It is necessary to flee many of these spots as soon as a challenge has been completed, leaving the space to the Mongocorp security guards. Here, ownership does not outlive the performance itself, except in the footage that is taken during the performance and in the player's sense of achievement.

For Steven Flusty (2002) the reclaiming of quasi-public space by skaters and other urban players is a political act which constitutes a 'stark refusal to disappear beneath the imperatives of spatial regulation that favors select target markets' (p. 344). It would certainly seem that the removal of the skater from a venue in which they contest quasi-public space to the relatively private space of the gamer's bedroom or living room is a relinquishing of this political refusal. Of course, these games are often played in social spaces, not least online. But this sociality is still restricted to the community that plays, or at least is interested in or accepting of this form of play. This is perhaps another side to Jenkins' (1998) notion of games as providing new play spaces to contemporary American children who are denied outdoor spaces. Here, the making safe of children's play has a political dimension, where the removal of children from the streets strips their play of its anarchic or transformative elements. However, this is perhaps going too far. There is no reason to suggest that people have abandoned street skating in favour of videogame skating, and participation in skateboarding has in fact increased over the last fifteen years (Verdon, 2009). Skateboarding

must be seen within the context of a much broader skateboarding culture which has a complex and changeable political valence involving re-purposing of capitalist space and an anti-authoritarian punk ethic alongside corporate sponsorship and sporting competition. Skateboarding videogames are involved in this culture as a representation of it, casting an eye on its contradictions as if from outside.

Castlevania: Ambivalence and recursion

In *Skate 2* and *THP8* action can be thought of, then, as a means by which the body is represented and clarified. But action may also work metaphorically as a means of establishing character. This is what happens with the recursive action of Konami's *Castlevania: Symphony of the Night* (KCE Tokyo, 1997; hereafter *SoTN*), where the expression as embodiment through the recursive game mechanic can be seen to metaphorically relate to expression as representation through the character trait of ambivalence. This is a recursive game in several ways. The player, the main character, the story, all in some senses move back and forth. This analysis seeks to understand how the patterns of recursion that permeate the game interact with each other in ways that illuminate and enrich the characterisation of the protagonist, Alucard, as ambivalent. This analysis is intended to clearly tie together the two strands of embodiment and representation that have run through this thesis. The recursive gameplay mechanic embodies the player in a certain way, but may also be associated with the game's story to represent the game's protagonist in a certain way. The performances by the player and the character are derived from and constrained by a combination of the configuration of space and the character's changing capabilities. These performances are here approached as texts that are open to interpretation and can be read alongside themes otherwise elucidated in the game's back-story and cut-scenes in which character and plot are developed. In *SoTN* there is a parallel between the game's thematic concern with ambivalence and the centrality of recursion in its performance.

Ambivalence describes the simultaneous feeling of both aversion for and attraction to a single thing. The term is sometimes employed as a feeling of vague uncertainty, in which a person has no strong feelings in either direction; I am drawing on a more passionate kind of ambivalence that perhaps comes closer to the psychoanalytic idea of repulsion and compulsion. Recursion is the act of returning or running back over. It is the repetition of some event or journey with some variation. In the context of videogames this variation may take many forms, including changes of direction, difficulty, character capabilities, or player

knowledge. Ambivalence and recursion are understood in this chapter as close enough to offer an analogical possibility. Ambivalence is understood as a kind of psychological recursion where a character's attitude runs from one extreme to the other with respect to some object, concept or person. This finds a parallel in other kinds of more visible recursion that can involve the movements of a character or the structure of a work in terms of the arrangement of scenes, images, phrases or units of any kind.

This reading suggests, then, a prevalent action that the game sets up – recursion – as a metaphor for the main character's central trait – ambivalence. This reading of action as metaphor is perhaps troublesome. Michael Nitsche (2008) claims that '[p]layers learn the necessary jump length in *Super Mario 64*, the weapon performance in *Quake III*, or the fighting combos in *Tekken*. Such a task-driven approach does not attempt to express the emotional depth, inner struggle, or feeling of the character (p. 217). Is there a fundamental difference between the 'task-driven approach' that players adopt toward game action and the more interpretive work required to understand character emotion? Perhaps Nitsche's claim applies to the games he has cited, but is it a fundamental rule of interpretation in games?

In the first part of this thesis the possibility of metaphor operating between the representational and embodying modes of a game was discussed in relation to operational logics. In Wardrip-Fruin and Mateas' (2009) paper on operational logics Jason Rohrer's *Passage* (2007) is given as an example where movements from left to right and up and down the screen are presented as 'metaphors about life' (Wardrip-Fruin & Mateas, 2009, p. 7). While the paper focuses on the revelation and development of other kinds of operational logics in games, the authors do see this relatively novel use of graphical logics as metaphor as a potentially fruitful area in game development.

Certainly one difference between the jump in *Mario 64* and the left to right movement in *Passage* is that in the former the meaning of the task is exhausted by the game's goals. It can be understood in purely functional terms and there is no need to go hunting for further meaning. In *Passage*, however, there seems to be no functional meaning behind the exclusive left-right movement and so a non-functional meaning – in this case a metaphorical meaning – is sought. However, in the current chapter, there are perfectly good functional reasons for the kind of recursive action that we encounter. *Passage* clearly invites creative interpretation, but *Mario 64* and, perhaps, *SoTN*, does not. However, the form of *SoTN* nonetheless makes such an interpretation possible and this interpretation can do two things. Firstly, it can enrich the game itself. Secondly it can help identify potential rhetorical or aesthetic strategies that

games with overt ambitions to make use of game mechanics as expressive metaphor could make use of.

This analysis is not intended as an attempt to get at the real, deep or hidden meanings of the game. Nor is it a revelation of an association between ambivalence and recursion intended by the designers. Rather, it is intended as a speculative piece that might serve to think around the ways meaning can be generated by associating the way a game embodies the player in game-space and the way the game communicates themes through character and story.

Before discussing this parallel between ambivalence and recursion, a brief synopsis of the game's plot would be helpful. Alucard, the half-human son of Dracula (note the recursive names), is a vampire with a conscience who has arisen from a self-induced slumber – itself designed to protect the human race from his own vampire instincts – to defend humanity against the imminent resurrection of the Count. The manual informs us that his mother, Lisa, was a 'good, kind-hearted soul' (Konami, 1997) who was executed as a witch. In the course of the game we learn that with her dying breath she implored Alucard to live at peace with humanity.

Also roaming the castle are Richter Belmont and Maria Renard, both of whom appeared in the previous Castlevania game, *Dracula X* (Konami, 1995). Richter is a vampire hunter from the legendary Belmont clan who has been kidnapped and hypnotised by Dracula's high-priest Shaft and turned to evil to prevent him from disrupting the resurrection. Maria, distantly related to the Belmont family by blood and more closely by her sister's marriage to Richter, has entered Castlevania to find her missing brother-in-law. On first meeting Richter, Alucard believes him to be the master of the castle, until Maria informs him of a way of breaking the spell he is under. Alucard breaks the spell, at which point a second castle, an almost exact inverse of the first, appears. Alucard enters this inverted castle, and finds and defeats Dracula. Depending on the player's performance the game ends in one of four ways, but it is only in the best ending, triggered if the player explores both castles to completion before despatching Dracula, that the fruition of a romantic relationship between Alucard and Maria is implied.

SoTN locates its ambivalence primarily in Alucard. Here is the introduction we get to the protagonist in the rules section of the game's manual:

> You are Alucard. Raging through you is the hunger and bloodlust of your vampire father, and the gentle, empathetic compassion of your human mother.

> As you have tried to come to terms with that constant internal struggle, you have recognized an outer struggle as well-the need to destroy Castlevania and bury the demons both within the castle and within your soul. (Konami, 1997, p.14)

Alucard's ambivalence is clearly signalled here and fits very much within the gothic tradition of the ambivalent monster appalled by its own monstrosity seen elsewhere in Frankenstein's self-loathing creature, Jekyll's shame of Hyde, and, perhaps, Dracula's inability to look himself in the mirror. Further, this introduction explicitly draws a parallel between Castlevania – elsewhere in the manual described as a labyrinth (Konami, 1997, p. 23) – and Alucard's soul, both containing demons to be vanquished.

In order to explore Alucard's ambivalence this chapter will draw a parallel between the spatial configuration of the classical Minoan labyrinth and that of *SoTN*, both in terms of the structure of its narrative and of the castle itself. It is necessary to begin therefore with a brief discussion of the labyrinth, with particular emphasis on the idea of recursion, before applying this idea to the game.

The difference between the terms 'labyrinth' and 'maze' is a matter of debate. While some separate the labyrinth from the maze, with the former being a classical, unicursal pattern consisting of a single path following a specific circuitous route and the latter, multicursal, kind springing up as late as the fifteenth century and marked by several crossing paths (Kern, 2000[1981]), others argue that they are roughly synonymous, indicating a confusing path or series of paths (Matthews, 1922; Doob, 1990). Penelope Reed Doob (1990) claims, for example, that before the Renaissance, when images of the multicursal labyrinth began to appear, the idea and image of the single path labyrinth encompassed simultaneously both types – the single winding path and the confusing network. Here, the unicursal pattern represents both the windings of the former and the errors of the latter and it is this combinatorial approach that I adopt in looking at *SoTN*.

It is important to understand the classical, unicursal labyrinth not primarily as a structure or a representation but a performance or instructions for a performance. Plutarch's first century telling of the Theseus myth is the best known gathering of sources on the classical Minoan labyrinth. In it, he flanks the famous story of Theseus' escape from the labyrinth – the ingenious construction of the great engineer Daedalus – with mention of two dances. The first is Ariadne's choros (meaning both dance floor and dance); another

construction (or choreography) of Daedalus. The second is the geranos – most likely derived from the root 'ger' meaning 'to wind' (e.g. Kern, 2000[1981]; Lawler, 1946) – or crane dance, which Theseus and others perform on the isle of Delos on their way home to Athens. While Plutarch sees this dance as a celebration of Theseus' successful navigation of the labyrinth's tortuous path through a spatial retelling of the adventure, Hermann Kern (2000[1981]) convincingly argues that Plutarch has it backwards. The original labyrinth was not a structure, but a dance. Specifically, it was the winding dance choreographed by Daedalus for Ariadne (her choros) and set in the floor of the Minoan palace in the now standard labyrinth pattern as an *aide memoire* and subsequently performed on Delos, with the Minotaur story being a later embellishment of this original ritual (Kern, p.44; also, Cook, 1925; Frazer, 1922).

This performance has often entertained contradictory meanings (Kern, 2000[1981]; Layard, 1936). The centre, for example, has been seen both as womb and tomb (Borgeaud, 1974, p. 5). The entrance has been figured as bringing both the living into the world and the dead into the after-world (Kern, 2000[1981], p. 30). These significances charge movement through the labyrinth with paradoxical meanings. The centre as womb, as a place of safety, is attractive, but life flows from, not toward it. Therefore, as the maze-walker moves toward the centre s/he is physically drawn toward it but symbolically repulsed. As tomb, it is separated from life. Yet the single path, like life to death, leads ineluctably to it.

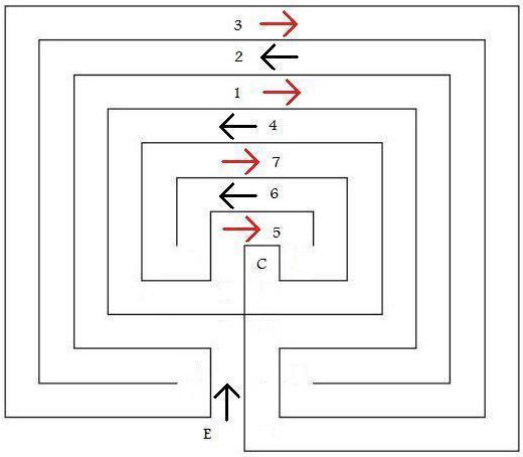


Figure 59: The classical labyrinth design, with its 7 paths and direction of travel toward the centre indicated.

The experience of moving through the unicursal labyrinth, as pictured in Figure 59, is one of advance toward the centre and retreat toward the periphery. This advance and retreat occurs seven times. The first path leads the walker directly to a point diagonally adjacent to the centre. This path winds around to the second path, which is further toward the periphery. In turn, this path winds back around to the third. By this time the walker is at the edge of the

labyrinth. Winding back again, the third path meets the fourth at a point directly next to the point of entrance. This constitutes the end of the first phase of outer paths, at which point the same pattern is repeated on the inner paths, with two exceptions: the paths are shorter and the directions are reversed. Angus Fletcher (1983) sums up the experience of this movement:

> In the Cretan maze Theseus suffers a vertiginous loss of clarity as to what 'forward' means; to go 'forward', he must keep reversing his direction, that is, he must go backward. The tighter the arcs as he approaches the center, the more frequent will be this forced 'undoing' of the idea of forward motion. We might label this process 'the peril of reversing convolutions.' (p. 334)

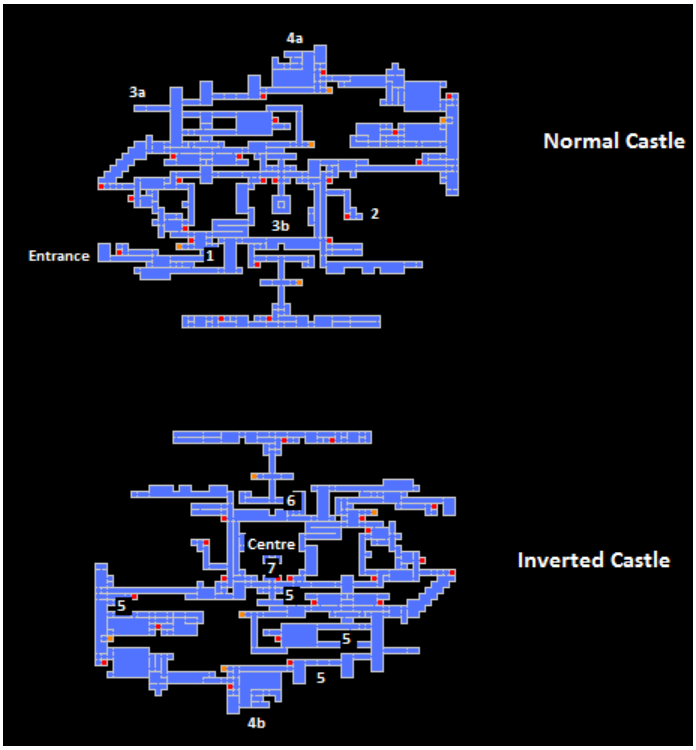
Put another way, the walker's relation to the centre and the periphery is, due to the specific pattern of the paths, recursive, with the oscillation between repulsion and attraction experienced almost simultaneously, and accelerating as the centre is approached.

The mark of the recursive labyrinth is inscribed on *SoTN* from the battle between Richter and Dracula that serves as the game's prologue. This is a repeat of the end of a previous Castlevania title, the Japanese-only release *Akumajou Dracula X: Chi no Rondo* (Konami, 1993) for the PC Engine,[7] a game later adapted for the PSP and released in North America and Europe as *The Dracula X Chronicles* (Konami, 2007). In 1995, between the release of *Chi no Rondo* and *SoTN*, an adaptation of *Chi no Rondo* with the same story but different level designs appeared on the Super NES entitled *Dracula X* in North America, *Akumajou Dracula XX* in Japan and, in 1996, *Vampire's Kiss* in Europe (Konami, 1995; 1996). It is *Chi no Rondo* that is referenced at the beginning of *SoTN*. At the time of the release of *SoTN*, Japanese fans – specifically PC Engine owners – would have been familiar with this scene. For European and American fans, for the most part, the story would have been familiar but the scene different. Even for those familiar with the PC Engine game the positioning of the scene at the start instead of the end of a game would have inscribed it with a completely different value. It would have been as a misremembered memory; a motif that we will encounter in the game itself at an important point in its plot. The player here must return to the previous game in order to access the new one; must, in other words, go back in

[7] The PC-Engine was the Japanese version of the TurboGrafx-16 Entertainment SuperSystem.

order to go forward. This repetition with variation is, as we have seen, an essential idea in the labyrinth and a basic form of recursion.

As seen in Figure 59, the labyrinth features an entrance, 7 winding paths and a centre. These can be seen to correspond to specific events in *SoTN*, as illustrated in Figure 60. I am not, of course, suggesting that the structure of Castlevania is directly based on the labyrinth, but rather that the labyrinth gives us a way of theorising about the kind of recursive performance that the castle entails. The structure of the remainder of this analysis will explicitly link key points in the game with key points in the labyrinth according to the correspondences in Figure 60.



Labyrinth paths		Castlevania Events	Castle type
Entrance to the labyrinth		Entrance to Castlevania	Normal Castle
1	Outer paths	Alucard encounters Death for the first time	
2		Succubus episode – Alucard receives the gold ring	
3		Maria gives Alucard a) the silver ring and b) the holy glasses	
4	Central path	Alucard a) battles Richter and b) teleports to the inverted castle	
5	Inner paths	Alucard collects Dracula's relics	Inverted Castle
6		Alucard battles Death	
7		Alucard battles Shaft	
Centre	Centre	Alucard battles Dracula	

Figure 60: Above, the maps as they appear as overlays in *SoTN*, with turning points added. The numbers refer to turning points between the entrance in the normal castle and the centre in the inverted castle.

Entrance to the labyrinth -- Entrance to Castlevania

The labyrinth's entrance can be related to the image of Alucard speeding through the forest – not under the player's control – and entering Dracula's castle. This can be seen as the complement of the recursion in the prologue. While the prologue was a return for the player but not for the character, Alucard's homecoming is a return for the character but not the player, who is not in control of Alucard until the drawbridge shuts behind him. The reintroduction of Alucard to the franchise for the first time since his debut in *Castlevania III* (Konami, 1989) is a return, but it is also recursive in a stronger sense in that it is the reversal of a journey. In the opening scroll we are told the following:

> Alucard, in order to purge the world of his own cursed blood line, had submerged his vampiric powers and entered into what was supposed to be an eternal slumber. But now, he is awake and aware of the evil once again at work in his homeland. (KCE Tokyo, 1997)

It is clear from the above quoted passage that the physical act of returning home involves a reversal of Alucard's resolution to 'submerge[…] his vampiric powers': an undoing of the psychological journey he took since *Castlevania III* and a return of his suppressed, evil side. It should be noted here that much of Alucard's ambivalence is already present in the *bishounen* or 'beautiful boy' character type he is drawn from. The most characteristic trait of this type, which has a long history in Japanese literature and art but a particularly visible presence in Japanese popular culture of the last forty years, is his androgyny, which can be considered a special case of ambivalence. In the game, the cut-scenes tend to be short, with little expressive range and little opportunity for the development of nuanced character. These cut-scenes adapt this ready-made character type, combining the androgyny of the *bishounen* and portrayals of the vampire drawn especially from Anne Rice's vampire novels (1976-2003), with a briefly sketched family drama. The *bishounen* character type provides an anchor from which sexual, domestic and moral ambivalence can be suggested with minimal cut-scenes. In terms of expression, the use of this character type allows the cut-scenes to punch above their weight; to resonate throughout the work in a way that belies the relatively short amount of time they take up in the game.

Before proceeding with the mapping of the labyrinth's turning points to those of *SoTN*, let us first outline a pattern of movement in which the player-character engages early in the game that is indicative of the general recursive, labyrinthine patterns that permeate *SoTN*. In the early part of the game the map only reveals parts of the castle that the player-character has already explored. Nonetheless, inaccessible parts of the castle are inferred through locked doors and platforms that are too high or far off to reach. After a short time we can buy a better map that reveals other sections of the castle. But it too is incomplete, containing tell-tale signs of hidden rooms and passages through gaps in borders and large, enticing blank spaces. In order to stop Dracula, Alucard must first reach these initially inaccessible and hidden places. This involves Alucard in several journeys from one end of the castle to the other and back.

One such typical journey occurs near the beginning of the game. This takes us, due to various locked doors and impassable gaps, from the alchemy laboratory in the lower left quadrant of the castle to the master librarian, seller of keys, in the upper right, and back. We encounter this kind of recursive movement throughout the game and these movements are executed alongside the recursions of the game's plot. The recursive movement outlined is by no means unique to *SoTN*. Many games involve this pattern as a core element of their gameplay. Most obviously, this gameplay pattern, in which a character must go back and forth through a maze which opens itself up as the character collects equipment and becomes more powerful, is present in the early *Metroid* games (Nintendo, 1986; 1991; 1994; 2002). However, I am not arguing here that the pattern is anything more than a videogame convention but rather that when this convention is seen in combination with the specific story and characters that we encounter in *SoTN* it takes on an expressive role that the convention does not necessarily have in other games.

1 -- Outer Path -- Alucard encounters Death for the first time -- Normal Castle

As we have seen, at the beginning of the first path the labyrinth sends the treader from near the centre on a route to the periphery. This occurs in *SoTN* at the first turning point: Alucard's confrontation with Death. After entering the castle and despatching a number of monsters easily with a powerful set of weapons including sword, shield, armour, cape and necklace, Alucard reaches a room where Death, figured as the skeletal grim reaper, implores him on Dracula's behalf to renounce his quest. When Alucard refuses, Death confiscates his weapons. Alucard is left considerably weaker and what formerly seemed a simple dash past a

series of easily bested foes becomes a sequence of laborious trials, a peripety analogous to the labyrinth's forcing of the treader at this point from centre to periphery. Gradually, Alucard re-approaches a condition of strength equal to that in which he entered the castle as he collects weapons and armour of ever-increasing power.

Here, Alucard displays an ambivalent attitude to Death in that he neither fights him nor flees from him. This ambivalence is reinforced throughout the game in the recursive game over/re-load routine. Here, game over and death are associated, as they are in many videogames. But videogames can treat death in markedly different ways. When Mario (Nintendo, 1985) turns to the player, eyes wide open in surprise, hands and feet splayed, and drops off the front of the screen we might talk about losing a life or of Mario dying. But the game itself does not use the words life and death, preferring '1-up,' 'game over' and 'continue.' In *SoTN*, contrastingly, death is openly identified as death. Unlike in *Super Mario Bros.*, where death is a metaphor for game over, in *SoTN* game over is a metaphor for death.

Returning to life usually entails a movement back several rooms from where the death occurred. The player must then direct Alucard back to the point of death, retracing the steps recently taken, to repeat the traumatic battle with the previously victorious monster. This is done repeatedly until the event is mastered, that is until the monster is defeated. But, this mastery complete, Alucard must move on to stronger monsters, that is, toward many more deaths, which will need to be repeated and mastered again and again. This relationship between life and death is a particularly labyrinthine theme. Thomas Greene (2001), for example, has identified the labyrinthine dances of the 16th-century French court as an enactment of 'the persistence of life in the presence of death' (p. 438). This routine of continuous return to the scene of death is present in many games but takes on a particular significance in *SoTN* firstly because of the meaning that life and death carry in the game's story and secondly because of the formal features of the save-reload routine.

Both the vampire-hunting Belmont family and Dracula are immortal, but the source of their immortality differs, with the Belmonts' legitimate immortality contrasting with Dracula's illegitimate immortality, guaranteed by his aberrant nature and the devotion of misguided or deranged occultist devotees. The Belmont family, then, gains immortality through procreation that is socially legitimated by the family name whereas Dracula gains immortality through the dark arts, represented in *SoTN* by his high-priest Shaft.

Each time Alucard dies he is performing his human, mortal side; rejecting, in a manner of speaking, this non-legitimate form of immortality and thus rejecting Dracula. But this rejection is mocked by the game over screen and invalidated by the nature of the save-reload

routine. When Alucard dies at the hands of the castle's monsters we do not get Mario's casual departure and immediate return to the last checkpoint; we get a full production. His body is thrown back in a slow-motion spiral, spraying blood in all directions before disintegrating vampire-fashion. There is a slow screen wipe to reveal a picture comprising a monster's skeleton and a half-buried crucifix on a chain in the foreground. In the background is Dracula's mist-enshrouded castle surrounded by bats and lit by a full red moon. Over this a deep voice intones, 'Game over,' words which are printed in Gothic font on top of the picture. Printed below, in the same font, is the intriguing invitation, 'Let us go out tonight for pleasure. The night is still young' (KCE Tokyo, 1997).

The silhouetted castle in the background, as well as being a conventional sign for Dracula, clearly removes the player from Castlevania. The abandoned crucifix, which is one of Alucard's weapons in the game, represents the failure of the vampire-hunter. But why the dead monster? The reason we are seeing this screen is because we failed to kill a monster. Is this dead monster then representative of Alucard himself and his own monstrosity, his own cursed blood? This squares with the invitation, which seems to be addressed to both the player and the character. It is an exhortation to try again, but it is phrased not in conventional videogame language ('Continue?'), nor the duty-bound language of the vampire-hunter, but the sensual language of the vampire. That is, it talks to Alucard the vampire rather than Alucard the human. In dying, Alucard embraces mortality but is met with his immortality.

After a short interval we are returned to the title screen and must press start, select a file from the memory – a far more laborious and self-conscious reload routine than that of any of the previous *Castlevania* titles – and begin again at the last save point. Each save point is a room containing a large red and yellow dodecahedron that beats like a heart while slowly rotating. On saving, this heart-like object spins more rapidly before exploding and reforming as a coffin bearing the image of a cross which encases Alucard for a moment before disappearing completely, saving a memory file and refreshing Alucard's health. Alucard's ability to rest in a coffin (vampire, and associated with his father Dracula) imprinted with a cross (human, and, as we shall see, associated with his mother Lisa) clearly signals his ambivalence, as does his ability to wield a crucifix, carry holy water and so on. So too does the transformation of the dodecahedron heart (life) into the coffin (death) in order to preserve life.

2 -- Outer Path -- Succubus episode – Alucard receives the gold ring -- Normal Castle

As is clear from the manual, Alucard's moral ambivalence is derived from the Manichean conflict between the 'kind-hearted' Lisa and the 'dark and evil' Dracula (Konami, p.12). We have already drawn on this conflict between Alucard's good, human, maternal side and his evil, vampire, paternal side in relation to death and immortality, but the source of this conflict is most fully explored a short time after Alucard's first meeting with Death, in the 'Nightmare' episode in which he battles the Succubus.

This episode occurs during the first half of the game in an area that looks like a save room in all points except colour, it being purple instead of red. On accessing the save point in this area, Alucard, instead of resting in a coffin, enters a nightmare. In this nightmare, Alucard sees his mother hanging on a cross at the moment of her crucifixion. The dream departs from Alucard's memory of the event when his mother, with her dying breath, enjoins him not to forgive humankind but to avenge her death. Alucard then recognises this image of his mother as the Succubus, whom he slays. In so doing Alucard's memory of Lisa's last words reverts to the original, which he quotes to Dracula at the end of the game: 'She said do not hate humans. If you cannot live with them, then at least do them no harm. For theirs is already a hard lot' (KCE Tokyo, 1997). Once Alucard wakes from the nightmare back into the room, it yields a gold ring which, together with a silver ring later received from Maria, gives Alucard access through the clock room to the centre of the castle.

How we interpret this scene depends very much on how we characterise the game. This is a Japanese game, with a European setting, and with translated, localised versions in North America and Europe. The setting brings to the fore potent images and themes that may have different resonances for European and American players than they do for the Japanese designers who created the game or to Japanese players, for whom such images may signify nothing more than a vague Occidentalism. Many of these images that have the trappings of 18th century Europe are clearly playing off ideas with a particular currency in Japanese popular culture and are somehow drained of the significance they would have in a European context. When they are re-introduced to a European audience are they rehabilitated or do they retain – and ought we in our interpretation of them restrict ourselves to – the overtones they have in the context of the game's production? For example, in this Japanese vampire game does the cross still suggest the crucifix or has it become completely drained of its relationship to a specific piece of Christian iconography?

In order to think around this problem let us offer two interpretations of this succubus scene. The first brings to the fore the religious overtones of the imagery employed. The second interprets the imagery in terms of Japanese history and popular culture.

If we adopt the first approach, we note the strange manner of Lisa's execution. Crucifixion was not used as a form of punishment in Medieval or Renaissance Europe (Grossman, 1998, p. 64), and so her crucifixion is jarring. We would expect her to be burned at the stake. The fact that she is crucified seems to refer to Christ's crucifixion, and her appeal to Alucard to live at peace with humanity in spite of her death at their hands has resonances of Luke 23:34: 'Forgive them Father for they know not what they do.' These associations – her philosophy, her final words, and the method of her execution – establish Lisa as a Christian figure in antithesis to Dracula.

However, if we approach the game as a part of Japanese culture we might reach different conclusions. Crucifixion was practiced in Edo Japan, and the game may be drawing on this tradition, but the practice here was probably suggested by the cult of Christianity introduced by Jesuits in the late 16th and early 17th century (Moore, 1968, p. 145). In this sense the crucifixion image has only an indirect reference to Christ, and what is more important is the gruesome nature of the method of execution (and, perhaps, the fact that it is easier to represent crucifixion than immolation in the two-dimensional scenes of the game).

Perhaps a more influential source of Lisa's character is the Japanese tradition of female martyrdom that Ian Buruma (1984) has identified as 'the eternal mother' (p. 18). Buruma suggests that the long-suffering mother who willingly gives up her life for her family is a persistent type in Japanese culture. He suggests that typically the eternal mother gives up her life magnanimously but leaves her son racked with guilt at the way in which he treated her when she was alive. Buruma contrasts this eternal mother with an equally pervasive Japanese figure of femininity, the demon woman, and this image of Lisa/Succubus seems to bring these two types together.

In choosing between these interpretations – the European and the Japanese – we must think about the version of the game we are playing. There are clear attempts in the localisation and translation of the game to lean toward western glossings of the game's images, particularly in religious terms. Richter's exchange with Dracula in the prologue is in the Japanese version a debate concerning justice in which Dracula claims that justice is decided by power, whereas Richter claims it is by mercy. Religion (宗教) is not mentioned in the Japanese version of the game. Faith (信仰) is mentioned by Dracula, and belief (信念) by

Richter, but these words do not have specifically religious connotations.[8] For Dracula, faith is a symptom of human greed, whereas Richter is describing the shared set of beliefs that bring people together. In the English version, however, Dracula explicitly styles himself as a religious figure. Responding to Richter's claim that he 'steal[s] men's souls,' Dracula counters, 'Perhaps the same could be said of all religions.' Richter himself casts Dracula as a pseudo-religious figure, if only to reject the legitimacy of this characterisation, saying 'Mankind ill needs a savior such as you' (KCE Tokyo, 1997). In the penultimate cut-scene of the game we again get the introduction of religious ideas into the localised version of the game. In both versions Dracula, on being defeated by his son, comes to understand his defeat to be a result of the loss of his true love, Lisa. The English version, however, couches this in specifically Christian terms, with Dracula quoting the bible: '"For what profit is it to a man if he gains the world, and loses his own soul?" Matthew 16:26 I believe' (KCE Tokyo, 1997).

By charging the translations with religious language the localised game could be said to access the religious significance of some of the images in the game, including Lisa's cross. However, it is not necessary to adopt this religious reading. Whichever of these interpretations we adopt, this nightmare fleshes out the dramatic father-mother-son relationship that was introduced in the manual and is central to the game's narrative. We have now met each of the players in this drama, though the mother remains tantalisingly absent from the game. From this point we are aware that Alucard is aligned with his mother, a human being who preaches forgiveness of human foibles, against his father, a vampire who will entreat Alucard to join him in their destruction. The Freudian overtones of a plot that involves a son returning home to kill his all-powerful father and on the way having a nightmare in which he puts to the sword his succubus-demon-mother are unavoidable. This is, however, a Freudianism that comes to us through the horror genre rather than the annals of psychoanalysis. The strange manner of his mother's recurrence – as succubus – marks her as object of illicit sexual desire. Alucard's violent reaction to his discovery of the image's demonic nature may be read as his recognition, and perhaps symbolic fulfilment, of this desire.

The Succubus, then, represents two returns: that of the repressed oedipal desire and also of a memory that has been corrupted. In the first case the Succubus is a figure for the return of the repressed. In the second it is more complex. Here it is figured as the force, again within Alucard, responsible for changing Lisa's last words. Pursuing further the Freudian reading

[8] For all translations I am indebted to Tae Tsutsui.

that presents itself here we might speculate that Alucard's nightmare distorts Lisa's final words in order to reconcile the tension of the conflicting world-views of the father and of the mother. Freud (1960[1923]) sees the resolution of the Oedipus complex in the identification of the son with the father and the establishment of the super-ego (pp. 22-36). For the unfortunate Alucard, however, the father is antithetical to civilisation and is therefore part of what must be repressed. It is only through identification with the mother – through the internalisation of her Christian ideal – that Alucard may enter civilisation. But this is impossible in practice. To progress through the game Alucard must gather to him the supernatural legacies passed on to him by his father such as the power to transform into animals, to command spirits, and to cast spells. But in so doing Alucard contravenes Lisa's injunction toward mercy. Also, by the very action of killing the constantly reanimating monsters (repressing the constantly returning repressed) Alucard's own vampire powers grow stronger. Therefore the more he leans toward the legitimate side of this binary, the more the repressed side asserts itself.

The paradox facing Alucard, then, is that in order to obey Lisa's final words, he must disobey them. By changing these words, and thus reconciling the mother to the father's moral system, Alucard attempts to resolve this logical paradox; to settle his ambivalence. But his resistance to this change, figured by his killing of the Succubus, keeps the paradox intact.

3 -- Outer Path -- Maria gives Alucard the silver ring and the holy glasses -- Normal Castle

The awkwardness of the scenes between Alucard and Maria, though perhaps due to poor script and acting, and significant of Alucard's sexual reticence or ambiguity, is also associated with his ambivalent attitude toward the two kinds of immortality that the game sets up. If Dracula's spokesman Death offers Alucard a life without end through occult means, Maria offers Alucard a life without end by situating him, through marriage, within the Belmont family line.

The structural recursion seen in the arrangement of scenes between Alucard and Maria mirrors this dilemma. Of the game's fifteen cut-scenes, five are meetings between Alucard and Maria. These mould their relationship in a recursive pattern hinging around Alucard's first meeting with Richter. The first three scenes attempt to establish a sexual charge between the pair, with Maria flirting in a way that undermines Alucard's veneer of chivalric aloofness, with teasing jibes like 'As friendly as ever, I see,' and 'Impressive, you're very strong' (KCE Tokyo, 1997).

The next two cut-scenes between the pair occur after Alucard has discovered, or so he thinks, Richter to be the master of the castle. These cut-scenes lack the flirtatious tone of the previous three. Learning of Richter's turn to evil, Maria is in no mood for romance. In the first of these scenes Maria accuses Alucard of being mistaken about Richter, but in the second she apologises and asks for his help, imploring, 'you are the only one I can count on' (KCE Tokyo, 1997). Maria has regressed here from the feisty, independent vampire hunter of their first three meetings to a far meeker type, relying on Alucard's assistance. Bested by Maria's verbal sallies in the first three cut-scenes, Alucard now occupies a dominant position in the relationship. In the Sega Saturn version of the game this reversal is emphasised with Alucard physically defeating Maria at this point to prove his ability to face Richter. Once Maria gives Alucard the holy glasses which will enable him to defeat the power controlling Richter she reverts to the passive and ultimately abandoned Ariadne, the giver of the clue of thread, to Alucard's active, heroic Theseus. From this point her vampire hunting power is reduced to words, when Alucard advises her, ''Tis best that you pray for the soul of your friend' (KCE Tokyo, 1997).

As already mentioned, Maria functions as the prize that Alucard wins for attaining the best ending. But, as a prize, what does she represent? Primarily, she is, as suggested, a means of Alucard entering civilisation through an alliance with the Belmont family, and in this she is a legitimate object of sexual desire that stands in contrast to the illegitimate Lisa/Succubus. Maria corresponds to Lisa in several ways. Superficially, both are fair. More importantly, their personalities are similar. By entering Castlevania Maria demonstrates Lisa's willingness to sacrifice herself; in refusing to condemn the apparently fallen Richter, she re-enacts Lisa's forgiveness. But perhaps the most intriguing parallel between the two is buried in the game's sound files in what seems to be a removed cut-scene (whether it is present in the original Japanese game I do not know) most probably triggered by some event in the battle between Richter and Alucard. This is the dialogue as transcribed at the Castlevania Dungeon website (2011):

> Maria: Wait! Don't hurt Richter anymore!
> Richter: Ma... Maria?
> Maria: Richter!
> Richter: You saved me!
> Male voice (perhaps Shaft?): If not for you, I would have lost this fool.

Female Demon (Maria?): EEYAAAHH! Uh! Hahaha! Four Demons I hold you to your oath. Defend your master who commands you!

Female Demon: Oh! Such power in such a little girl. Hahahaha!

Female Demon: EEYAAAHHH! It won't end like this! You should be destroyed along with this castle. Hahaha!

Alucard: It's over, but the sacrifice was great. Maria, Richter... I did not wish for you to die. Such is the fate of mortals. I'm certain that some dark force was behind Maria's transformation, but it doesn't matter now.

If we accept this dialogue as a part, if a well-hidden part, of the text the parallels between the Succubus/Lisa and the demon/Maria are clear, both being based in a clash of the 'demon woman' and the 'eternal mother.' But while in the first hybrid it is Lisa who is absent from the game, in the second it is, as the game is presented, the demon that is absent. Maria represents here not just a repetition of the demonic mother but also the possibility of the demonic side being successfully repressed, being consigned to the unconsciousness of the game's unused sound files. This casts the best ending, in which Alucard wins Maria, in a new light. Alucard does not just get the girl; he aligns himself with a person who has reconciled in herself – or at least successfully repressed – the ambivalence that also haunts him. This resonance is, of course, only available to the player of *SoTN* who has accessed these hidden files, and this is probably a very small proportion of the game's players. It is a possible resonance, but not a probable one. Nonetheless, once these files have been found Maria's demonic character can, for the player who has discovered it, enrich the game.

We have now identified three themes of ambivalence with respect to Alucard, and these are the themes that are underlined in the various forms of recursion that pervade the game. His core ambivalence is the oedipal dilemma – or to put it another way, the family drama – that I have described in relation to the 'Nightmare' episode. This can be understood as the irreconcilable tension between the father and the mother. Spawning from this central tension is Alucard's ambivalent attitude toward Death, representative of an illicit, occult immortality, and his ambivalent attitude toward Maria, representative of a sanctioned, genealogical immortality.

4 -- Central path -- Alucard a) battles Richter and b) teleports to the inverted castle

Having received the holy glasses from Maria, Alucard faces Richter in the throne room, familiar from the battle between Richter and Dracula that closed the last game and opened the present one. Players who reach this room without having fully explored the castle may see this as the final battle: the labyrinth's centre. If this is the case, Alucard faces Richter, the supposed master of the castle, and defeats him. This brings about the destruction of the castle, a cut-scene, and the credit list. It is perfectly possible that a player may accept this as the ending of the game. If Richter is killed at this point in one sense the paradox that binds Alucard is resolved. Alucard seemingly makes good on Lisa's final words, thus upholding the moral system of the mother without destroying and thereby becoming Dracula. The Oedipus complex resolved satisfactorily, Alucard may enter civilisation. This situation triggers two possible cut-scenes, but in neither does Alucard explicitly state either his intention to return to his hibernation or enter civilisation. This is an anticlimactic ending in other senses too. Dracula is not encountered; Richter's turn to evil is not explained; Maria's presence in the castle is made to seem redundant. This anti-climax leaves doubt in the player's mind and suspicion that the paradox has not been resolved but side-stepped.

The only way for a player to avoid mistaking this for the game's ending is to get the full story, and this is done by exploring the castle completely. Whether the impetus to bypass this false ending lies in the determination to resolve the story in an aesthetically satisfying way – that is to tie up all the loose narrative ends – or in the player's desire to fully explore the castle – to 'get 100%' – is a moot point and probably depends a great deal on individuals' playing styles and relative attention to character and story. For my own part, I feel a slight pang of guilt that I despatched Richter without a second thought. Only subsequently, on returning to the game to explore the rooms I had missed out, did I discover my mistake. This is clearly an example of recursion performed by the player; the player driven to return to the ostensibly beaten game to settle the niggling feeling that Castlevania had not yet given up all its secrets.

The disillusionment of Richter signals a significant turning point in the game. In the oedipal drama I have sketched out it represents a central moment and it also gives rise to a major reversal in the game. As I have argued, the more Alucard represses his vampiric side the more it asserts itself. When faced with Richter an unthinking player (me, on my first play-through) will kill him straight away. A more scrupulous player – or one with greater faith in Richter or humanity in general – may waver, returning to explore the rest of the castle to

make sure that Richter is really to blame. This is a moral choice between Alucard's two sides: the father's callous misanthropy against the mother's mercy. But this is not framed as a choice of equal alternatives. Once Alucard has entered the throne room the player must either kill Richter or die.[9] But it is only in dying – a repetition of Lisa's Christ-like/Eternal Mother self-sacrifice – that the player might further explore the castle in order to consciously find the full story on Richter before facing him again. This retreat in extremis would signal Alucard's continued resistance to his identification with his father but simultaneously propels him toward its full manifestation by compelling him to destroy Dracula. Again we see the labyrinthine motif of moving in one direction only to move in the other – to repress only to bring about the return of the repressed.

5 -- Inner Path -- Alucard collects Dracula's relics -- Inverted Castle

Once Richter recovers, Alucard sends him and Maria outside Castlevania and enters a teleport to the second, inverted castle. This inverted castle is structurally the same as the castle through which Alucard has just passed except it is now upside down and it contains a host of different, more powerful monsters. Alucard must now explore this version of the castle to completion – repeat his journey in reverse – before killing first Shaft and then Dracula. This inversion has turned what seemed like the endpoint – the throne room has hosted the final battle in numerous Castlevania games – into the midpoint. In this sense it is like the fourth path of the labyrinth which is both as close to the centre as possible and only about halfway through. It is the beginning of the second phase of winding paths. In this phase though, the windings are tighter and the sense of approaching the centre is greater.

So it is in *SoTN*. The inverted castle is a repetition of the normal castle but with a difference. The story is clearer, and there are fewer cut-scenes. Exploration is swifter due to the player's familiarity with the castle. Alucard is stronger, with a complete set of weapons and items to help him and, though the monsters have become stronger too, Alucard generally moves about the castle with greater ease like, one might say, he – or the player – owns the place, corresponding perhaps to the removal of the usurper Richter and restoration of Alucard's birthright. Alucard is becoming master of the castle and dangerously close to becoming Dracula.

[9] I presume here that the player first encounters Richter in the throne room before the castle has been fully explored. It is possible that the player enters the throne room having fully explored the castle and thus aware of Richter's possession and equipped to save him but given the relative ease of reaching the throne room compared with exploring the castle fully it is far more likely that this is not the case.

The recursive nature of this second half of the game is guaranteed by two factors. The first has already been mentioned; that is the requirement to explore the entire castle in order to get the best ending. The second involves the conditions Alucard must meet before challenging Dracula. In order to access the room at the centre of the castle in which Dracula is to be resurrected, Alucard must first retrieve five relics that are metonymically related to Dracula – his rib, heart, tooth, eye and ring. Unlike in *Castlevania II* (Konami, 1987), where a similar list of items is needed to resurrect Dracula, here they merely open the gateway to the resurrection chamber through the clock room. In other words, the relics in the second half of the game correspond in function to the gold and silver rings in the first half of the game.

But while the brace of rings was associated with Lisa and Maria, the collection of relics is associated with Dracula. The rings and the relics, then, serve to balance each other, across both halves of the game and across both halves of Alucard's nature. While the rings signified an acceptance of his mortal side but simultaneously led to a strengthening of his vampire side, the relics signify an acceptance of his vampire side that is necessary for its ultimate rejection. The gathering of these relics, then, parallels Alucard's growing vampiric powers; both represent an acceptance, indeed an active seeking out and appropriation of that which he wishes to destroy.

6 -- Inner path -- Alucard battles Death -- Inverted Castle

One of the relics Alucard must collect at this stage is attained after a battle with Death, and this represents the next turning point in the game. As with all of the turning points, this is also a returning point. But, as with all returning, it is repetition with a difference. Death returns, as he promised to do in the first half of the game, and once again asks Alucard to desist, in a phrase that echoes his previous exhortation to 'cease your attack,' but this time adding an appeal to the authority of Dracula: 'In the name of your Father [sic], cease this foolishness' (KCE Tokyo, 1997). This adaptation of the first line of the Christian Trinitarian formula ('In the name of the Father, the Son and the Holy Ghost') puts Dracula at the head of a metaphysical system involving the monsters and ghouls of Castlevania that is an alternative to Christianity, the system that exists legitimately outside Castlevania as it is represented in the human characters of Lisa, Richter and Maria. When Alucard refuses to give up his quest 'while there is breath in [his] body,' Death responds with the threat: 'Then for the Master, I'll feast on your soul this night,' re-emphasising Dracula's authority and his own submission to that authority (KCE Tokyo, 1997).

Clearly, in the above interpretation of Death's appeal we have returned to a Christian scanning of the game. Again, we are relying on the translation of Death's exhortation to establish Dracula's regime in terms of the Trinitarian. The Japanese text has '父君のため' for 'in the name of your Father.' This should translate as something like 'for the sake of your father,' and we therefore do not get a coincidence with the Japanese version of the Trinitarian, which would be something like '父の御名によって'.[10] Of course, this is added to the fact that in Japan the Trinitarian does not have the same cultural currency as 'In the name of the Father' does in the west.

What matters here is not so much the question of whether we imbue the game's images with the meanings suggested by the setting (18th century Transylvania), or the context of production (20th century Japan) but rather whether we are interpreting the original Japanese game or the localised western version. By comparing the Japanese and the English texts it is clear that the localised version is leaning toward a Christian reading, particularly with the capitalisation of the word 'Father,' in a way that cannot be justified if we see the Japanese game as the legitimate text. This alters the game, though it does not fundamentally alter the interpretation offered here. In the localised version we get the contrast between Alucard's two sides and between Dracula and Lisa in terms of a Christian metaphysics. In the Japanese version we still have the same contrasts, but they do not have the same religious overtones.

Victory in this second encounter with Death is necessarily an ambiguous event, given the game's particular signification of mortality. While the character of Death represents mortality in one sense – the Grim Reaper as widely recognised personification of death – in another sense he represents the promise of immortality; the illegitimate immortality of Dracula. Therefore, does Alucard's defeat of Death represent a victory of mortality – in its rejection of Dracula's overtures – or does it represent a victory over mortality – as it does, for example, in countless medieval stories about mortals' attempts to trick the Grim Reaper? The answer is, I think, both. The game holds these two meanings in tension with each other, again representative of Alucard's bind.

7 -- Inner Path -- Alucard battles Shaft -- Inverted Castle

The next major battle that Alucard must fight is against the high-priest Shaft, the occultist responsible for the imminent resurrection of Dracula. This is the second time we

[10] The full Trinitarian in Japanese is '父と子と聖霊の御名によって.'

have encountered Shaft in the game, appearing earlier as the force controlling Richter in the throne room battle, revealed only once Alucard disillusions Richter. It is the fourth time he has appeared in the series, though, having been a character in *Chi No Rondo*. In this earlier game, Shaft appears twice, the second time as a ghost. In *SoTN* on both occasions we encounter his translucent, ghostly form. He is, therefore, a character who has accepted Dracula's version of immortality, constantly returning in spite of the combined efforts of Richter and Alucard. But Shaft is not only the recipient of this unsanctioned immortality but also its instrument, being the means by which Dracula is able to return from the grave before his requisite hundred year sleep.

The second time we meet Shaft in *SoTN* he greets Alucard by saying, '[y]ou have done well in making it this far. I would expect nothing less from the son of our Master.' This not only interpellates Alucard as his father's son, thus undermining Alucard's rejection of Dracula, it also ascribes the success of his quest to Alucard's vampire side, pointing up the psychological conflict that I am suggesting is at the heart of Alucard's ambivalence throughout the game. The word 'our,' including Alucard in Shaft's subservience, also implies the mastery of Dracula over Alucard in the son's indebtedness to the father for the powers that make his victory possible.

An obvious antithetical correspondence is displayed between Lisa, the 'eternal mother,' and Shaft in his own understanding of his death as a form of martyrdom, with his dying words demonstrating a willingness to sacrifice himself for the greater goal:

> Bu ... But my goal is achieved ... Count Dracula is come to purify this corrupt world with the searing flames of chaos (KCE Tokyo, 1997).

But a more poignant antithetical relationship is established between Shaft and Maria. Primarily this is due to the fact that Shaft's last stand occurs in the inverted version of the room in which Maria gave Alucard the holy glasses. Maria, as noted, represents for Alucard, through procreation, a means of becoming a Belmont and situating himself within a legitimate form of immortality through an authorised line of descent. Shaft, like Maria, is an instrument guaranteeing immortality, but the immortality he offers is of the occult, unsanctioned kind. Repeating a recursive pattern well-established by this point in the game, Alucard's victory over Shaft does not settle this dilemma but merely intensifies its urgency, leading directly into the final battle with Dracula.

Centre -- Alucard battles Dracula -- Inverted castle

The path in the labyrinth leads Theseus, regardless of its windings and regardless of the direction in which he is moving at a given time, always toward its centre. Similarly, Alucard's journey, both physical and psychological, is always ultimately pointed toward the destruction of Dracula and the rejection of his overtures. His ambivalence is situated in his need to sometimes move away from this ultimate goal in order to attain it. As I have tried to show, this turning back and forth is both a physical feature of the castle and a psychological feature of the situation or of the story for both Alucard and for the player. In Fletcher's (1983) description of the labyrinth, in which its recursive pattern is seen to be indicative of a psychological confusion for Theseus, the final paths of the labyrinth, involving as they do more tightly arranged turns and returns, correspond to an intensity of ambivalence. So it is with the final battle between Alucard and Dracula, which occurs immediately after Alucard's defiance of the Castlevania order as represented by Shaft.

Alucard's battle with Dracula at the centre of the castle is the final repetition of the game. As with other examples throughout the game, this repetition gains its meaning through the difference it establishes between itself and its original. Having, at the game's opening, defeated Dracula as the human Richter, the player must now, at its close, face him as the vampire Alucard. This movement for the player from human to vampire is a parallel of the gradual and resisted growth we have seen of Alucard's own repressed vampiric side, representative of his identification with his father. This identification is, naturally, at its height in this final battle.

Before battling Dracula, Alucard – in the English language version of the game – reverses the corruption of the Trinitarian formula as previously stated by Death, saying 'In the name of my Mother [sic], I will defeat you again.'[11] The names of the Father and of the Mother in this scene and the earlier battle with Death clearly stand for the two sides of Alucard's nature and Alucard's reversal here is therefore a rejection of Dracula. But this reversal is not a simple restoration. In one sense, Alucard does restore the Trinitarian formula's Christian significance by associating it with the merciful, sacrificial Lisa, but in

[11] The same question of translation applies here as before. The Japanese version has '母の名にかけて' – and 'in the name of my mother' is a more direct translation of this; but again it is different from the 'Japanese Trinitarian' mainly because it does not contain the honorific 御, which would roughly relate to the capitalisation of the word in English.

another he removes it from church doctrine by replacing a male with a female God. Because of 'the sins of the Father' Alucard is unable to recuperate the original formulation, significant of his inability to enter patriarchal civilisation. This shifting of the formula around an absent original that can never be legitimately stated is an apt metaphor, then, for Alucard's own back and forth shifting. Alucard's battle cry, followed as it is by the most complete display of his vampiric powers in the game, is perhaps the most succinct image of recursion and ambivalence in *SoTN*, calling on the contrary demands of the Mother and of the Father almost simultaneously.

Alucard's victory over Dracula does not resolve the paradox that was brought about by the specific circumstances of this oedipal drama. We can see this in the aftermath of Dracula's defeat. Unlike Theseus, who emerges as King from the opening he entered as child, Alucard is denied this transformative moment. His inability to resolve his ambivalence prevents him from entering civilisation and in the cut-scene for this ending he categorically renounces society, stating, 'The blood that runs in my veins is cursed. 'Twould be best for this world if I were to disappear for ever' (KCE Tokyo, 1997). The best ending leaves open the possibility of Alucard's entrance to civilisation through marriage to Maria and an alliance with the Belmont family, but this is by no means guaranteed, and at the game's end Alucard remains caught in the windings of the labyrinth, unable to reconcile its contrary demands.

This reading will no doubt be more convincing to some than to others. But whether the specific interpretations of *SoTN* offered here are plausible I hope that the method I have employed in offering them makes clear an approach to space in games that I have attempted to sketch out over the course of this thesis. Game space works in both the representational and embodying mode, but these are not two distinct spheres. This reading is an attempt to show how embodiment can shape the representational work a game accomplishes.

6. Conclusion

This thesis has suggested some of the ways in which videogames can make use of space and place to affect players at emotional and behavioural levels and to collaborate with other aspects of the game such as backstory and character to allow for the elaboration of a diverse set of themes. I have suggested that this takes place according to two different modes: representation and embodiment.

These two modes can be seen as two distinct theoretical approaches to game studies: on the one hand we have expression through communication to the interpreting player; on the other we have expression through performance by the player. But this distinction must be seen as a strategy in defining the main focus of a particular analysis rather than a statement about the true form in which a game is encountered. This distinction is useful in clarifying the difference between representation and embodiment in the same way that Miguel Sicart's (2011) recent attack on 'procedurality,' in which proceduralist critics are taken to task for being too concerned with rules and processes and neglecting the mythic and ritualistic aspects of play, is useful in clarifying different aspects of games. Similarly, a lot of useful insights about how stories-in-games might work came out of the ludology-narratology debate through an insistence on a distinction between the two. By looking at representation and embodiment in turn, this thesis has attempted to understand how each contributes to the experience of playing videogames.

As a means of representing and communicating particular kinds of messages, games make use of their settings and their manner of presenting their environments in an expressive way. This thesis attempted to account for some of the ways in which this can happen. The main theoretical lens through which I approached the question of representation was a traditional formalism which allows games students to do with games what students of literature have been doing with poetry for many years: engage in close readings.

This is perhaps clearest in the close readings of *Oblivion*, which makes use of the game's story as an organising framework through which the game's spatial meanings become available, and *GTA IV*, based as it is in literary toponymy. Each of these analyses assumes a player that is interested in interpretation, an assumption that is challenged by some game scholars. Graeme Kirkpatrick, for example, has defined videogames in terms of 'the emptiness of their form,' insisting that 'the interpretations that matter as far as games are concerned are … the ones that are "bodied forth" by gamers … as against written

interpretations' (2012). While it is true that meanings 'bodied forth' in play are a necessary aspect of game scholarship, this does not imply that 'written interpretations' simply do not matter. It is possible to argue about the relative importance of one mode or the other, but if one is found to be more characteristic of games, this cannot invalidate the other as a way of encountering games or as a way of studying them. We need only consult fan fiction and game reviews to see that at least some players talk about game meaning in the representational sense.

Representation is not intended to suggest a kind of formalism that is blinkered to the work's location in a broader political and cultural context. In the survey of games as well as in the reading of *Resident Evil 5* and *Far Cry 2* and that of the *Civilization* series, the formal effects of space in these games are understood in relation to the geo-political realities of the 20th and 21st centuries. This is seen both in terms of the themes and topics that games make use of and the economic realities of game production and consumption. Critical evaluation of representation is understood, therefore, as not just a description of the aesthetic effects of particular game design decisions, but also of the political, cultural and economic contexts through which these effects become meaningful.

The second way that space can be thought of as an expressive category is in the embodying mode. Here, game space creates a certain way of corporeal being that the player inhabits while playing that I have called the playing-body. Formal aspects of the game, for example the layout of the level and the relationship between the avatar and the player were considered in an attempt to account for how this embodiment occurs and how the playing-body as it emerges in different games can reflect on the body as it is culturally constituted and understood.

Here, the theoretical frameworks are space syntax and phenomenology. Space syntax is used to explore the relationship between an aspect of game space design – that is configuration – and player behaviour. This represents a crossing over from the game as an object to the game as an activity, the general character of which this object implies, encourages or determines. While space syntax is useful in providing critical vocabulary in discussing the relationship between spatial design and behaviour, phenomenology is used to drill down further into this behaviour as an expressive category that is open to aesthetic evaluation. A phenomenological account of the relationship between the controller, the avatar, the environment and the player allows for a critical response to *Skate 2* and *THP8* based on the kinds of embodiment that each game makes available through the twin categories of empathy and tool use.

While treating representation and embodiment separately can help to clarify them theoretically, videogame play is marked by their simultaneous availability. Throughout the thesis it has been the intertwining of these two modes that has been most striking and perhaps most illustrative of the way space functions in games. The various representations of real and fictional places encountered function not only as representations but as spaces that can be in a sense occupied and in which actions can be taken. *Oblivion*'s Tamriel can be thought of as a generic fantasy setting, but what the player can do there fundamentally influences how that setting is experienced. The landscape functions not as something that is merely read, but also as something that is navigated through. The different images of Africa constructed in *Resident Evil 5* and *Far Cry 2* comes not only from the characters and environments that are depicted in the two games but also how the player is expected to use these characters to move through these environments. Similarly, space syntax provides a way in which the configuration of a game environment can be used to think about how players might use that environment. But the World War II setting of *Wolfenstein* and the espionage setting of *Splinter Cell: Double Agent* prime the player to interpret these environments in different ways. The skateboarding games *Skate 2* and *THP8* are considered primarily in terms of how they allow the player to take on a certain playing-body that reflects aspects of skating culture. But this only makes sense when seen in combination with the way in which each game represents urban space, either as a skate-friendly theme park, as in *THP8* or as an authoritarian and hostile environment, as in *Skate 2*.

The final reading, dealing with ambivalence and recursion in *Castlevania: Symphony of the Night*, works to explicitly tie together the thesis's underpinning theoretical concepts of representation and embodiment. Metaphor is offered as a means by which representation and embodiment can work together in interpreting a videogame, with an aspect of the game to do with representation – Alucard's ambivalent character – associated with an aspect to do with embodiment – the recursive performance that the game requires of the player. It is my assertion that though representation and embodiment are parallel modes, the gap between them is at certain moments bridged through the player's imaginative and interpretive encounter with the game.

One of the challenges of this thesis was arriving at methods of thinking about games. In attempting to do this I have engaged with disciplines and methods of analysis with which I was unfamiliar three years ago, but not all of these have made it into the final thesis. Sometimes this has been due to a feeling that the method in question was not well-equipped to deal with videogames. For example, my initial intention was to apply cartographic theory

to game maps. It became apparent to me, though, that the differences between the role of maps in and out of games make cartographic theory less useful in this context than I had hoped. Other approaches I retain faith in, but proved unable to incorporate them into the thesis. For example, I would have liked to conduct empirical investigations into how players navigate game environments, and this is something that is yielding interesting results elsewhere (Mahlmann, Drachen, Togelius, Canossa, & Yannakakis, 2010). However, my own training has not equipped me to do justice to this kind of investigation, though I do hope in the future to collaborate on this kind of empirical work. I would also have liked to have engaged with game designers to get a better insight into the intentions behind how game spaces are put together. The thesis has, however, enlarged on a number of methods that hopefully provide a lens that is useful in understanding aspects of game space. Each also has weaknesses and room for refinement.

The survey of games in the third chapter was an attempt to overcome the problem of selecting games for analysis based on personal taste and knowledge. This succeeded in bringing games into the thesis that I may not otherwise have encountered. Every survey has some selection criteria – in this case the survey looked at popular console games over the last few years – and there is no claim that this is representative of videogames in general. Any analysis tells a partial story, and the best that can be done is to make clear what the selection criteria are and how this affects the analysis. However, as games studies develops as a discipline there is a need to broaden the scope. Future work in this area would look to games that have received less attention in the gaming press as well as older games. There are difficulties associated with this, not least to do with obsolescence of technology and the lack of an effort at preservation of games. These problems are beginning to be taken on with such initiatives as the Game Preservation Special Interest Group at IGDA and the National Videogame Archive at Bradford's National Media Museum. These initiatives are important if games studies is to avoid the formation of a canon that neglects, due solely to inaccessibility, games that have played a role in the development of the form.

The approach to games as texts, found for example in the readings of names in *GTA IV*, of the map in *Civilization* and of ambivalence in *Castlevania*, can bring to the fore potentially interesting readings that may on the one hand enrich the game in question and on the other help develop rhetorical and expressive tools that might be used by game developers as they continue to evolve the craft of videogame expression. Some of the readings suggested in this thesis may, for some people at least, fail on the first level, but it is hoped that the readings might still be useful in pointing toward under-utilised expressive possibilities for space in

games that might be made use of and refined in the future. One of the problems of this textual approach is that it tends to suggest a closing off of meaning in games through a privileging of the critic's response. This is not my intention and I have tried to qualify these readings accordingly. Future work could usefully employ discourse analysis or interviews with a wide range of players to understand how different players interpret games and the extent to which interpretation of this kind is an issue for players.

Another framework used in the thesis was space syntax, which, it was argued, provides a means by which game environments can be formally analysed. Over many years, disciplines of criticism in such realms as poetry and the visual arts have developed a vocabulary for criticism capable of describing with precision the way a work functions. Game criticism is in the process of developing such a vocabulary. Space syntax is offered here as a potential means of describing game space in a way that says something about how that space functions in the context of particular games. In this thesis the theoretical possibilities of space syntax as a system have been outlined, but there is much work to be done in testing the extent to which space syntax might be useful in a games studies context. This would require large scale tests of the relationship between player behaviour in different kinds of games and space syntactical measures of game environments.

Over the course of my research I heard a (possibly apocryphal) story of a platform game released sometime in the 1980s that required, like many games of that era, pixel-perfect timing to get through the game's levels. The story went that the studio ran out of time or money before they could test the levels properly and, somewhere about half-way through the game, there was a gap that was just a couple of pixels too long for the avatar to jump, effectively closing off the rest of the game to even the most skilled or determined of players. The story, true or not, demonstrates the importance of space in games. It is not just a means of creating atmosphere or of representing places, it is fundamental to how the game can be accessed. This thesis has attempted to trace some of the repercussions of this fundamental importance of space in terms of how games can feel, what games can mean, and, as aesthetic artefacts, where they might be heading.

Appendix A

Game titles	Setting	Protagonist's nationality	Genre	Developer
[Prototype]	USA	USA	Sci-fi	Canada (Radical Entertainment)
007: Quantum of Solace	Multiple	Other country/countries	Adventure	US (Treyarch)
ACE Combat 6: Fires of Liberation	Fantasy	Fantasy	War/Military	Japan (Namco)
Active Life: Outdoor Challenge	Unspecified	Unspecified	Dance/Fitness	Japan (h.a.n.d.)
Animal Crossing: City Folk	Fantasy	Fantasy	Other	Japan (Nintendo EAD)
Army of Two	Multiple	USA	War/Military	Canada (EA Montreal)
Assassin's Creed	Multiple	USA	Adventure	Canada (Ubisoft Montreal)
Assassin's Creed II	Multiple	USA	Adventure	Canada (Ubisoft Montreal)
Batman: Arkham Asylum	USA	USA	Superhero	UK (Rocksteady Studios Ltd)
Battlefield 2: Modern Combat	Other country/countries	USA	War/Military	Sweden (Digital Illusions)
Battlefield: Bad Company	Other country/countries	USA	War/Military	Sweden (EA Digital Illusions CE)
Beijing 2008	Other country/countries	Multiple	Sport	UK (Eurocom)
Ben 10: Protector of Earth	Multiple	USA	Superhero	US (High Voltage Software)
Big Beach Sports	Unspecified	Unspecified	Sport	Canada (HB Studios)
Big Brain Academy	Unspecified	Unspecified	Other	Japan (Nintendo EAD)
BioShock	Other country/countries	Fantasy	Sci-fi	US (2K Boston)
Bladestorm: The Hundred Years War	Other country/countries	Other country/countries	War/Military	Japan (Omega Force)
Blazing Angels: Squadrons of WWII	Multiple	USA	War/Military	Romania (Ubisoft Romania)
Boom Blox	Unspecified	Unspecified	Other	US (Amblin Entertainment)
Borderlands	Outer space	Outer Space	Sci-fi	US (Gearbox Software)
Brothers in Arms: Hell's Highway	Other country/countries	USA	War/Military	US (Gearbox Software)
Bully: Scholarship Edition	USA	USA	Adventure	US (Rockstar New England)
Burnout Paradise	USA	Unspecified	Racing	UK (Criterion Games)
Buzz! Quiz TV	Unspecified	Unspecified	Other	UK (Relentless Software)
Cabela's Big Game Hunter 2010	Multiple	Multiple	Sport	Romania (Fun Labs)
Call of Duty 3	Other country/countries	Multiple	War/Military	US (Infinity Ward)
Call of Duty 4: Modern Warfare	Other country/countries	Multiple	War/Military	US (Infinity Ward)
Call of Duty: Modern Warfare 2	Multiple	Multiple	War/Military	US (Infinity Ward)
Call of Duty: World at War	Other country/countries	Multiple	War/Military	US (Infinity Ward)
Carnival Games	Unspecified	Unspecified	Minigames	US (Cat Daddy Games)
Carnival Games: Mini Golf	Unspecified	Unspecified	Minigames	US (Cat Daddy Games)
Command and Conquer 3	Multiple	Multiple	War/Military	US (EA Los Angeles)
Cooking Mama: Cook Off	Unspecified	Unspecified	Minigames	Japan (Cooking Mama Ltd.)
Crackdown	USA	USA	Crime	UK (Realtime Worlds)
Dance Dance Revolution: Hottest Party	Unspecified	Unspecified	Dance/Fitness	Japan (Konami)
Dead Rising	USA	USA	Horror	Japan (Capcom)
Dead Space	Outer space	USA	Horror	US (EA Redwood Shores)

Deca Sport	Unspecified	Unspecified	Sport	Japan (Hudson Soft)
Def Jam Icon	USA	USA	Fighting	US (EA Chicago/DefJam)
Devil May Cry 4	Fantasy	Fantasy	Adventure	Japan (Capcom)
DiRT	Multiple	Unspecified	Sport	UK (Codemasters)
DiRT 2	Multiple	Unspecified	Sport	UK (Codemasters)
Disney Sing It: Pop Hits	Unspecified	Unspecified	Music	UK (Zoe Mode)
DJ Hero	Multiple	Multiple	Music	UK (FreeStyleGames)
Dragon Age: Origins	Fantasy	Fantasy	Fantasy	Canada (Bioware)
Dragon Ball Z: Budokai Tenkaichi 3	Fantasy	Fantasy	Fighting	Japan (Spike)
Dragon Ball Z: Burst Limit	Fantasy	Fantasy	Fighting	Japan (Dimps)
Dragon Quest Swords: The Masked Queen and the Tower of Mirrors	Fantasy	Fantasy	Fantasy	Japan (Genius Sonority/8ing)
Dynasty Warriors 6	Other country/countries	Other country/countries	War/Military	Japan (Omega Force)
Dynasty Warriors Gundam	Outer space	Outer Space	War/Military	Japan (Omega Force)
EA Playground	Unspecified	Unspecified	Sport	Canada (EA Canada)
EA Sports Active	Unspecified	Unspecified	Sport	Canada (EA Canada)
EA Sports Grand Slam Tennis	Multiple	Multiple	Sport	Canada (EA Canada)
Endless Ocean	Other country/countries	Unspecified	Sport	Japan (Arika)
Excite Truck	Multiple	Unspecified	Racing	US (Monster Games)
Fable II	Fantasy	Fantasy	Fantasy	UK (Lionhead)
Fallout 3	USA	USA	Sci-fi	US (Bethesda)
Far Cry 2	Other country/countries	Multiple	War/Military	Canada (EA Montreal)
FIFA 08	Multiple	Multiple	Sport	Canada (EA Canada)
FIFA 09	Multiple	Multiple	Sport	Canada (EA Canada)
FIFA 10	Multiple	Multiple	Sport	Canada (EA Canada)
Fight Night Round 3	USA	Multiple	Sport	US (EA Chicago)
Fight Night Round 4	Multiple	Multiple	Sport	Canada (EA Canada)
Final Fantasy XIII	Fantasy	Fantasy	Fantasy	Japan (Square Enix)
Fire Emblem: Radiant Dawn	Fantasy	Fantasy	Fantasy	Japan (Intelligent Systems (Nintendo))
Forza 2	Multiple	Multiple	Racing	US (Turn 10 Studios)
Forza 3	Multiple	Multiple	Racing	US (Turn 10 Studios)
Forza Motorsport	Multiple	Multiple	Racing	US (Turn 10 Studios)
Game Party	Unspecified	Unspecified	Minigames	US (Far Sight Studios)
Game Party 2	Unspecified	Unspecified	Minigames	US (Far Sight Studios)
Gears of War	Outer space	Outer Space	War/Military	US (Epic Games)
Gears of War 2	Outer space	Outer Space	War/Military	US (Epic Games)
Ghost Recon Advanced Warfighter 2	USA	USA	War/Military	US (Red Storm Entertainment)
Ghostbusters	USA	USA	Comedy	US (Terminal Reality)
God of War Collection	Other country/countries	Other country/countries	War/Military	US (SCE Santa Monica)
Gran Turismo 5	Multiple	Unspecified	Racing	Japan (Polyphony Digital)
Grand Theft Auto IV	USA	Other country/countries	Crime	UK (Rockstar North)
Grand Theft Auto: Episodes from Liberty City	USA	USA	Crime	UK (Rockstar North)
GRID	Multiple	Unspecified	Racing	UK (Codemasters)

Guinness World Records	Multiple	Unspecified	Minigames	UK (TT Fusion)
Guitar Hero 5	Multiple	Multiple	Music	US (Neversoft)
Guitar Hero II	Multiple	Multiple	Music	US (Harmonix Music Systems)
Guitar Hero III	Multiple	Multiple	Music	US (Neversoft)
Guitar Hero: Aerosmith	Multiple	USA	Music	US (Neversoft)
Guitar Hero: Metallica	Multiple	USA	Music	US (Neversoft)
Guitar Hero: World Tour	Multiple	Multiple	Music	US (Neversoft)
Halo 3	Multiple	Outer Space	War/Military	US (Bungie)
Halo 3: ODST	Other country/countries	Outer Space	War/Military	US (Bungie)
Halo Wars	Outer space	Outer Space	War/Military	US (Bungie)
Hannah Montana	Worldwide	USA	Music	US (Avalanche Software)
Hasbro Family Game Night 2	Unspecified	Unspecified	Minigames	US (EA Bright Light)
Haze	Other country/countries	USA	War/Military	UK (Free Radical Design)
Heavenly Sword	Fantasy	Fantasy	War/Military	UK (Ninja Theory)
High School Musical: Sing it!	USA	USA	Music	Canada (Artificial Mind and Movement)
Hot Shots Golf: Out of Bounds	Unspecified	Unspecified	Sport	Japan (Clap Hanz/ Japan Studio (Sony))
inFamous	USA	USA	Sci-fi	US (Sucker Punch Productions)
Jillian Michaels' Fitness Ultimatum 2009	Unspecified	Unspecified	Dance/Fitness	US (Three G)
Just Dance	Unspecified	Unspecified	Dance/Fitness	France (Ubisoft Paris)
Kane and Lynch: Dead Men	Multiple	USA	Crime	Denmark (IO Interactive)
Killzone 2	Outer space	Outer Space	War/Military	The Netherlands (Guerrilla)
Kung Fu Panda	Other country/countries	Other country/countries	Comedy	US (Luxoflux)
Lair	Fantasy	Fantasy	War/Military	Germany/US (Factor 5)
Left4Dead	USA	USA	Horror	US (Turtle Rock/Valve)
Left4Dead 2	USA	USA	Horror	US (Turtle Rock/Valve)
Lego Batman	USA	USA	Superhero	UK (Traveller's Tales)
Lego Indiana Jones	Multiple	Multiple	Adventure	UK (Traveller's Tales)
Lego Star Wars: The Complete Saga	Outer space	Outer Space	War/Military	UK (Traveller's Tales)
Link's Crossbow Training	Fantasy	Fantasy	Fantasy	Japan (Nintendo EAD)
LittleBigPlanet	Unspecified	Unspecified	Other	UK (Media Molecule)
Lost Odyssey	Fantasy	Fantasy	Fantasy	Japan/US (Mistwalker/feelplus)
Lost Planet: Extreme Condition	Outer space	Unspecified	Sci-fi	Japan (Capcom)
Madden NFL 07	USA	Multiple	Sport	US/Canada (EA Tiburon/EA Canada)
Madden NFL 08	USA	Multiple	Sport	US (EA Tiburon)
Madden NFL 09	USA	Multiple	Sport	US (EA Tiburon)
Madden NFL 10	USA	Multiple	Sport	US (EA Tiburon)
Major League Baseball 2K7	USA	Multiple	Sport	US (Kush Games)
Major League Baseball 2K9	USA	Multiple	Sport	US (Visual Concepts)
Mario and Sonic at the Olympic Games	Other country/countries	Fantasy	Sport	Japan (SEGA Sports R&D)
Mario and Sonic at the Olympic Winter Games	Other country/countries	Fantasy	Sport	Japan (SEGA)
Mario Kart Wii	Fantasy	Fantasy	Racing	Japan (Nintendo EAD)
Mario Party 8	Unspecified	Multiple	Minigames	Japan (Hudson Soft)
Mario Strikers Charged	Fantasy	Multiple	Sport	Canada (Next Level Games)

Mario Super Sluggers	Fantasy	Multiple	Sport	Japan (Namco Bandai)
Marvel: Ultimate Alliance	Multiple	Multiple	Superhero	US (Raven Software)
Marvel: Ultimate Alliance 2	Multiple	Multiple	Superhero	US (Vicarious Visions/n-Space/Savage Entertainment)
Mass Effect	Outer space	Outer Space	Sci-fi	Canada (Bioware)
Mercenaries 2: World in Flames	Other country/countries	Multiple	War/Military	US (Pandemic Studios)
Metal Gear Solid 4	Other country/countries	USA	War/Military	Japan (Kojima Productions)
Metroid Prime 3: Corruption	Outer space	Outer Space	War/Military	US (Retro Studios)
Midnight Club: LA	USA	USA	Racing	US (Rockstar San Diego)
MLB 07: The Show	USA	Multiple	Sport	US (San Diego Studio (Sony))
MLB 08: The Show	USA	Multiple	Sport	US (San Diego Studio (Sony))
MLB 09: The Show	USA	Multiple	Sport	US (San Diego Studio (Sony))
Monopoly	Unspecified	Unspecified	Minigames	US (EA Bright Light)
Monster Hunter Tri	Fantasy	Fantasy	Fantasy	Japan (Capcom)
Mortal Kombat vs DC Universe	Multiple	Multiple	Fighting	US (Midway/Warner Bros)
MotorStorm	USA	Unspecified	Racing	UK (Evolution Studios)
My Fitness Coach	Unspecified	Unspecified	Dance/Fitness	France (Ubisoft)
MySims	Unspecified	Unspecified	Other	US (Redwood Studios)
MySims Agents	Unspecified	Unspecified	Adventure	US (EA Redwood Shores)
Naruto: Clash of Ninja Revolution	Other country/countries	Other country/countries	Fighting	Japan (8ing)
NBA 2K7	USA	Multiple	Sport	US (Visual Concepts)
NBA 2K8	USA	Multiple	Sport	US (Visual Concepts)
NBA Live 08	USA	Multiple	Sport	Canada (EA Canada)
NBA Street Homecourt	USA	Multiple	Sport	Canada (EA Canada)
NCAA 08	USA	Multiple	Sport	US (EA Tiburon)
NCAA 10	USA	Multiple	Sport	US (EA Tiburon)
NCAA 2009	USA	Multiple	Sport	US/Canada (EA Tiburon/EA Canada)
Need for Speed Carbon	USA	USA	Racing	Canada (EA Blackbox)
Need for Speed: ProStreet	Multiple	Unspecified	Racing	Canada (EA Blackbox)
Need for Speed: Shift	Multiple	Unspecified	Racing	UK (Slightly Mad Studios)
Need for Speed: Undercover	USA	USA	Racing	Canada (EA Blackbox)
New Play Control! Mario Power Tennis	Fantasy	Multiple	Sport	Japan (Nintendo EAD)
New Super Mario Bros.	Fantasy	Fantasy	Adventure	Japan (Nintendo EAD)
Ninja Gaiden II	Multiple	Other country/countries	Adventure	Japan (Team Ninja)
Ninja Gaiden Sigma	Other country/countries	Other country/countries	Adventure	Japan (Team Ninja)
Ninja Gaiden Sigma 2	Multiple	Other country/countries	Adventure	Japan (Team Ninja)
Oblivion	Fantasy	Fantasy	Fantasy	US (Bethesda)
Operation Flashpoint: Dragon Rising	Other country/countries	USA	War/Military	UK (Codemasters)
Overlord	Fantasy	Fantasy	Fantasy	The Netherlands (Triumph Studios)
PGR4	Multiple	Unspecified	Racing	UK (Bizarre Creations)
Pokemon Battle Revolution	Fantasy	Unspecified	Fighting	Japan (Genius Sonority)
Prince of Persia	Other country/countries	Other country/coun	Adventure	Canada (Ubisoft Montreal)

		tries		
Pro Evolution Soccer 2008	Other country/countries	Multiple	Sport	Japan (Konami)
Pro Evolution Soccer 2009	Other country/countries	Multiple	Sport	Japan (Konami)
Pro Evolution Soccer 2010	Multiple	Multiple	Sport	Japan (Konami)
Punch-Out!!	Unspecified	USA	Sport	Canada (Next Level Games)
Pure	Multiple	Unspecified	Sport	UK (Blackrock Studio)
Rabbids Go Home	Multiple	Unspecified	Comedy	France (Ubisoft Montpellier)
Rainbow Six: Vegas	USA	USA	War/Military	Canada (Ubisoft Montreal)
Rainbow Six: Vegas 2	USA	USA	War/Military	Canada (Ubisoft Montreal)
Rapala Tournament Fishing	Multiple	Unspecified	Sport	Romania (Fun Labs/Magic Wand Productions)
Ratchet and Clank Future: A Crack in Time	Outer space	Outer Space	Comedy	US (Insomniac Games)
Ratchet and Clank Future: Tools of Destruction	Outer space	Outer Space	Comedy	US (Insomniac Games)
Rayman Raving Rabbids	Fantasy	Fantasy	Comedy	France (Ubisoft)
Rayman Raving Rabbids 2	Fantasy	Fantasy	Comedy	France (Ubisoft Paris)
Rayman Raving Rabbids: TV Party	Fantasy	Unspecified	Comedy	France (Ubisoft Paris)
Red Faction: Guerrilla	Outer space	USA	War/Military	US (Volition Inc)
Red Steel	Multiple	USA	Crime	France (Ubisoft Paris)
Resident Evil 4	Other country/countries	USA	Horror	Japan (Capcom)
Resident Evil 5	Other country/countries	USA	Horror	Japan (Capcom)
Resident Evil: The Umbrella Chronicles	Multiple	Multiple	Horror	Japan (Capcom)
Resistance 2	USA	USA	War/Military	US (Insomniac Games)
Resistance: Fall of Man	Other country/countries	USA	War/Military	US (Insomniac Games)
Ridge Racer 7	USA	Unspecified	Sport	Japan (Namco Bandai)
Rock Band	Multiple	Unspecified	Music	US (Harmonix)
Rock Band 2	Multiple	Unspecified	Music	US (Harmonix)
Saints Row	USA	USA	Crime	US (Volition Inc)
Saints Row 2	USA	USA	Crime	US (Volition Inc)
Sega Superstars Tennis	Fantasy	Multiple	Sport	UK (Sumo Digital)
Shadowrun	Other country/countries	Multiple	War/Military	US (FASA)
Shaun White Snowboarding	Multiple	Multiple	Sport	Canada (Ubisoft Montreal)
SingStar	Unspecified	Unspecified	Music	UK (London Studio (Sony))
Skate	Multiple	Unspecified	Sport	Canada (EA Blackbox)
Skate 2	Multiple	Unspecified	Sport	Canada (EA Blackbox)
Smarty Pants	Unspecified	Unspecified	Other	US (Planet Moon Studios)
SOCOM	Other country/countries	Multiple	War/Military	Canada (Slant Six)
Sonic and the Secret Rings	Fantasy	Fantasy	Adventure	US/Japan (Sonic Team)
Sonic Riders: Zero Gravity	Fantasy	Fantasy	Adventure	US/Japan (Sonic Team)
Sonic the Hedgehog	Fantasy	Fantasy	Adventure	US/Japan (Sonic Team)
Sonic Unleashed	Fantasy	Fantasy	Adventure	US/Japan (Sonic Team)
Sonic's Ultimate Genesis Collection	Unspecified	Unspecified	Other	US (Backbone Entertainment)
Soul Calibur IV	Other country/countries	Other country/countries	Fighting	Japan (Namco)
Spider-Man 3	USA	USA	Superhero	US (Treyarch)

Star Ocean: The Last Hope	Outer space	Outer Space	War/Military	Japan (tri-Ace)
Star Wars The Clone Wars: Lightsaber Duels	Outer space	Outer Space	War/Military	Australia (Krome Studios)
Star Wars: The Force Unleashed	Outer space	Outer Space	War/Military	US (Lucas Arts)
Street Fighter IV	Multiple	Multiple	Fighting	Japan (Dimps/Capcom)
Super Mario Galaxy	Fantasy	Fantasy	Adventure	Japan (Nintendo EAD)
Super Monkey Ball: Banana Blitz	Fantasy	Fantasy	Adventure	Japan (Sega)
Super Paper Mario	Fantasy	Fantasy	Adventure	Japan (Nintendo EAD)
Super Smash Bros. Brawl	Fantasy	Fantasy	Fighting	Japan (Nintendo EAD)
Tekken 6	Multiple	Multiple	Fighting	Japan (Namco Bandai)
The Beatles: Rock Band	Multiple	Other country/countries	Music	US (Harmonix)
The BIGS	USA	Multiple	Sport	Canada (Blue Castle Games)
The Darkness	USA	USA	Horror	Sweden (Starbreeze)
The Eye of Judgment	Fantasy	Fantasy	Fantasy	Japan (Japan Studio (Sony))
The Godfather II	USA	USA	Crime	US (EA Redwood Shores)
The Godfather: Dons Edition	USA	USA	Crime	US (EA Redwood Shores)
The Golden Compass	Other country/countries	Other country/countries	Adventure	US (Shiny Entertainment)
The House of the Dead 2 & 3 Return	USA	USA	Horror	Japan (SEGA)
The House of the Dead: Overkill	USA	USA	Horror	UK (Headstrong Games)
The Lord of the Rings: Conquest	Fantasy	Fantasy	Fantasy	US (Pandemic Studios)
The Orange Box	Other country/countries	USA	Sci-fi	US (Valve Corporation)
The Simpsons Game	Multiple	USA	Comedy	US (EA Redwood Shores)
Tiger Woods PGA Tour 07	Multiple	Multiple	Sport	US (EA Sports)
Tiger Woods PGA Tour 08	Multiple	Multiple	Sport	US (EA Tiburon)
Tiger Woods PGA Tour 09 All-Play	Multiple	Multiple	Sport	US (EA Tiburon)
Tiger Woods PGA Tour 10	Multiple	Multiple	Sport	US (EA Tiburon)
Time Crisis 4	USA	USA	Military	Japan (Nex Entertainment)
Tomb Raider: Underworld	Other country/countries	Other country/countries	Adventure	US (Crystal Dynamics)
Toy Story Mania!	Unspecified	Unspecified	Minigames	US (Papaya Studio)
Transformers	USA	Outer Space	War/Military	UK (Traveller's Tales)
Turok	Outer space	USA	Adventure	Canada (Propaganda Games)
Two Worlds	Fantasy	Fantasy	Fantasy	Poland (Reality Pump)
UFC 2009	Multiple	Multiple	Fighting	Japan (Yuke's)
Uncharted 2	Other country/countries	USA	Adventure	US (Naughty Dog)
Uncharted: Drake's Fortune	Other country/countries	USA	Adventure	US (Naughty Dog)
Valkyria Chronicles	Fantasy	Fantasy	War/Military	Japan (Sega)
Virtua Fighter 5	Multiple	Multiple	Fighting	Japan (Sega AM2)
Virtua Tennis 3	Multiple	Multiple	Sport	Japan (SEGA-AM3)
Viva Pinata	Unspecified	Unspecified	Other	UK (Rare)
Wall-E	Multiple	Outer Space	Comedy	US (Heavy Iron Studios)
Warhawk	Fantasy	Fantasy	War/Military	US (Incognito)
WarioWare: Smooth Moves	Unspecified	Unspecified	Minigames	Japan (Nintendo EAD)
We Ski	Unspecified	Unspecified	Sport	Japan (Namco Bandai)

Wii Fit	Unspecified	Unspecified	Dance/Fitness	Japan (Nintendo EAD)
Wii Fit Plus	Unspecified	Unspecified	Dance/Fitness	Japan (Nintendo EAD)
Wii Music	Unspecified	Unspecified	Music	Japan (Nintendo EAD)
Wii Play	Unspecified	Unspecified	Minigames	Japan (Nintendo EAD)
Wii Sports	Unspecified	Unspecified	Sport	Japan (Nintendo EAD)
Wii Sports Resort	Unspecified	Unspecified	Sport	Japan (Nintendo EAD)
WWE 2008	USA	Multiple	Fighting	Japan (Yuke's)
WWE 2009	USA	Multiple	Fighting	Japan (Yuke's)
WWE 2010	USA	Multiple	Fighting	Japan (Yuke's)
X-Men Origins	Multiple	Other country/countries	Superhero	US (Raven Software)
Yakuza 3	Other country/countries	Other country/countries	Crime	Japan (CS1 Team (Sega))
Zelda: Twilight Princess	Fantasy	Fantasy	Fantasy	Japan (Nintendo EAD)

Appendix B

Below is a table for each neighbourhood in Liberty City detailing the neighbourhood's place names, the corresponding names in New York (if applicable), and the naming logic. Where I have been unable to understand the naming logic I have put a question mark. Glosses I am unsure of I have put in italics followed by a question mark.

Liberty City Name	**New York Name**	**Naming logic**
Broker (12 neighbourhoods)	Brooklyn	*?*

Beach Gate	**Sea Gate**	Association
Ketchum St		Tom Ketchum (Black Jack Ketchum)
Claiborne St		Billy Claiborne
Shinnecock Ave		Long Island tribe

Firefly Island	**Coney Island**	*?*
Funland (theme park)		

Firefly Projects	**Brownsville**	*?*
Cody St		William Frederick Cody (Buffalo Bill)
Cokanuk Ave		Iroquois village
James St		Jesse James
Onondaga Ave		Iroquois nation
Ringo St		Johnny Ringo
Mohegan Ave		CT tribe
Saponi Ave		NC/Va tribe
Deadwood St		Deadwood Dick

Hove Beach	**Brighton Beach**	British association
Delaware Ave		English name for Lenape
Iroquois Ave		Member of the league of Indian Nations
Bart St		"Black Bart" Boles
Masterson St		Bat Masterson
Wappinger Ave		NY/CT tribe
Hardin St		John Wesley Hardin
Oneida Ave		Iroquois nation
Starr St		Belle Starr
Kid St		Billy the Kid (and various others)
Garrett		Pat Garrett
Oakley St		Annie Oakley
Tulsa St		Don Red Barry – "The Tulsa Kid"
Gibson St		John Gisbon
Cisco St		The Cisco Kid
Mohawk Ave		Iroquois nation

East Hook	**Red Hook**	Adapted
Mohanet Ave		Iroquois nation
Broker Navy Yard	Brooklyn Navy Yard	Adapted

Outlook Park	**Prospect Park**	Synonym
Soldiers Plaza (monument)	Grand Army Plaza	Adapted

Rotterdam Hill	**Clinton Hill/Brooklyn Heights**	Dutch association

Asparagus Ave	Cranberry St., Orange St., Pineapple St.	Substitution 'fruit' streets in Brooklyn Heights with 'vegetable' streets.
Onion St		
Chive St		
Chicory St		

Downtown	**Downtown**	No change
Munsee Ave		Language spoken by Menape
Dillon St		Marshall Matt Dillon
Earp St		Wyatt Earp
Montauk Ave		Long Island Tribe

South Slopes	**Park Slope**	Association
Hickock St		Wild Bill Hickock
Erie Ave		Iroquois tribe
Sundance St		The Sundance Kid
Conoy Ave		Tribal Nation, Chesapeake
Boone St		Daniel Boone
Broker-Dukes Expressway	Brooklyn-Queens Expressway	Adapted

Schottler	**Sunnyside**	*?*
Tuscarora Ave		Iroquois nation
Seneca Ave		Iroquois nation
Cayuga Ave		Iroquois nation
Wenrohronon Ave		NY tribe
Cassidy St		Butch Cassidy
Carson St		Kit Carson
Algonquin-Dukes Expressway	Queens-Midtown Expressway	Adapted

BOABO	**DUMBO**	Adapted
Brunner St		Charles Brunner
Creek St		George "Bitter Creek" Newcombe

Beechwood City	**Flatbush**	*?*
Tutelo Ave		VA tribe
Pancho St		Side-kick of the Cisco Kid

Dukes (8 neighbourhoods) Queens Royalty

Steinway	**Astoria/Long Island City**	Steinway=street in Astoria
Dukes Drive	*Grand Central Parkway?*	Descriptive
Hewes St		Joseph Hewes (NC)
Franklin St		Benjamin Franklin (PA)
Harrison St		Benjamin Harrison (VA)
Concord Ave		One of the first battles of the Revolutionary war: 1775; Continental army victory.
Trenton Ave		Battle of 1776. Continental army victory.
Ticonderoga Ave		Battles in 1775 (American victory) & 1777 (British victory).
Yorktown Ave		Last battle of the Revolutionary War, 1781. Also a battle in the Civil War, 1862.
Brandon Ave		Charles Brandon, Duke of Suffolk - Brother-in-law of Henry VIII (Tudor)

East Island City	**Long Island City**	Secondary feature
Hooper St		William Hoopers (NC)
Dukes Boulevard	Queens Boulevard	Derived name
Bunker Hill Ave		1775 battle, Pyrrhic victory for British.
San Jacinto Ave		1836 (Final battle of Texas Revolution)
Hancock St		John Hancock (MA)
National Union of Contemporary Arts (NUCA) (building)	P.S.1 Contemporary Art Center	

LC24 Tower (building)	Citicorp building	

Cerveza Heights	**Jackson Heights/Flushing/Corona**	Spanish 'crown' for 'beer'
Valley Forge Ave		American camp 1777-78
Stone St		Thomas Stone (MD)
Thornton St		Matthew Thornton (NH)
Huntington St		Samuel Huntington (CT)
Livingston St		Philip Livingston (NY)
Inchon Ave		1950, Korean War, American landing that turned tide of Korean War in UN's favour.
Camden Ave		Battle of 1780; British victory.
Charleston Ave		Siege of 1779; British victory. Also Civil War battle, 1863.

Meadows Park	**Flushing Meadows Park**	Word dropped
Savannah Ave		British victories in 1778 and 1779
Middleton Lane		Arthur Middleton (SC)
Stillwater Ave		1777, American victory, precipitated French alliance.
Walton Lane		George Walton (GA)
The Monoglobe (monument)	The Unisphere	Synonyms
Liberty State Pavilion Towers (building)	The New York State Pavilion Towers	Derived name

Meadows Hill	**Forest Hills**	Category switch
Lynch St		Thomas Lynch, Jr. (SC)
Aragon St		Catherine of Aragon (Tudor)
Howard St		Catherine Howard (Tudor)

Willis	**Hollis**	Near homonym
Seymour Ave		Jane Seymour (Tudor)
Tudor St		Tudor (reference to prevalent architecture in Hollis)
Cleves Ave		Anne of Cleves (Tudor)
Carrollton St		Charles Carroll of Carrollton (MD)
Parr St		Catherine Parr (Tudor)
Ellery St		William Ellery (RI)
Freetown Ave		Battle of 1778; American victory.
Saratoga Ave		1777 (see Stillwater)

Francis Airport	**JFK Airport**	*RFK's middle name?*
Francis International Airport (building)		

Charge Island	**Ward's Island/Randall's Island**	Toll booth

Bohan (7 neighbourhoods) *The Bronx*

South Bohan	**South Bronx**	Adapted
Gainer St		Breakdance move
Hollowback St		Breakdance move
Switch St		Breakdance move
San Quentin Ave		State Prison, CA
Wallkill Ave		Breakdance move
Joliet St		Correctional center, IL
Attica Ave		Correctional facility, NY

Chase Point	**Hunts Point**	Synonym
Rocket St		Breakdance move
Spin St		Breakdance move
Windmill St		Breakdance move
Guantanamo Ave		American detention camp, Cuba

Fortside	**Fordham**	Near homonym
Lotus St		Breakdance move
Applejack St		Breakdance move
Drop St		Breakdance move
Valdez St		Breakdance move
Mill St		Breakdance move
Folsom Way		State Prison, CA
Elbow St		Breakdance move
Turtle St		Breakdance move

Boulevard	**Concourse**	Synonym
Grand Boulevard	**Cross Bronx Expressway**	Descriptive
Butterfly St		Breakdance move
Greene Ave		State Prison, PA
Uprock St		Breakdance move

Industrial	**Sound View/Point Morris**	Descriptive
Beaumont Ave		Federal Prison, TX
Darkhammer St		Breakdance move
Jackhammer St		Breakdance move
Lompoc Ave		Federal Prison, CA
Worm St		Breakdance move
Drill St		*?*
Leavenworth Ave		Federal Prison, KS

Northern Gardens	**Co-Op City/Pelham Gardens**	Adapted 'gardens'
Northern Expressway	*New England Thruway?*	Descriptive
Planche St		Breakdance move
Caterpillar St		Breakdance move
Altona Ave		Correctional Facility, NY
Coxsack Ave		Coxsackie Correctional Facility, NY
Bronco St		Breakdance move

Little Bay	**Throg's Neck**	Descriptive
Flanger St		*?*
Alcatraz Ave		Federal Prison, CA
Sing Sing Ave		Correctional Facility, NY
Downrock Loop		Breakdance move

Algonquin (27 neighbourhoods) Manhattan Native American Tribe

Avenues (run vertically through several neighbourhoods)	**Numbered**	**Acronyms instead of numbers**
Albany Ave		Capital NY
Bismarck Ave		Capital ND
Columbus Ave		Capital OH
Denver-Exeter Ave		See below
Denver Ave		Capital CO
Exeter Ave		Former capital NH
Frankfort Ave		Capital KT
Galveston Ave		Former capital TX

Streets (run horizontally through several neighbourhoods)	**Numbered**	**Acronym instead of numbers**
Amethyst St		Gemstone, mineral (SiO_2) – "intoxication" – jewellery
Barium St		Element (Ba) – "heavy"
Calcium St		Element (Ca) – "lime"
Diamond St		Gemstone, Mineral (C) – "unbreakable" – jewellery
Emerald St		Gemstone (Beryl) – jewellery
Feldspar St		Gemstone, Group of minerals; in igneous rock

Garnet St		Gemstone, Mineral “red”
Hematite St		Gemstone, Mineral “resembling blood”
Iron St		Element (Fe)
Jade St		Gemstone, Semi-precious stone – “stone of the flank”
Kunzite St		Gemstone – named after George F. Kunz
Lorimar St		Gemstone (AKA Larimar)
Manganese St		Element (Mn); “of Magnes”
Nickel St		Element (Ni) “Copper Demon
Obsidian St		Gemstone, Volcanic rock
Pyrite St		Gemstone (costume jewellery) Mineral (AKA fool’s gold) “firestone”
Quartz St		Gemstone, Mineral
Ruby St		Gemstone “reddish”
Silicon St		Element (Si) “hard stone”
Topaz St		Gemstone
Uranium St		Element (U) “Uranus”
Vauxite St		Mineral
Wardite St		Mineral
Xenotime St		Mineral

1. Castle Gardens	**Battery Park**	Castle Garden=area in Battery Park
Castle Tunnel	Brooklyn Battery Tunnel	Adapted
Flatfish Place		Pun (flatfish plaice – spelt this way in game but not on paper map)
South Parkway		*Pun (Southpark=TV show)?*

2. The Exchange	**Financial District**	Stock Exchange
Amsterdam Lane		Dutch association

3. Castle Garden City	**Battery Park City**	Castle Garden=area in Battery Park
Castle Drive		Descriptive
Union Drive West	West St	Descriptive

4. City Hall	**City Hall**	No change
Liberty Lane		
Civic Citadel (building)	Woolworth Building	

5. Chinatown	**Chinatown**	No change
Wong Way		Pun (wrong way)
Cavity Lane		Pun (canal street)
Bridge Lane North		Descriptive
Bridge Lane South		Descriptive

6. Fishmarket South	**South Street Seaport**	Descriptive
Borlock Road		*?*
Bus Lane		Descriptive

7. Little Italy	**Little Italy**	
Brown Place	*Greene St?*	*Colour?*

8. Suffolk	**SoHo**	
Back Passage		*Pun; slang for anus?*
Ersatz Row		*?*

9. Lower Easton	**Lower East Side**	Near homonym

10. Fishmarket North	**The Bowery**	*?*
Privateer Road	*South Street Viaduct?*	
Union Drive East	FDR (East River) Drive	

11. The Meat Quarter	**Meatpacking District**	Adapted

12. The Triangle	**Flatiron District**	Flatiron building is triangular in shape
Rotterdam Tower (building)	The Empire State Building	Dutch connection

13. Easton	**East Village**	Near homonym
Grand Easton Terminal (building)	Grand Central Station	Adapted

14. Presidents City	**Alphabet City**	Leads to Colony Island=Roosevelt Island

15. Westminster	**Greenwich Village**	British connection

16. Star Junction	**Times Square**	Entertainment Industry
Burlesque	Broadway	Entertainment Industry

17. Lancet	**Kips Bay/Turtle Bay**	Site of hospital (Lancet Journal)
Civilization Committee (building)	United Nations Building	
Zirconium Building (not on map)	Chrsyler Building	

18. Purgatory	**Hell's Kitchen**	Association of meaning
West Way		Descriptive
Hell Gate		*Moved from Brooklyn?*

19. Hatton Gardens	**Tudor City**	Christopher Hatton, favourite of Elizabeth I (Tudor)

20. Middle Park West	**Upper West Side**	Descriptive
Randolf Art Center (building)	Lincoln Center for the Performing Arts	*?*

21. Middle Park	**Central Park**	Synonym

22. Middle Park East	**Upper East Side**	Descriptive

23. Varsity Heights	**Morningside Heights**	Site of University
Ivy Drive South	*Riverside Drive?*	*?*

24. Lancaster	**Yorkville**	British connection

25. North Holland	**Harlem**	Dutch connection
Ivy Drive North	*Henry Hudson Parkway?*	*?*

26. East Holland	**Spanish Harlem**	Dutch connection
Astoria		Neighbourhood in Queens, Hotel in Manhattan, famous New Yorker
Cod Row		Pun: cod roe
San Juan Road		Puerto Rican connection

27. Northwood	**Inwood/Washington Heights**	Near homonym
Walnut Way		*?*
Grummer Road		*?*
Vespucci Circus		Amerigo Vespucii
Boleyn St (not on map)		Anne Boleyn

28. Colony Island	**Roosevelt Island**	*?*
President Ave		Leads to 'Roosevelt Island'

29. Happiness Island	**Liberty Island**	
Statue of Happiness (monument)	Statue of Liberty	

Acter Industrial Park	**South Kearny**	Descriptive
Red Wing Ave		1956 nuclear test series
Plumbbob Ave		1957 nuclear test series
Trinity Road		1945 – first nuclear test
Nougat St		1961-62 nuclear test series
Musketeer Ave		1986-87 nuclear test series
Chariot Ave		1958 nuclear test series
Ranger Ave		1951 nuclear test
Storax Road		1962-63 nuclear test series
Sculpin Ave		1990-91 nuclear test series
Grenadier St		1984-85 nuclear test series
Praetorian Ave		1981-82 nuclear test series
Toggle Ave		1972-73 nuclear test series
Grommet St		1971-72 nuclear test series
Mandrel Road		1969-70 nuclear test series

Alderney State Correctional Facility		
Alderney State Correctional Facility (building)	*Hudson County Correctional Center?*	

Tudor	**Elizabeth**	British connection
Barsac Ave		1969 test, part of Operation Bowline
Emery St		1970-71 nuclear test series
Julin Ave		1991-92 nuclear test series
Phalanx Rd		1982-83 nuclear test series
Anvil Ave		1975-76 nuclear test series
Tinderbox Ave		1979-80 nuclear test series
Ivy Rd		1952 nuclear test series
Hardtack Ave		1958 nuclear test series
Argus St		1958 – nuclear test series (outer space)
Niblick St		1963-64 nuclear test series (underground)

Port Tudor	**Elizabethport**	British connection
Latchkey Ave		1966-67 nuclear test series
Fulcrum Ave		1976-77 nuclear test series
Odhner Ave		Willgodt Theophil Odhner (calculator)
Traeger Rd		Alfred Traeger (pedal radio)

Acter	**Kearny**	*?*
Plumbers Skyway	Pulaski Skyway/New Jersey Turnpike	*?*
Aspdin Dr		Joseph Aspdin (Portland cement)
Berners Rd		Tim Berners Lee (WWW)
Lee Rd		Tim Berners Lee (WWW)
Vitullo Ave		Louis Vitullo (sexual assault evidence kits)
Edison Ave		Thomas Edison (electricity distribution)
Schneider Ave		Ralph Schneider (credit card)
Sinclair Ave		Clive Sinclair (Spectrum computers)
Moog St		Robert Moog (electronic synth)
Babbage Dr		Charles Babbage (computer)

Berchem	**Hoboken/North Bergen**	Hoboken and Berchem are neighbouring Belgian towns.
Cockerell Ave		Christopher Cockerell (hovercraft).
Bear St		Owsley "The Bear" Stanley (large scale manufacture of LSD)
Fleming St		Alexander Fleming (penicillin)
Drebbel		Cornelius Drebbel (submarine)
Farnsworth Rd		Philo Farnsworth (electronic TV)

Mueri St		*?*
Kemeny St		John George Kemeney (BASIC)

Normandy	**Bayonne**	French region/French city
Strower Ave		*?*
Roebuck Rd		John Roebuck (sulphuric acid)

Alderney City	**Jersey City/Newark**	Channel Islands
Asahara Rd		Shoko Asahara (Aum Shinrikyo)
Boyden Ave		*?*
Koresh Sq		David Koresh (Branch Davidian)
Bedrock St		1974-75 nuclear test series
Keneckie Ave		*?*
Lockowski Ave		*?*
Myung		Sun Myung Moon (Unification Church)
Jonestown Ave		Jim Jones (Jonestown)
Lyndon Ave		Lyndon LaRouche (The LaRouche Movement)
Bowline		1968-69 nuclear test series
Mahesh Ave		Mahesh Yogi (transcendental meditation)
Rael Ave		Claude Vorilhon (Raelian Movement)
Applewhite St		Marshall Applewhite (Heaven's Gate)
Rand Ave		Ayn Rand (Objectivism)

Leftwood	**Englewood**	
Panhandle Rd		Range in Alaska
Catskill Ave		Range in New York
Franklin St		Range in the Rocky mountains
Long John Ave		Range in the Rocky mountains
Franklin St		Range in Canada's Northwest territories and elsewhere
Manzano Rd		Range in the Rocky mountains
Sacramento Ave		Range in the Rocky mountains
Bridger St		Range in the Rocky mountains

Westdyke	**Weehawken**	
Flathead Rd		Range in the Rocky mountains
Lemhi St		Range in the Rocky mountains
Percell Rd		(Purcell) Range in British Columbia
Ortiz Rd		Range in the Rocky mountains
Beaverhead Rd		Range in the Rocky mountains
Cariboo Ave		Range in British Columbia
Tenmile St		Range in the Rocky mountains
Owl Creek Ave		Range in the Rocky mountains
Big Horn Drive		Range in the Rocky mountains
Cassiar Ave		Range in the British Coumbia

Bridges and Tunnels

Dukes Bay Bridge (Dukes-Bohan)	Throg's Neck Bridge	
Northwood Heights Bridge (Algonquin-Bohan)	Alexander Hamilton Bridge	
East Borough Bridge (Algonquin-Charge Island-Dukes)	The Robert F. Kennedy Bridge	
Algonquin Bridge (Algonquin-Broker)	Manhattan Bridge	
Broker Bridge (Algonquin-Broker)	Brooklyn Bridge	
Leaper's Bridge (Algonquin-Colony Island)	Roosevelt Island Bridge	Suicide
Hickey Bridge (Algonquin-Alderney)	George Washington Bridge	Thomas Hickey – former guard of Washington, executed for mutiny and sedition.
Booth Tunnel (Algonuin-Alderney)	Lincoln Tunnel	John Wilkes Booth

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