Interpolated Identities: Designing a Complex Experiential Commitment to the Virtual

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Liam Fiddler BCA BCompSc

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Abstract

The integration of the user into a persistent digital world often takes place unknowingly as part of the paradigm that is pervasive computing. In particular, the virtual worlds used in massively multiplayer online role-playing games (MMORPGs) are becoming so far removed from the rules or form upon which they were initially based that they have become hyperreality (Baudrillard 1994). It is an ever changing and intertextual realm, filled with complex experiential messages, allusions and references (Kaveney 2005). Aspects of play are structuring the online experience, forming a crucial part of these programmed worlds, where developing and adhering to a persona or hierarchical class is the norm. Any degree of commitment to the microcosm of the virtual simultaneously places a burden on the user while freeing them to explore different lifestyles, appearances, and projections of themselves.

This study appraises the modes of identification and interpolation of the user's identity into the simulacra of digital role playing games, using Blizzard Entertainment's MMORPG *World of Warcraft* as reference. It does so by analysing the fundamental game design mechanics used to create an inhabitable realm and the impact to which the user's surroundings or positioning in a contemporary programmed virtual world affects their immersion. The degree to which the immersion succeeds or fails is shown to be influenced by the distinction in interaction modes between real players and non-player characters. Existent or hyperreal, these characters contribute to the gamespace that all other players inhabit which, in turn, serves to structure and mediate their interaction. This reciprocal shaping of interaction is shown as having ancillary effects on the generation of meaning and recognition, broadening the inescapable divide between a user's real-world personality and the digital representation of themselves through the necessarily confined interface.

Declaration

I certify that this thesis is entirely my own work except where I have given full documented references to the work of others and that the material contained in this thesis has not been submitted for formal assessment in any formal course.

Liam Fiddler

6th November, 2009

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Introduction

World of Warcraft, a computer video game developed by Rob Pardo, Jeff Kaplan and Tom Chilton (herein referred to as 'Blizzard' or 'the designer') then published by Blizzard Entertainment, was released in November 2004 to critical acclaim. It is the fourth game in the Warcraft universe yet, although previous games can be classified under the massively multiplayer online (MMO) game umbrella, it is notable for being the first role-playing game (RPG) in the series. Its predecessors were modeled in the real-time strategy system and featured an isometric viewpoint where the player controlled an entire army of troops, developing settlements and defending or raiding outposts. By contrast, World of Warcraft uses a player-adjustable third-person 3D viewpoint and allows control of only one avatar and one pet at any given time. At the time of writing two expansion sets have been released for World of Warcraft¹. The Burning Crusade, the first expansion set, was made available in January 2007 and added all new in-game items, a plethora of new quests, increased the level cap to 70 (from 60), enabled the training and use of flying mounts, added two new playable races (Blood Elf and Dranei), and opened the Dark Portal a large gate which leads to another digital world (Blizzard Entertainment 2007). Nearly two years later the second expansion for the game, Wrath of the Lich King (Blizzard Entrtainment 2008e), was released. Not only did it bring an even larger level cap (now 80), the inclusion of siege weapons and a new playable class (the Death Knight), but it also heralded a whole new continent filled with quests and stories. Guiness World Records lists World of Warcraft as the most popular MMORPG (2009).

The comparatively recent emergence of software art and the paradigm of pervasive computing has led to a large amount of discourse on the topic of video games as a form of art. On the whole it seems the academic community tend to lean in favour of such a classification. Salen

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¹ A third expansion set, Cataclysm, was announced in August 2009 and is slated for a 2010 release

and Zimmerman in *Rules of Play* (2004), Juul in *Half-Real* (2005) and Krzywinska in *Blood Scythes, Festivals, Quests, and Backstories* (2006) have all argued convincingly on the topic. In general, and particularly in the game development industry, the opinions seem to be more divided. Roger Ebert suggests that games cannot be art due to their interactivity, stating that, "video games by their nature require player choices, which is the opposite of the strategy of serious film and literature, which requires authorial control." (Moses & Murray 2006). Likewise Steve Stamatiadis, co-founder of Brisbane-based game studio Krome, has suggested that although "games have the potential to become recognized as an art form in the future, they're not there yet" (McInnes 2006).

In examining the notion of identity, specifically the user's interpolation into the persistent gamescape of a contemporary programmed massively multiplayer online role playing game (MMORPG), it is important to consider the work of relevant theorists and the myriad of ways they elect to approach the concept. Esther MacCallum-Stewart and Justin Parsler deal with the act of role-playing itself and the impact the game's structure has on the user in their paper *The Difficulties of Playing a Role in World of Warcraft* (2008). Whereas Torill Elvira Mortensen's essay, *Humans Playing World of Warcraft: or Deviant Strategies?* (2008), broaches the topic from a different the point of view; that of an established player who abides or breaks the rules which enforce the game design.

The Difficulties of Playing a Role in World of Warcraft effectively investigates the act of role-playing itself by analysing the activities one can perform in the game. It builds upon Joris Dormans' definition of role-playing games (2006) and goes further to state that a player who is making an intentional effort to role-play in an MMORPG like World of Warcraft is seeking to extend their avatar beyond the scope of the game. They are consciously transcending the game mechanics to develop a "plausible, defined reality of its own... they direct that character's actions, not as a player controlling a game avatar, but rather like an author, scripting their protagonist"

(MacCallum-Stewart & Parsler 2008, p226). The paper touches on the issue of role-playing through a confined interface, referring to it as a "'picture frame' consisting of health bars and chat channels" (2008, p228) but does not dwell or expand upon the idea further. When discussing the immersion of a user into the game world MacCallum-Stewart and Parsler quickly point out that for the most part the avatar makes no lasting impression on the completion of a task. It is suggested that even though the game itself can be seen as a protean form, the questing system lends a sense of stasis to the game and this causes problems for role-players: "Since everyone does the same quests repeatedly, free movement is restricted; players are following a set pattern and not acting independently" (2008, p235). Though the counterpoint argument is handled by Krzywinska (2006) who compares the experience to the retellings of myths which do not necessarily have a linear chronology or fixed protagonist.

Where *The Difficulties of Playing a Role in World of Warcraft* looks at the avatar as a being separated from the user by the game construct, *Humans Playing World of Warcraft: or Deviant Strategies?* (2008) treats the avatar as an extension of the player. In adopting this point of view Mortensen argues that the rules of play are fundamental to the expression of the user's identity ingame. The essay's description of these rules echoes the realm described by Jesper Juul as an arena of permissions where any action which is not purposefully denied must, therefore, be allowed (2005). *Humans Playing World of Warcraft: or Deviant Strategies?* concedes that "to role-play slows the avatar's progress toward higher levels, which makes it a counter-productive deviance from the game norm." (Mortensen 2008, p210), while it continues to address why players might choose to role-play through the retelling of in-game events. These stories emphasise the digital game platform's rules, where the code represents the limit (Mortensen 2008, p205). Mortensen notes that the reward for role-playing in *World of Warcraft* is "intangible, qualitative, and highly subjective. It can't be measured and it can't be compared, except to the degree it is formed into story and enjoyed by other players." (Mortensen 2008, p210), in other words; by adhering to the role

playing conventions the user reinforces the virtual world and is rewarded according to the world's rules. If the members of a guild act in a way that is chivalrous then they will gain the personal respect of others in the game and "underline the fantasy of the guild members as disciplined heroes, knights of epic battles of myth and story" (Mortensen 2008, p210).

With over 11.5 million players worldwide as of December 23rd 2008 (Blizzard Entertainment 2008), roughly equivalent to half of Australia's population, *World of Warcraft* commands more than 62% of MMORPG market share (MMOGChart.com n.d.). It is considered successful, if only in the number of role-players it attracts, yet the question is what makes it more successful than others MMORPG's? MacCallum-Stewart and Parsler argue that it is the scope of the virtual world that encourages this kind of play (2008), whereas Mortensen suggests that the underlying code fails to address the core concerns of role-playing and it is the gamers themselves who build and reinforce the realm through their interactions (2008). These are not necessarily mutually exclusive points of view, but they give rise to a critical gap dealing with the design of the game-interface and how it impacts on play and meaningful interaction.

Chapter 1: Diversity by Selection

The screen flickers. You are standing in a field. The grass is short and yellowing. A worn cathedral fills your field of vision. You turn to survey the area. To your left are some people; traders peddling their wares from the broken-down carts nearby. A red-masked bandit weaves a path between the trees to your right, on the other side of a stream. The splashing sound of the stream on the rocks is soothing – but something isn't quite right. There is something unusual about the rocks – they aren't wet. In fact, now that you consider the close proximity of the river and abundant forest, the yellow grass you have been standing in is starting to seem odd as well...

Digital environments offer scope for strange and exotic geographic conditions. The uniformly ragged edges of a dirt path on a tile-based grid might initially strike a user as being odd, yet seem plausible when contrasted against the other hyperreal representations of nature: "They can be so detailed that they trap us in their perfection and their presentation can become too flawless, too clean" (Nitsche 2008, p21). In our everyday lives we are unlikely to travel from a sub-tropical rainforest to the snow-capped tips of an expansive mountain range (within no less than a few minutes of one another), however the environment we encounter on a day-to-day basis has little bearing on the glowing points of light on our screen. The designer of the game world moulded all of these diverse forms, each one devised to encourage interaction guided by the user in ways both active and reactive. Nothing in this crafted, synthetic world is unintentional, or so it would seem. Within the mechanical randomness of the generated terrain lies a formula - but does this formula impact on the player's experience? Is its shape and form motivated by the core gameplay mechanics or can alternate motivations be discerned? Does the world encourage further play and can it aid in generating a complex experiential commitment to the virtual?

It can be seen that computer gaming has a preoccupation towards incorporating a coherent gamescape for the players to explore: "From the earliest 2D or text-based arenas of Pong (1972) or Adventure (1976), the evolution has steadily been toward bigger, more complex, more detailed, and more pliable landscapes" (Aarseth 2008, p112). While the gamescape of *Pong* (Allcorn 1972) is limited to the edges of the screen the tile-based world of Adventure (Robinett 1979) saw a freeroaming avatar move across screen boundaries to adjoining quadrants. Shortly thereafter visual cues like parallax effects or pre-rendered 3D isometric games became the standard for video game graphics and the virtual worlds had to incorporate this new methodology - after all, high-fidelity 3D graphics are a sine qua non for digital gaming (Nitsche 2008, p2). Even within the Warcraft series the expanding scope of the virtual can be seen. Warcraft: Orcs & Humans (Wyatt 1994), the first game in the Warcraft series, featured a two-dimensional aerial view of the current game zone. After completing a level the player's army is transported to the next zone. This gave the player an understanding of the types of environments found in the virtual world, but no understanding of how they connect together - the army wasn't shown traveling the geozones between the battlefields, it was simply 'there'. In stark contrast World of Warcraft features a 3D gamescape that is many times the scale of the world in *Warcraft: Orcs & Humans* and provides the player with a navigable environment that requires less suspension of disbelief.

Figure 1: Azeroth



(Source: MapWoW.com World of Warcraft Maps 2009)

The rich variety of zones in Azeroth (the fictional world in *World of Warcraft*) and their density relative to the landscapes on Earth upon which they are based makes the world map look more like a patchwork quilt than a geological entity (see Figure 1). The world is diverse, but it is a diversity similar to that found in a planned garden; every plant carefully selected so as to represent as wide a variety as possible yet favour none. This compartmentalisation of the gameworld can be seen to ruin the worldliness of the simulation. Emphasis has been placed on the player's ability to traverse the landscape and visit the various simulated spaces. Azeroth is designed as a playable and functional space. In the written form blocks of time spent traveling can be alluded to or entirely skipped. In movies a montage can be used to signify the passage of time. Single player games can make use of cutscenes to gloss over periods of time. A MMORPG, and indeed any MMO, is limited

in its representation of time. Time spent in-game must be analogous to time spent playing since all players are experiencing the world simultaneously, and this limits travel through the world. In building this kind of virtual world the designer is constrained to a structure where space-time cannot be individually flexible. This formulaic representation of time and space echoes that of the real, but is modified to engage the user at a pace which is enjoyable and aids in gameplay, yet is objective and continuous (Aarseth 2008, pp118-119). The balance between the individual and the playercollective is determined by enjoyment, not realism, or sociopolitical and geographic physics. Despite geographic implausibilities Azeroth's regional zones appear to make sense on some level. Approached critically, or in overview, the warring capital cities are illogically close and the mixture of locales impossibly varied - but like a planned urban space the simulated world meets the needs of its community. The players will likely traverse these geozones in a predetermined order, constructed through the artificial borders of level-based restrictions - where an inexperienced avatar is too weak to venture forth without being challenged by more powerful or better equipped avatars or simply by following the narrative that is developed as a player completes quests, which in turn dictates their movement (Aarseth 2008, p121). The positioning of elements, particularly meeting places and the major cities for each race / faction, correlates directly to the intentions of the developer.

In *Wargames Handbook, Third Edition* James Dunnigan suggests that when designing a game world only the terrain features that have some effect on the player's operations be included. "There is an unspoken assumption that only that which is essential is displayed. It is normally considered a bad design if information is included in the game does not contribute to one's understanding of what is going on" (2000, p109). In general it seems that Blizzard has followed this principal in designing Azeroth, though there are a few key areas where it has deviated in order to enrich the history and lore of the world. This is most evident in the city of Ironforge, the in-game

home of the Dwarves and the unofficial capital of the Alliance (*World of Warcraft*'s 'good' faction).

Ironforge is situated near the middle of the right-most continent, directly between Stormwind and the Undercity (the Human and Undead major cities respectively). The city has been placed deep within one of the tallest mountains and is comprised of numerous sub-zones, each with their own distinctive look and feel. Geographically this makes Ironforge both the safest and the most contested stronghold in the game, though according to the game manual, and consequently Warcraft lore, the stronghold was never breached by the Horde during the Second War (Blizzard Entertainment 2004, p171). These traits have been reflected in the visual design of the city - from the winding road leading to an ostentatiously oversized main entrance, to the numerous high-level guards trekking between checkpoints. There are large statues representing the Dwarven gods, each modeled and textured so as to appear as if carved from the mountain itself. Burning braziers cast simulated light onto the surrounding polygons. Few of these designs are relevant to the gameplay or the mechanics that contribute to enjoyable gameplay. Instead these additions add to the façade that predominates the virtual. Their existence is not one that is solely motivated by the core play requirements. It helps to build an image of the Dwarven society as a whole, enabling a meaningful role-play (the 'RP' in MMORPG) to emerge. As Marie-Laure Ryan put it: "the immersive quality of the representation of space depends not on the pure intensity of the information ... but rather on the salience of the highlighted features" (2001, p124). The presence of a statue is far from being essential to the game map, the game could function perfectly well without it. Similarly the periodic yelling of Myra Tryngaarde, a female Dwarf who walks a set path around the city selling bread – an item whose only function is to restore health and consequently is of little to no use to a player when they are surrounded by dozens of more effective healing methods. Their existence is conditional. They could be removed from the game at any time, a key design feature of contemporary programmed virtual world.

If one were to engage with the game on a procedural level exclusively they would likely become bored. The core gameplay in *World of Warcraft* can, at times, seem particularly facile - it can be simplified down to defeat enemy, collect loot, obtain better weapon, defeat more powerful enemy, collect loot, and so forth. The setting isn't required to be figurative, it could just as easily be represented as a two-dimensional grid similar to that of a chess board. Like the Dwarven statues, the patchwork of the virtual map brings the many races and factions together in a believable fashion, but it is the code that drives the game and consequently provides *raison d'être* for the digital world (Wark 2007, p90). The world is a construct designed to inform perceptions of the game. The world itself serves a purpose, ergo its contents must support it in serving this purpose. This manifestation of purpose is dictated purely by the motivations of the designer; the many zones and geographic features are immaterial and can be adjusted to fit any criteria.

A digital world is one that is built upon a series of rules often echoing our own perceptions of reality. Being both digital and programmed, the world can be seen as a place where all the logic, structure and behaviours are determined long before any players have the opportunity to inhabit or explore. The user is limited to experiencing the world intellectually, their physical interaction with the mouse and keyboard translated to action in the digital realm, so it follows that a digital realm should be designed in such a way that is mentally stimulating. The human element in the massively multiplayer virtual world means that the baseline rules governing the gamescape cannot be changed to any large degree (Aarseth 2008, p122). Keeping the world plausibly defined while maintaining the user's interest and driving product sales requires the world undergo regular updates – but the players can't change the world at a whim, the designer must curate the experience.

Salen and Zimmerman have generated discourse regarding the lasting impact of the avatar on the game world, or lack thereof (2004, p96), while the designer's authorial impact can be seen in

their ability to expand upon or re-imagine previously published content. At midnight on January 16th, 2007 Azeroth was permanently altered. As if from nowhere a small new island appeared in the top-left corner of the world map and the cities were flooded with previously unseen races, the Draenei and the Blood Elves. This was a major change, one which has significant ramifications compared to the usual tweaks and bug fixes rolled out by Blizzard in their fortnightly patches. The Burning Crusade expansion set opened the Dark Portal, an in-game gateway to the second 'world' of Warcraft entitled Outland. Azeroth was no longer an inhabited world, it was persistant. It was now patently obvious to all that it could be transformed at the designer's discretion. Changes made by the designer in the virtual reality impacted on all players - whether they were logged in or not - the previously static world would never be the same. The experience of exploring the world is increased in proportion to the map, with the new geozones built to be a diametric to the previously traversed regions (Blizzard Entertainment 2008a).

Nearly two years later, facing competition from several other similar games, Blizzard released another expansion set; *Wrath of the Lich King*. By doing so they increased their visibility in the marketplace, and at the same time consolidated their position as the premier online role-playing game. The effectiveness of this strategy was proven a month later when Blizzard Entertainment announced that the customer base had now reached 11.5 million active subscribers (2008b). *World of Warcraft* became known as 'the' MMORPG and reviewers used it as the standard metric when judging other games of this type. In a critique of the newly released *Warhammer: Age of Reckoning* (Jacobs, Barnett & Hickman 2008) this was acknowledged in the following way, "the question everyone will be asking is, 'How are you gunna compete with WoW?'" (ABC Television 2008). More recently, in a review of *Aion* (NCsoft 2009), Joystiq went so far as to assert that players should simply "hop right back into World of Warcraft like you know you're going to do anyway in a month's time." (Gilbert 2009). The flow-on effects of this type of enhancement to the virtual world are many and varied, as expansion sets dramatically increase a game's marketable

longevity, furthering play and attracting new players to the fold. This new expansion brought players back to world of Azeroth (from Outland) and onto the recently formed continent of Northrend maintaining the commitment to the virtual. Like *The Burning Crusade*, *Wrath of the Lich King* added new territory, but this time it was grafted onto the existing gamescape instead of creating yet another world accessible via portal. These were not purely cosmetic adjustments, each one contained the potential to change the way the game is played as new and existing players negotiated virtual geographic features not previously encountered.

In a contemporary programmed virtual world the designer has the ability to modify the game content, their discretion is absolute. Terrain features can be permanently altered, in-game architecture constructed or deconstructed, objects and textures remodeled. Regardless of motivations, be they commercial or artistic, the designer aims for a greater intellectual commitment from the player. These factors are not always utilitarian in essence as they do not necessarily influence the core gameplay mechanics - though they may increase the value of the gameplay. A fuller picture of the world can be divined through the addition of seemingly ephemeral objects and landmarks. The designer is forging a connection between the real and virtual worlds, fostering a familiarity more likely to develop into a complex experiential commitment.

Chapter 2: Where Physical Perfection is the Norm

The game's loading bar fills quickly. You are sitting at the entrance to a cave. You examine yourself from a third-person perspective, simultaneously in control of your body and yet still an observer. Your shoulders are broad, your torso tightly muscled, your jaw finely chiseled... You are pleased with your 'other' self.

The term 'avatar' has its origins in Indian mythology but has been appropriated by the gaming fraternity to describe an individual's player-controlled character within the gameworld. An avatar is not simply a preconfigured template so much as an identity that has been fleshed out by the gamer from the options made available by the designer. The options available fit within boundaries defined in the narrative to identify each particular race readily, for example, height and body shape are consistent depending on race and gender. In this respect the designer has a greater influence on the look of avatars than the gamer who may make superficial alterations to eye colour, skin pigmentation, mode of dress and hairstyle. Certain mores are in place by which the player must abide, the avatar is forced to stand upright with a consistently heroic posture - if this is in keeping with their racial profile. The designer could have allowed the player to modify this behaviour, the functionality could have been programmed into the game, but certain decisions have already been made on the player's behalf. These design decisions have a direct influence on the way the player performs in the game, as shown by Yee and Bailenson's research on transformed social interaction (2007). Yee and Bailenson found that simple manipulation of an avatar's height or attractiveness directly correlates to their actions in-game – the studies showed that a shorter avatar correlates to a 72% likelihood of a player accepting unfair distribution of virtual wealth, as opposed to playercontrolled avatar's of normal, 31%, or taller, 38%, height (Yee & Baileson 2007, p20).

Avatars seemingly mimic humanoid conduct, though this is subject to the necessarily restricted ability of the designer to portray such behaviour in an entirely realistic way: "Something in their movement, their reactions, their structure, reminds us - is clearly intended to remind us - of living things" (Whitelaw 2004, p2). Physicality is limited, each member of each race moves in the same way and at the same speed, their range of movement is also similarly proscribed. Yet they seem lifelike and were designed to appear so – unlike the mechanical or procedural devices we regularly encounter. Appearance is here understood as the perception of the avatar, going beyond 'physical' appearance to include the representational and symbolic tags associated with the avatar during play. To this degree players involve themselves in the gameworld and direct the avatar's participation, or in Newman's words: "The level of engagement, immersion or presence experienced by the player... is not contingent upon representation. On-Line, 'character' is conceived as capacity - as a set of characteristics" (2002). Each role in World of Warcraft is identifiable by race, mode of dress, choice of weaponry and each of these is linked to an avatar's level reflecting a measure of status, proficiency and experience. As the avatar's level increases a variety of options open up the possibility of additions to, or replacements for items of clothing, accessories and weapons, items that may strengthen or enhance a designated avatar's abilities or racial talents. As in life, choices can be influenced by a desire to affect the perceptions of other players or to ensure that your avatar makes the requisite impression during gameplay: "Appearance is not something static but is fundamentally connected to performance, which, in turn, is partly determined by capacity" (Tronstad 2008, p250).

In any MMORPG a variety of avatar classes (tribes or identities) can ensure that gameplay is multifaceted due to the differing talents and specialisations inherent in the class type chosen by the player. The designer has implemented a very specific core gameplay mechanic which determines the capacity of each class, as part of this mechanic each class needs to have both binary opposite and complementary capacities to achieve balance. Therefore, we see an increasing

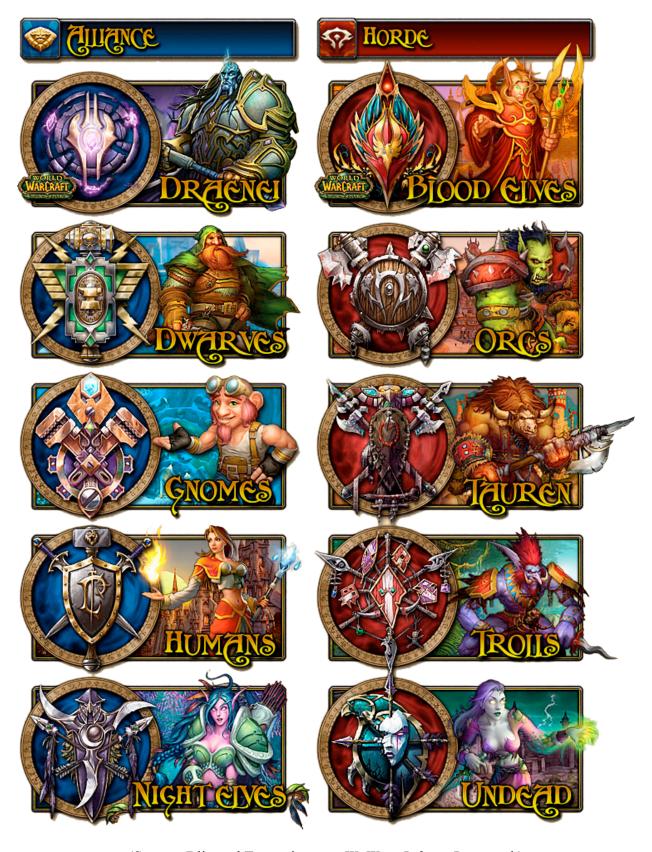
connection between the avatar's characteristics and appearance throughout the course of the game. The choices players make regarding appearance and capability become a determining factor in their future path, for example no avatar is forced to choose the armour with the greatest hit-points, they may instead opt for the most attractive however this will affect their ability to survive in battle: "As the player proceeds through the game, she gradually discovers the rules that operate in the universe constructed by this game" (Manovich 2001, p222). The way a player relates to these rules and structures creates an allegory that McKenzie Wark terms 'allegorithm' in his work *Gamer Theory*: "The gamer discovers a relationship between appearances and algorithm in the game, which is a double of the relation between appearances and a putative algorithm in gamespace — that's allegorithm" (2007, p31).

In the initial stages of individual avatar development the player may make choices based on appearance or their own preconceptions of the way a certain class or character would be represented within the contemporary programmed virtual world. Further gaming sessions may then cause the player to make alterations to their avatar in a bid to enhance the value of their gameplay:

If the player has chosen a character type with capacities that make it difficult to advance in the game (without the player changing her preferred style of playing), the player may find that identifying with the character's looks is less effective in connecting to the character than being able to identify with it's capacities (Tronstad 2008, p255)

Over time the player may become more focused on performance issues such as skill-levels and abilities rather than appearance and mode of dress. This constitutes a form of evolution in the sense that the avatar could be said to mutate to better suit its circumstances at the behest of the player. The algorithm needs to be represented visually and in a variety of formats all of which have their basis in the original format produced by the designer, modification by the player is limited by the gameplay mechanics.

Figure 2: WoW -> Info -> Races



(Source: Blizzard Entertainment, WoW -> Info -> Races n.d.)

A first-time player about to enter *World of Warcraft* is likely to see in the online game manual a set of illustrated representations of the playable races in the game (see Figure 2). This immediately sets up a limited social view of the world. There are two opposing factions, their positioning in the spectrum of good to evil is made clear by the use of colour and prominent placement of weaponry. The iconography has been designed in such a way that even at a glance some of the key game mechanics and avatar possibilities are apparent. For example, the Gnome heraldic blazon has two spanners crossed and the creature is wearing goggles, to identify the gnomes as an industrious race with a specialisation in engineering. This particular piece of information gives some insight into the expected behaviour of a Gnome avatar in-game. Likewise the Troll idiograph features spears and some shamanistic symbols, placing you in the mindset that this particular race is run under a tribal hierarchy. In this way the designer has utilised key aspects of the real by referencing high fantasy tropes and transposing them into a virtual gamescape. The gameworld becomes more accessible to the player, as they are still somewhat within the realm of the known, with the familiar elements assisting the player in guiding their avatar's actions and interactions.

Upon installation of *World of Warcraft* the opening cinematic begins, which sets up the game in a timeline relative to previous games in this series and establishes a contemporary programmed virtual world where "the drums of war thunder" (Blizzard Entertainment 2004). Using pre-rendered 3D computer graphics the cinematic expands upon the online manual's idiographs to display a level of interaction not achievable in-game. This clip acts as a preface to the game, representing its core gameplay mechanic and underlying methodology.

Figure 3: Introductory Video Screenshots

(Source: Pardo, Kaplan & Chilton, World of Warcraft 2009)

The first character encountered is a Dwarf, he fits the traditional dwarven fantasy archetype. He has, presumably, climbed an icy mountain as evidenced by the snow on his clothes and beard. In one hand he carries a large black-powder gun, while the other signals commands to his attack bear. These are the trappings of the Hunter class, one of the paths an avatar can take whilst playing the game. Next to appear on-screen is a Night Elf. The glyphs on the character's staff, indeed the simple fact that she carries a staff as opposed to a larger, deadlier weapon, suggests that she is a trained Druid, yet another path an avatar might follow. The speed at which she moves indicates that she has a high level of agility, common to all elves in-game due to the distribution of statistics - this is known in-game as a 'racial passive' ability. Further, her transformation into a panther reveals the

Feral Combat specialisation tree available to all Druids who gain sufficient talent points. The Night Elf is followed by an Undead Warlock who exhibits the ability to "drain opponents life, to restore their own health" (Blizzard Entertainment 2008c) and summon familiars to fight at its side. Shortly thereafter the scene changes to reveal a Tauren Shaman. The Taurens are depicted as being very in tune with the earth and yet are implacable enemies who use their skill in herbalism to fashion biological weapons. The Orcs are represented here by the frenzied Warrior class. The character is seen surrounded by flames, enchained and working himself into an adrenalised state in preparation for engaging the enemy in battle. This foreshadows the Warrior class' ability to generate rage, the defining attribute of the Warrior class within *World of Warcraft*. Completing our introduction to the original races is the human, in the form of a fire specialised Mage. Clad in a cloth robe, a simple way of introducing the mage as the glass cannon – very powerful, but unable to withstand much damage.

In both the opening cinematic and in the online game manual the avatars are represented in a manner which is quite different to the character models and textures used in-game. This is not limited to the way these characterisations appear but in their movements, in their facial expressions and in the interactions between combatants. For example the illustration of the Night Elf in the online game manual shows a quiver filled with arrows slung over her shoulder and hanging down her back whereas in-game the quiver is not displayed, it is merely represented by an icon and numerical counter in the player's inventory. The opening cinematic similiarly embellishes upon the in-game characterisation by allowing the Night Elf to dodge attacks with precise and fluid movements, the likes of which are not currently allowed within the scope of the program. The introductory presentations of the avatar do not accurately portray the specifics of role-playing within the virtual, however they provide some insight into the designers intentions for the use of the avatar. The addition of the quiver to the illustration alludes to the fact that arrows are a weapon available to the avatar. Representing the avatar in multiple formats allows the designer to open

doors for player interpretation, adding extra dimensions to the character and broadening the scope for individualisation. Swartjes and Vromen describe the limitations inherent in a solely 3D virtual environment in a paper from the AAAI (Association for the Advancement of Artificial Intelligence) Fall Symposium, in 2005:

Make sure that the displayed virtual world does not overly constrain the possibilities to define the world differently when necessary... in a realistic 3D environment, it might appear strange when a broom pops up out of nowhere... A textual medium offers the most flexibility; one can always rely on the potential presence of the broom unless its presence was specifically denied. In a graphical medium displaying the living room without a broom can remove this potential. (Swartjes & Vromen 2005, pp148-149)

By not enforcing a strict point-of-view on the player, Blizzard has granted permission to imagine and redefine the virtual to fit the story woven by their avatar's journey. The designer has positioned the avatar as a vehicle that a player can travel through so as to experience, via the avatar, the programmed virtual world.

Knowing that there is no fair programmatic way to add a tangible reward system for staying in character why does a player choose to role-play in a contemporary programmed virtual world? Progressing towards higher levels and earning more skills or attributes is more time-consuming and difficult when role-playing as it typically precludes 'grinding' – a term used to describe a player "staying in the same area fighting the same types of monsters for a very long time" (Blizzard Entertainment 2008d). Torill Elvira Mortensen, an academic from MIT and the leader of 'The Truants' an in-game guild that is devoted to researching virtual worlds, suggests that the reward for role-playing is not one provided by the game itself. She posits that there are intangible rewards stemming from pride or a sense of achievement when a player and their fellow adventurers engage in a shared experience (2008, p210). The difference here between experience and behaviour is that

the former is an active and often reflective engagement with an event, whereas the latter is the action you might take in a situation that presupposes less emotional investment.

In 2005, in World of Warcraft, one such shared experience occurred when a new dungeon was added to the game. The final enemy, or 'boss', in the dungeon caused a debuff called 'Corrupted Blood' that infected the avatar with a transmittable disease. This disease would reduce the avatar's health by up to 1125 hit points immediately and would cause a further 2000 damage over the next 10 seconds (Wowhead n.d.); enough to kill even the most powerful avatars at the time. Upon killing the boss or exiting the dungeon the debuff would be cleansed. Unfortunately, and to Blizzard's surprise, some pets and familiars could leave the dungeon without the cleansing code being executed. They became carriers of the disease and it was rapidly transmitted to the far ends of the world. Jeremy Reimer, in an article for Ars Technica, described Blizzard's response in the following manner: "Game masters (GMs) tried to quarantine certain players from moving into new areas, but they kept escaping the quarantine and moving on to infect other people" (2005). The capital cities in game were most affected by this plague and the contagion took hold to the extent that any avatar brave or foolhardy enough to enter would inevitably suffer infection and death. Some players took it upon themselves to use their avatar's healing magic and first aid skills to protect the more vulnerable avatars, while others simply hid from the plague by escaping to the furthest edges of the continents. Yet more travelled to enemy cities, intentionally taking advantage of the plague as a weapon of biological warfare. According to one of Blizzard's own game masters they were unable to provide a cure to the infected avatars "and it was still a huge problem because people purposely spread it to each other to keep it alive" (Arashi 2007). As a result Blizzard "became very proactive against it and pretty much ported people who still had it to random places, let them die" (Arashi 2007). An experiential commitment to the programmed world was exhibited by a willingness to risk an avatar's virtual life inflicting damage on the enemy or protecting those of the same faction. Those that sacrificed in order to take this action were rewarded in two ways,

firstly they gained the personal respect of all the players involved in the struggle, secondly and most importantly to other role players their actions were able to "underline the fantasy of the guild members as disciplined heroes, knights of the epic battles of myth and story" (Mortensen 2008, p210). The rewards for remaining in-character are not directly provided by the game platform and can best be described as intangible, subjective and not easily measured or compared.

The view that MacCallum-Stewart and Parsler share is that gamers who are role-playing are consciously transcending the game mechanics to develop a "plausible, defined reality of its own... they direct that character's actions, not as a player controlling a game avatar, but rather like an author, scripting their protagonist" (2008). The identity the player develops while controlling the avatar is one which incorporates the existing high fantasy archetype and their class capacity as defined within *World of Warcraft*. The new identity is then interpolated with the avatar's other characteristics, filling the gaps intentionally left by the designer.

Chapter 3: Converting Intent into Action

The number of simultaneous players in a contemporary programmed virtual world has increased exponentially over the past few decades, although the amount of avatars in any local area remains relatively small. In *World of Warcraft* a player will be questing solo, engaging in player versus player (PVP) combat as part of a three player team, in a five member party, or a ten, twenty or forty member raiding group. When questing solo you are most likely to encounter other players who are also questing solo rather than the larger groups whose focus is on engaging with other similar sized groups or a dungeon boss of comparable strength and ability. Some of these battle groupings are localised to areas of the gamescape that are sealed off to other players, during an 'instance'. In gaming terms, an instance is a self-contained portion of the gameworld that can be concurrently utilised by different player groups, each group is provided their own version in which to play. Like an alternate reality the impact a group has on their instance is unique and is not reflected in parallel instances. For example, your group is preparing to wage combat with the dungeon boss in your instance, while another group might have just defeated the boss and yet another could have just entered and is fighting the enemies that your group has already defeated.

The specifics of play have evolved notably over time, although the fundamentals of the core gameplay mechanic have remained basically unchanged in the sense that players still communicate via text, while their avatars are still used as vehicles for role-play and the games still evoke the same sense of enjoyment and satisfaction. Increased computer power, server capacity and enhancements to the visual fidelity of modern games have not altered the intrinsic reason players return to the game or as Espen Aarseth wrote, "so while the semiotic layer afforded by the graphics and physics engines keeps improving, it does not seem to have a profound effect on the gameplay" (2008, pp112-113). It is inferred here that the social aspects of the gameplay engender a greater

degree of loyalty or commitment from the player as they immerse themselves in the virtual. The reason players join guilds or raiding parties is to interact with their peers in an online milieu, with between 25.2% and 31.7% of players finding their most rewarding or satisfying experience in any given week in an MMORPG rather than in real-life (Yee 2006, p30). Role-playing in-game is in many respects superior to LARP (live action role-playing) as your avatar will always be able to convincingly portray a different race, species or gender to your own, its animated actions are always in keeping with the world's lore. Though in attempting to devise a plausibly defined reality the designer has to consider the actions a player might wish to make during gameplay. *World of Warcraft* currently features a number of set-pieces an avatar might enact, from telling self-deprecating jokes to spitting on others. In short, Blizzard have attempted to cater for the myriad of emotions the player might want to convey. However this means that an avatar is incapable of portraying any and every emotion due to the limited variety of expressions available. There are two main reasons an avatar might not be able to perform an action, one is that the appropriate animation has not been scripted and the other reason is that the player does not have adequate knowledge of the commands necessary (Swink 2009).

The inherent limitations created by the interface have caused the players to devise methods of expressing emotions utilising combinations of the available actions. By attaching verbal expressions to the physical actions of the character a player is able to add nuance and colour to their avatar. In this manner the existing actions can also be given new meaning forming a set of social signals more specific to the gamescape. Experienced and knowledgeable players can operate more readily within this realm as they have the cultural currency necessary to understand and participate fully, Wark refers to this as the 'gamescape heterotopia' (2007). Wark justifies this classification of the gamescape heterotopia by extending Michel Foucault's definition of heterotopia as "a space that is other, another real space, as perfect, as meticulous, as well arranged as ours is messy, ill-constructed and jumbled." (1967). Specifically, Wark argues for further subdivision of Foucault's

heterotopia by way of "heterotopias of useless luxury" into "heterotopias of aesthetic play and of calculated games." (2007 p110). *World of Warcraft*'s strict implementation of procedural code in the design of the interface forms the unique set of interactions that provide the basis for it's heterotopias of aesthetic play and calculated games. The actions coded and permitted by the designer form the actions used by the player. It is in the combination of aesthetic play, the "images and stories for mediating between the gamer and gamespace" (Wark 2007, p113) and calculated games, where "different attributes of body and mind are placed into contests of skill or luck...

Every way of measuring what one body does against another" (Wark 2007, p113), that meaningful play emerges. Role-playing content in an MMORPG like *World of Warcraft*, by Wark's logic, falls under the category of aesthetic play; it does not really contain any violence, dancing or weapons these are just the art. It is the form of the game that drives the gamescape and necessitates the gameworld. The underlying algorithm that structures the game and determines the action/response pairings in the gamescape creates the heterotopian margins.

In order to facilitate more rapid communication between avatars, Blizzard and the gaming community have developed a shorthand method of interaction that is unique to *World of Warcraft*, it has become the unofficial language of the virtual world. 'Speccing', 'questing', 'grinding' and the 'roflcopter' are all terms which have a vastly different meaning outside the context of the digital realm. The importance of speed in a shared digital world is the difference between virtual life and virtual death, a moment's pause thinking of the requisite phrasing may imperil the avatar and it's raiding party. It may seem that this limitation emphasises the predominance of the real world over the gamescape, although it is equally correct to say that it is precisely these types of emergent language forms that serve to define a unique reality. The language used in-game shares more in common with the colloquialisms and structure of modern International English than with the Middle English terminology and phrasing generally associated with high-fantasy. This is one

element that helps differentiate between role-playing in a MMORPG and LARP or tabletop wargaming.

To role-play in a contemporary programmed virtual world requires a clearly defined set of parameters, as Joris Dormans recently acknowledged RPGs have a "troublesome relation between roleplaying on the one hand and rules, gaming and gameplay on the other" (2006). The avatar is less a persona of the player than a vehicle through which the player interacts with the virtual world and this makes a first-person perspective unnecessary – even though it may seem more appropriate for a role-player. The technical reasoning for this is clear; the core gameplay dictates that the player must be able to see the area surrounding their avatar as opponents can attack from any direction and a player needs to know where others of their party are located.

There is a certain theatrical or performative element to the role-playing experience that the designer has created for *World of Warcraft*. The player may be more affected by their own emotional or social responses when directing their avatar to taunt or gesticulate rudely at another avatar, which achieves no positive effect in-game. It would be more productive to direct their avatar to perform an action that is less of an emotive response and more likely to achieve a quantitative result, such as attacking another avatar directly. In Tronstad's words, "as they are affecting the other players, in roleplaying environments they'll typically be effecting re-actions from the other players/characters" (2001). Every designed action is interpreted by the players who perform or witness that action and these signals in the gamescape heterotopia form a complex experiential framework within the virtual world. Certain of these actions are only available through the use of predefined commands typed into a console, these are textual commands and no buttons, icons or mouse movements in the GUI (Graphical User Interface) will provide shortcuts. The appropriate commands must be learned during gameplay or through trial and error. Consequently, skills the player may possess in the routine of their daily life cannot necessarily be transposed into the virtual

world. Game play intentions need to be translated into physical action by use of the input medium and interface utilised by the designer. The control of these actions may bear no resemblance to their real-world counterparts where a complex action cannot be simplified to a keystroke. The ability to convert intent into action skillfully can engender in a player a sense of confidence in themselves which can solidify their commitment to the game (Swink 2009, p24). Learnt kinesthesis appropriate in the game space is not an intuitive response, the actions of the mouse affect the actions onscreen, as the player does not have a direct physical connection with the virtual object under their control.

When Esther MacCallum-Stewart and Justin Parsler refer to the actions interface of *World* of *Warcraft* as nothing more than a glorified "'picture frame' consisting of health bars, icons, and chat channels" (2008, p228) they are failing to note the myriad of community supported modifications available to tweak, adjust or replace them. Blizzard created an interface that is flexible and mutable while being reactive to the player in providing scope for user generated content. Emergent coercive systems foster an organic relationship between the game's code and the participating players. This can increase the perceived value of the gameplay by allowing the player to forge an almost symbiotic bond with the interface, avatar and gameworld structures. Grau Oliver describes the bond between these elements:

It is at the interface, which must be used by the active observer according to the rules of the particular illusion world, that the structures of the simulation designed for communication meet up with the human senses. Thus, the interface in virtual reality functions pervasively as the key to the digital artwork and molds both the perception and the dimensions of interaction. (2003, p198)

Productive player communities generating content which changes the gamescape are able to do so because the designer has programmed the system to allow for and encourage emergent gameplay.

Taylor's 'player-developer' categorisation of the modification community (2008) recognises the feeling of ownership that can be attributed to the more committed participants who engage in the reimagining of the *World of Warcraft* interface: "Blizzard has constructed their game system so that player-developers can dramatically change not only the way the game looks, but indeed how it is experienced and played" (Taylor 2008, p188).

The GUI acts as an extension of the senses bridging between the real and the virtual, allowing the flow of feedback to transmit expressions of intent and action. This tool is designed to allow the player both to see the game and control the action: "One result of this extension of the senses into the game world is the shifting of identity... With real-time control over an object, a player's identity becomes fluid. It can inhabit the avatar" (Swink 2009 p13). In part, this sense of identifying with the avatar builds a player's sense of commitment to the virtual, the player becomes subsumed in the avatar through the interface and it is via the digital medium that the player and his or her avatar experience the virtual world (Manovich 2001, Salen & Zimmerman 2004, Kryzwinska 2006, MacCallum-Stewart & Parsler 2008, Swink 2009). The player's perception of digital objects is shaped by the way they discern their interaction with an object. For example, a boulder which takes time and effort to move will be perceived as having substantial mass. Similarly, a character that is rendered in a semi-transparent manner is assumed to be of lesser mass than a completely opaque character. The designer has deliberately used these signifying systems in order to assist players in making associations between the virtual and the real. Once enough interactions are experienced or discerned they integrate these into a mental image of an independent world with its own rules and laws of physics:

Whereas discernability of game events tells players what happened (I hit the monster), integration lets players know how it will affect the rest of the game (If I keep on hitting the monster I will kill it. If I kill enough monsters, I'll gain a level.). Every action a player takes

is woven into the larger fabric of the overall game experience: this is how the play of the game becomes truly meaningful. (Salen & Zimmerman 2004, p35)

The ongoing time investment required to progress in an MMORPG combined with the accentuated agency designed into the core gameplay allows a complex experiential commitment to evolve. This commitment entails heightened experiences that go far beyond that which is accessible in real-life; in Yee's words "a substantial portion of users derive experiences in these virtual environments that are more satisfying and rewarding than their real-life experiences" (2006, p30).

There are enough recognisable elements in the social interface design of the gamescape to make it seem familiar and at the same time disjointed and alien as it does not totally conform to the rules or interpersonal mores of our social reality. The actions performed by the avatar through the graphical user interface, as directed by the player, have been designed so as to imitate the humanoid actions they parallel. Despite this the intentions of the player are abstracted by way of computer input peripherals and as such can not ever truly feel intuitive and immersive. There is no button labeled 'meaningful role-play' in *World of Warcraft*, it is something that develops as the player experiences interaction with other characters in-game. These actions are pre-programmed by Blizzard, but are designed to be generic enough that they can be adapted and interpreted in a myriad of ways depending on context.

Conclusion

The interplay between gameworld, avatar and interface form the crux of the player's commitment to the virtual. Experiences in the virtual domain determine the structure upon which the player's emotional connection to the game is built, these experiences are complex in nature operating on multiple levels both internal and external to the gameworld. Blizzard Entertainment's MMORPG *World of Warcraft* is an example of this phenomenon, as intentionally programmed by the game designer. Each player navigates their avatar through the gamescape via the interface and their very existence affects and justifies the virtual world. Within the design there are certain omissions that are unintentional and others that are considered flaws, while another category of ommissions allow scope for the more performative aspects of role-playing. Juul described this arena of permissions as one in which any action that is not purposefully denied must, therefore, be allowed (2005).

Having been designed as a playable and functional space Azeroth is formulaic in its representation of time and space. Due to the multiplicity of players experiencing the world simultaneously it is necessary for this continuum to be objective and analogous to that of the real (Aarseth 2008, pp118-119). Strange and exotic geographic conditions have been designed into this persistent gamescape to add the requisite element of alien-ness and yet a certain familiarity remains intact. The designer of this compartmentalised gameworld shaped its diverse forms, each one devised to encourage active and reactive role-play. A two-dimensional grid, like that of a chess board, would be as representative as the more literally graphic, three dimensional viewpoint with which the player is provided, however this precludes the addition of ephemera that contribute to believability. In the opinion of both Ryan (2001) and Dunnigan (2000), it is not necessarily the number of geographic features present in-game, but instead "the salience of the highlighted features" (Ryan 2001, p124). The authorial impact of the designer can be seen in their ability to

reimagine and expand the gamescape as evidenced by the release of numerous patches, revisions and expansion sets. These adjustments made within the virtual reality impact on all players and bring about a change both perceptual and experiential – requiring a greater intellectual commitment from the player and forging a connection between the real and virtual worlds.

MacCallum-Stewart & Parsler (2008) and Dormans (2006) have argued that the underlying code fails to address the core concerns of role-playing, although Mortensen suggests that it is the gamers themselves who build and reinforce the realm through their interactions (2008). The virtual world's rules are reinforced by players who adhere to the role-playing conventions, their rewards being intangible and subjective, serving only to further the story their avatar weaves in its interpersonal relationships with other game characters. The avatar forms an extension of the player. their intentions and perceptions personified and given form, if only in a virtual sense (Swink 2009, p13). In the game, quests remain constant and the instances are repeatable, while the designer has provided scope for the avatar's characteristics and performance to individualise the experience for the player. Newman notes that an: "On-Line, 'character' is conceived as capacity – as a set of characteristics" (2002) which Tronstad expanded upon in the following way: "Appearance is not something static but is fundamentally connected to performance, which, in turn, is partly determined by capacity" (2008, p250). The player is interpolated into the gamescape via the vehicle of the avatar – the way they define their avatar filling the gaps in the characterisation intentionally left by Blizzard. An avatar becomes more than a standard template, it inherits an identity authored by the player using options presented by the designer. Their appearance, that is the perception of the avatar and any representational including symbolic tags that might emerge during play, is shaped by the player as they experience the game world. Social mores external to the virtual domain are often inserted into the player's actions during their interactions with other characters, their real, symbolic and imaginary qualities serving to aid the player in defining their avatar.

An avatar is unable to access a wide variety of expressions to portray each emotion, due to the obvious limitations in the size and scope of the programmed software. However, role-players still aim to generate physical and textual discourse by assigning new meanings to available actions, or combinations of the same actions. A knowledgeable player operates more easily in this arena as they have in their possession the necessary cultural currency to negotiate this gamescape heterotopia (Wark 2007). Aarseth believes that although "the semiotic layer afforded by the graphics and physics engines keeps improving, it does not seem to have a profound effect on the gameplay" (2008, pp112-113), the element that maintains player interest is focused not only on the actions proscribed by the interface but by the interpersonal relationships forged within the course of play. Taylor recognises that the designer allows for the idea that "player-developers can dramatically change not only the way the game looks, but indeed how it is experienced and played" (2008, p188), giving the player the ability to structure gameplay to individual taste. Commitment is enhanced by the designer engaging the player's creative input, thereby providing the player with a complex sense of experiential ownership and belonging.

The interface permits the player to inhabit the avatar, while the avatar allows the player to experience the gameworld. The designer is the facilitator of the gaming experience, passive in nature, having developed the rules that formulate the core gameplay mechanic. It is not necessary for the player to grant permission to the designer to modify or re-imagine this programmed virtual world. Yet the designer must remain open to the needs and wants of the gaming community when altering or enhancing the gamescape. The code that drives the game forms the basis of a symbiotic relationship between the player and the virtual. During play a gamer will either consciously or intuitively discern the bond between appearances and algorithm (Manovich 2001 & Wark 2007). Emergent coercive systems are developed in the gamescape heterotopia through interaction between participants, forming a complex experiential framework for the virtual world. The player's reliance on computer input peripherals prevent an entirely immersive experience, the basis of Salen and

Zimmerman's 'immersive fallacy' (2004). However, the arena of permissions programmed into massively multiplayer online role-playing games allow for a qualified measure of player-generated agency (Juul 2005). Within this medium the designer has created the means by which a player becomes part of the virtual with their intentions and identity translated into the digital format of the avatar, by way of the interface, to strengthen their gaming commitment via complex interactive experiences (Yee & Bailenson 2007). The player's surroundings and positioning relative to other players in a contemporary programmed virtual world directly affects their perceived immersion (Yee 2006, Swink 2009) while the degree to which the immersion succeeds or fails is influenced by the interaction modes available between avatars (Yee & Bailenson 2007). Existent or hyperreal, these player-developers contribute to the gamespace that all other players inhabit (Mortensen 2008, Taylor 2008) which, in turn, serves to structure and mediate their interaction, creating the gamescape heterotopia (Wark 2007).

References

- Aarseth, E 2008, 'A Hollow World: World of Warcraft as Spacial Practice', in Corneliussen, H & Rettberg, J (eds), *Digital Culture, Play, and Identity: A World of Warcraft Reader*, The MIT Press, Cambridge, Massachusetts, pp111-123.
- Allcorn, A 1972, Pong, software, Atari Inc., California
- Arashi [pseud.] 2007, 'Old School Shenanigans (Hakkar)', WKG: We Know Drama, 21 August, accessed 01/06/2009, http://wkg.arygos.us/drama/viewtopic.php?f=14&t=708
- ABC Television 2008, 'Warhammer: Age of Reckoning review', transcript, *Good Game*, ABC2, 22 September, accessed 20/08/2009, http://www.abc.net.au/tv/goodgame/stories/s2371058.htm
- Blizzard Entertainment 2008a, *World of Warcraft Community Site*, accessed 01/06/2009 http://www.worldofwarcraft.com/info/burningcrusade/index.xml
- Blizzard Entertainment 2008b, WORLD OF WARCRAFT® SUBSCRIBER BASE REACHES 11.5

 MILLION WORLDWIDE, accessed 20/05/2009,

 http://eu.blizzard.com/en/press/081223.html
- Blizzard Entertainment 2008c, *WoW.com -> Info -> Classes -> Warlock*, accessed 21/09/2009, http://www.worldofwarcraft.com/info/classes/warlock/
- Blizzard Entertainment 2008d, *WoW -> Info -> Basics-> Glossary*, accessed 21/09/2009, http://www.worldofwarcraft.com/info/basics/glossary.html

- Dunnigan, J 2000, Wargames Handbook, Third Edition: How to Play and Design Commercial and Professional Wargames, Writers Club Press, San Jose.
- Dormans, J 2006, 'On the Role of the Die: A Brief Ludologic Study of Pen-and-Paper Roleplaying Games and Their Rules', *Game Studies*, col.6, no.1, accessed 01/06/2009, http://gamestudies.org/0601/articles/dormans
- Foucault, M 1967, 'Of Other Spaces', *Michel Foucault, info*.13 October 2009, accessed 21/09/2009, http://foucault.info/documents/heteroTopia/foucault.heteroTopia.en.html
- Gilbert, B 2009, 'Pre-order early admission creating long queues in Aion', *Joystiq*, 21 September, accessed 21/09/2009, http://www.joystiq.com/2009/09/21/pre-order-early-admission-creating-long-queues-in-aion/
- Grau, O 2003, Virtual Art: From Illusion to Immersion, The MIT Press, Cambridge, Massachusetts
- Guiness World Records 2009, *Guiness World Records Gamer's Edition Records PC Gaming*, accessed 21/09/2009, http://gamers.guinnessworldrecords.com/records/pc_gaming.aspx
- Jacobs, M, Barnett, P & Hickman, J 2008, Warhammer: Age of Reckoning, software, Electronic Arts, California
- Juul, J 2005, *Half Real: Video Games between Real Rules and Fictional Worlds*, The MIT Press, Cambridge, Massachusetts

- Krzywinska, T 2006, 'Blood Scythes, Festivals, Quests, and Backstories', *Games & Culture*,vol.1, no.4, accessed 01/08/2009, http://gac.sagepub.com/cgi/reprint/1/4/414
- MacCallum-Stewart, E & Parsler, J 2008, 'Role-play vs. Gameplay: The Difficulties of Playing a Role in World of Warcraft', in Corneliussen, H & Rettberg, J (eds), *Digital Culture, Play, and Identity: A World of Warcraft Reader*, The MIT Press, Cambridge, Massachusetts, pp225-246.

Manovich, L 2001, The Language of New Media, The MIT Press, Cambridge, Massachusetts

- McInnes, C 2006, 'Are Video Games Art?', *Game Politics*, accessed 15/12/2008, http://gamepolitics.livejournal.com/357698.html
- Mortensen, T E 2008, 'Humans Playing World of Warcraft: of Deviant Strategies?', in Corneliussen, H & Rettberg, J (eds), *Digital Culture, Play, and Identity: A World of Warcraft Reader*, The MIT Press, Cambridge, Massachusetts, pp203-223.

NCsoft 2009, Aion, software, Seoul, South Korea

- Newman, J 2002, 'The Myth of the Ergodic Video Game', *Game Studies*, vol.2, no.1, accessed 01/06/2009, http://gamestudies.org/0102/newman/
- Nitsche, N 2008, Video Game Spaces: Image, Play, and Structure in 3D Game Worlds, The MIT Press, Cambridge, Massachusetts.

- Pardo, R, Kaplan, J & Chilton, T 2009, 'Introductory Video Screenshots', *World of Warcraft*, software, Blizzard Entertainment, California. Screenshots by Liam Fiddler
- Pardo, R, Kaplan, J & Chilton, T 2004, *World of Warcraft*, software, Blizzard Entertainment, California
- Pardo, R, Kaplan, J & Chilton, T 2007, World of Warcraft: The Burning Crusade, software, Blizzard Entertainment, California
- Pardo, R, Kaplan, J & Chilton, T 2008, World of Warcraft: Wrath of the Lich King, software, Blizzard Entertainment, California
- Reimer, J 2005, 'Virtual plague spreading like wildfire in World of Warcraft', *Ars Technica*, 21 September, accessed 01/06/2009, http://arstechnica.com/old/content/2005/09/5337.ars
- Robinett, W 1979, Adventure, software, Atari Inc., California
- Ryan, M 2001, Narrative as Virtual Reality: Immersion and Interactivity in Literature and Electronic Media, The Johns Hopkins University Press, Balitmore
- Salen, K & Zimmerman E 2004, *Rules of Play: Game Design Fundamentals*, The MIT Press, Cambridge, Massachusetts
- Swartjes, I & Vromen, J 2007, 'Emergent Story Generation: Lessons from Improvisational Theatre', in *Intelligent Narrative Technologies*, AAAI Press, California, pp146-150.

- Swink, S 2009, Game Feel: A Game Designer's Guide to Virtual Sensation, Elesvier,
 Massachusetts
- Moses, A & Murray, E 2006, 'Good Game, but is it Art?', *The Sydney Morning Herald*, 3rd September, accessed 02/12/2008, http://www.smh.com.au/news/games/good-game-but-is-it-art/2006/09/03/1157222003715.html
- Taylor, T 2006, 'Does WoW Change Everything?: How a PvP Server, Multinational Playerbase, and Surveillance Mod Scene Caused Me Pause', *Games & Culture*,vol.1, no.4, accessed 26/09/2009, http://tltaylor.com/wp-content/uploads/2009/07/Taylor-DoesWoWChange.pdf
- Tronstad, R 2008, 'Character Identification in World of Warcraft: The Relationship between Capacity and Appearance', in Corneliussen, H & Rettberg, J (eds), *Digital Culture, Play, and Identity: A World of Warcraft Reader*, The MIT Press, Cambridge, Massachusetts, pp250-263.

Tronstad, R 2001, 'Semiotic and Nonsemiotic MUD Performance', COSIGN, Amsterdam

Wark, M 2007, Gamer Theory, Harvard University Press, Cambridge, Massachusetts

Whitelaw, M 2004, *Metacreation: Art and Artificial Life*, The MIT Press, Cambridge, Massachusetts.

Wowhead n.d., accessed 20/10/2009, http://www.wowhead.com/?spell=24328

Wyatt, P 1994, Warcraft: Orcs & Humans, software, Blizzard Entertainment, California

- Yee, N 2006, 'The Demographics, Motivations and Derived Experiences of Users of Massively-Multiuser Online Graphical Environments' in *PRESENCE: Teleoperators and Virtual Environments*, vol.15, no.3, pp309-329
- Yee, N & Bailenson, J 2007, 'The Proteus Effect: The Effect of Transformed Self-Representation on Behavior' in *Human Communication Research*, vol.33, no.3, pp271-290.