The Tuning of the World...*of Warcraft!*
The Immersive Potential of Videogame Audio

by

Danielle Ghazarian

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Abstract

The music and sound effects of a videogame perform distinct yet integral roles when transitioning a player from a state of engagement to a state of immersion within a game's virtual environment. The concept of immersion as it pertains to videogames will be examined by means of defining the term and outlining different kinds of immersive states. Immersion will be treated as a state very similar to the concept of flow as defined by Csikszentmihalyi, and implications of this approach to the topic will be explored. The main focus of the thesis will be to address the question of how specifically the audio of a videogame is capable of providing immersive experiences, by examining different audio signifiers and their potential meanings and uses. Additionally, emphasis will be placed on the concept of virtual environments as conduits for immersive experiences, in order to fully demonstrate the immersive potential of videogames. These questions will be explored in part through a case study of the massively multiplayer online role-playing game *World of Warcraft*.

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Introduction

Upon entering the gates of Shadowfang Keep, you immediately notice dark, somber music playing in the background, interspersed with heavy, low percussive beats which completes the overall foreboding atmosphere of the evil castle. As you listen to your teammates casting various spells to increase the survivability of the party, you notice the ominous whistling sound of wind as well as strange squawks and howls from unknown creatures in the distance. The party quickly begins to venture deeper into the dungeon, and you eventually come across the first group of monsters to be killed. It is a group of Worgen, or werewolves, and the party pauses to confirm with one another that the entire group is ready. You hear the warrior's charge skill go off and it signals to you that the fight has begun. You rush in, hammer in hand, listening intently as it swings wildly. Heavy thud after heavy thud tells you that your hits are successfully connecting with the enemy, their shrieks of pain indicating levels of damage and special skills available for use. The first fight, as with the next few, are not terribly difficult and your group quickly progresses towards the courtyard of the keep. An enslaved mage whom your party saves agrees to break the magical spell binding the wooden door shut to the courtyard. A flash of light and sound and the door begins to slowly creak open. The music in the courtyard is significantly different from the previous section of the keep. It is extremely fast paced with a melody built upon an ostinato, punctuated by deep, resonating percussive instruments, such as the timpani and bass drum. The change in musical style causes you to suspect a challenging encounter, and upon glancing over the side railing of the stairs, your suspicions are confirmed by the throng of Worgen awaiting your arrival. The music intensifies, urging you forward, towards your true test of skill...

An account of a scenario players might experience during gameplay can be useful when attempting to explain the types of audio to be encountered, and the effects they may have on the disposition of players involved in role-playing games. Certain sound types have the ability to increase performance and enhance the virtual atmosphere. Specifically, they can signal a change in game state (from out-of-combat to in-combat), notify players of combat related events, enhance verisimilitude, identify types of monsters, as well as attempt to convey the desired mood and establish a certain emotional setting for players. For some, sonic information may not produce any change in psychological state, however for many, when perceiving and decoding the plethora of signals available to them by the audio of a game, their level of concentration can greatly increase and focus may be completely retained on the task at hand, which ultimately may cause a transition from a simple state of engagement to a mental state of immersion. Immersion

is not only the result of perceiving and understanding the variety of sounds a videogame has to offer, but is derived also from experiencing a certain degree of pleasure. In other words, attention must be wholly invested in the task at hand, willingly and enjoyably, otherwise immersion may not ensue. It will be the intent of this thesis to explore this relationship of videogame audio and immersive experiences, how the former is capable of inducing the latter, and what kinds of specific sounds are responsible for different forms of immersion.

In Chapter 1, a definition for immersion will be suggested by examining research on the phenomenon by other scholars. I will argue that the primary underlying characteristic of any kind of immersive state is that of complete concentration and focus, an occurrence also known as flow. The latter concept will be explored and related to immersion. Additionally, I will suggest that there exists two forms of immersion, challenge-based and mythical/imaginative, and their parameters will be likewise described in order to identify the kinds of immersion offered by the audio of *World of Warcraft*. Lastly, a discussion of the virtual will be provided in order to situate the relevance of the phenomenon to events that specifically take place in alternate forms of reality.

Chapter 2 will incorporate into the discussion the element of audio, outlining specific functions as they have been theorized by other scholars and how they each pertain to immersion more generally. A discussion of the perspectives of ludology and narratology will be provided in order to further explain the reliance of both kinds of immersion (challenge-based and mythical/imaginative) on both gameplay and narrative.

Chapter 3 will outline fundamental concepts that will be used to analyze the music and sound effects of my case study *World of Warcraft*. Specifically, genre theory will be used to assess the ability and likelihood that certain musical sounds are capable of suggesting and

evoking certain ideas, places and people. It will be argued that knowledge of such signs is acquired by people as part of being active participants in society, from watching movies and television to experiencing the intricacies of their own culture. Following this discussion of musical signs, the second half of Chapter 3 will involve an examination of sound effects by means of soundscape theory. Specifically, research revolving around soundscapes will be provided as to what they are, and what they can tell a perceptive listener. The concepts of keynote sounds, sound signals, and symbols will be detailed in relation to everyday events and specifically to events occurring in videogames.

Chapter 4 is where the background of my case study, *World of Warcraft*, will be outlined, from a description of the game objectives and mechanics to the composer and sound designer's intentions. Additionally, some orienting remarks will be made on players of massively multiplayer online role-playing games (MMORPGs), their reasons for playing these types of games and subsequently the pleasures derived from said games will be explored. My methodology for analyzing the case study will also be described at the end of the chapter in order to prepare the reader for the examination in Chapter 5.

Chapter 5 is devoted to describing the results of my analysis of *World of Warcraft*, and is organized into the two categories of sound effects and music. The former includes a discussion of challenge-based immersion and the correlation sound effects have with this type, while the latter includes a discussion of mythical/imaginative immersion and how it is induced by various musical signifiers.

Lastly, a conclusion will be provided to not only briefly reiterate the observations of the thesis, but to provide some insight into further applications of the material presented.

Specifically, further attention devoted to the element of the player will be posited as a necessary

means to advancing research on the relation of sonic events in videogames and particular psychological occurrences and cultural frameworks.

Chapter 1

The Immersive Crusade: The Concept of Flow and the Realm of the Virtual

The concept of immersion in videogames is nothing new. There have been many theorists who have attempted to analyze this phenomenon, resulting in the development of a range of theoretical views. However, many of these theories lack specificity since they do not attempt to define immersion as much as to describe different kinds of immersive states. Additionally, theorists have tended to exclude the audio component. In other words, for most, immersive experiences are treated as if they occur only because of the visual and not the aural component. Nevertheless there is value in the various descriptions of immersion that have been offered by other theorists since many of them have either provided descriptions that can be related to the specific audio functions I have outlined, or possess general similarities to how I have chosen to theorize immersion. Prior to my examination of the concept of flow as it pertains to immersion, I will provide a discussion of these other descriptive definitions as well as a brief introduction to my interest in immersion as it relates to game sound.

The ability of a videogame to transport a player's mind to a psychological state normally reserved for experiences encountered in real life is intriguing since the medium must rely on simulation. The virtual worlds of videogames are constantly striving towards more visually realistic graphics, endeavouring to replicate as closely as possible environments, people and things. However, it is arguable that graphics will ever be able to perfectly duplicate real life, though with the advent of CD quality sound in videogames the audio has been able to achieve a level of realism not yet available from the visuals (Munday 52). In other words, because the audio is able to closely mimic sounds heard in real life, its relationship to a variety of phenomena in videogames appealed to me. Specifically, because of the level of verisimilitude the audio can

add to a videogame, it seemed reasonable to question how audio can help the player reach heightened levels of awareness, which caused me to gravitate towards the concept of immersion. Furthermore, while pursuing my research it became evident that there exist different forms of immersion, and even though I view them as, first and foremost, states of complete concentration and focus, their individual characteristics are quite different. This caused me to consider the possibility that if the audio were a part of this process, then specific parts of game sound were probably responsible for specific kinds of immersion. This is where the division begins, with the kind of immersive state to be had, and which game sounds I feel are responsible for its induction.

Immersion

The first description of immersion to be discussed is given by Laura Ermi and Frans Mäyrä, who have categorized the immersive experience into three forms: sensory, challenge-based and imaginative. Sensory immersion is encountered when the player's senses are physically overwhelmed by the visual and auditory outputs of the game. Sensory immersion is thus achieved through "large screens [put] close to [a] player's face and powerful sounds," which causes the player to become "entirely focused on the game world and its stimuli" (Ermi and Mäyrä 7). It is important to note here that the auditory output has been specified but only on a superficial level. The issue is not a matter of what kind of music and sound effects are being emitted by the game, but rather that there is a sufficiently loud auditory output to block external distractions. The next two forms of immersion discussed by Ermi and Mäyrä do not specifically include the audio component; however the audio can arguably be implicated when examining them. The second form of immersion, challenge-based interactions, occurs when a player is able to "achieve a satisfying balance of challenges and abilities" (Ermi and Mäyrä 7). Challenges

encountered in games are often introduced by means of sound effects and thus help to direct a player's attention to the new task or quest. The audio functions to be described later in this thesis, for example leitmotifs, acousmatic sounds and dynamic audio, would also be of importance here, since it is these components that directly affect a player's performance. The third and last form described by Ermi and Mäyrä is imaginative immersion, where "the game offers the player a chance to use her imagination, empathize with the characters, or just enjoy the fantasy of the game" (Ermi and Mäyrä 8). The imaginative dimension of this form of immersion can be greatly enhanced by means of mood induction, spatial acoustics and even leitmotifs, concepts which will be further explained in Chapter 2. Further support for this function of game audio comes from a study conducted by Annabel Cohen (1998), who demonstrates the mood altering abilities of music on players. Additionally, leitmotifs are capable of reinforcing the nature of certain characters encountered in a game. For instance, a sweet, kind gentle character is usually paired with slow, soft and quiet music, reinforcing the connection between the two for the player while enhancing the hyper-realism of the virtual world.

Another definition of immersion is provided by Andrew Glassner who, like Ermi and Mäyrä, has categorized the immersive experience (Glassner 81-2). Glassner's view is essentially a detailed breakdown of the form of immersion called imaginative by Ermi and Mäyrä, which he elaborates upon by dividing the immersive experience into varying levels of emotional involvement. The weakest level, *curiosity*, refers to the player's casual desire to know and is similar to the level of interest that may occur when overhearing an animated conversation from a nearby group of people. The second level is *sympathy*, and occurs once the player begins to see the game world through his or her character's eyes. The third level, *identification*, describes the player's connection with their character as being on a personal level. This bond is strengthened

by the fourth level termed *empathy*, which according to Glassner is the highest form of emotional immersion. The last level, *transportation*, occurs when the player loses all sense of boundary between self and character. Instead of “reaching out to the character” (Glassner 82), a player identifies him- or herself as being the actual avatar on screen.

Another description is provided by Rod Munday, who details two different kinds of immersion he feels are experienced by players. He terms *cognitive immersion* as “the way certain neuropsychological aspects of the brain are stimulated by video-game music to promote the player’s involvement in the game” (Munday 56). Furthermore, Munday argues that it is specifically the music that contributes to videogame immersion “by occupying the area of the brain dedicated to dealing with non-linguistic sounds” (Munday 57). If this is true, then music becomes a way of preventing the brain from “hunting around” for external stimuli, or in other words, sounds not originating from the game, ultimately retaining a player’s attention. He goes on to further argue for cognitive immersion’s ability to mask real world noises, which is the same function as described by Ermi and Myra’s *sensory immersion*. In regard to this, Munday also suggests that due to the character of cognitive immersion, the choice of music included in a game would be irrelevant; any kind of music would be capable of providing this immersive state.

Although I agree with Munday’s emphasis on the importance of music, in this thesis the specificity of genres will be given much more attention than his model seems to endorse. It is important to note that since specific videogame genres have not been studied for their particular immersive potentials, there is room for further examination to be conducted, especially since it is arguable that the pairing of particular music with particular genres may also lead to immersive states by way of conventionalized sounds and visual schemas.

The second form of immersion Munday describes is what he calls *mythic immersion*, which is the ability of the mythical themes of a game to induce immersive states in players, since “music...is often accorded a powerful mythical function” by means of its abstract nature (Donnelly quoted in Munday 58). He states that this form of immersion is most apparent in role playing videogames, since they have “aligned themselves with an aesthetic tradition of ‘mythic drama’ found in both opera and film” (Munday 58). Mythic immersion will be a key concept in my own analysis, and because Munday does not provide much detailed analysis of exactly how this form of immersion is established in specific cases, my reading of *World of Warcraft* can supplement his work in that respect.

Alison McMahan, building upon Janet Murray’s definition, offers an approach to immersion as it relates to concepts which, as we will see, also underlie the flow experience:

Immersion is a metaphorical term derived from the physical experience of being submerged in water. We seek the same feeling from a psychologically immersive experience that we do from a plunge in the ocean or swimming pool: the sensation of being surrounded by a completely other reality, as different as water is from air, that takes over all of our attention, our whole perceptual apparatus... (Murray quoted in McMahan 68).

The essence of McMahan's definition revolves around the idea that virtual realities are capable of commanding control over a person’s attention, or as she terms it, a person’s perceptual apparatus. In its phenomenological dimension, this approach does align to some degree with the concept of flow and its state of complete concentration which will be the basis for my own definition of immersion. However, McMahan places greater importance on the *kind* of virtual reality being experienced, focusing her discussion on the importance of 3-D environments in role-playing and adventure games, suggesting that not all videogames as virtual realities are capable of inducing this state in a given player (since not all videogames are three-dimensional).

Her discussion also excludes the audio component, instead focusing exclusively on the visual element of videogames, especially those that make use of 3-D technology. McMahan does include a section that can be directly applied to sound effects and music when she outlines the various elements of computer games: sureties, shocks, surprises, attractors, connectors and retainers.

However, I have decided to focus my analysis on the hyper-realism of videogames as described by videogame theorist Karen Collins, where the main objective is to create an entirely new reality as opposed to replicating on screen what we already understand as reality or the real. Since McMahan discusses these elements as a means to enhance the realism (rather than the hyper-realism) of a game, she has chosen to emphasize and examine the level of realism a player may experience, which in turn further separates her definition and focus from my own. Lastly, McMahan uses the term presence as one that is meant to be distinct from the concept of immersion, whereby she details the former as a sense of realism a player experiences through interacting with the medium, while also subsuming the concepts of immersion and engagement therein. Even though presence appears to be of greater importance to her discussion, her definition of what immersion is does lend support to how I have decided to define the concept (see below), while also focusing on the same genre of videogame that I have chosen for my case study.

The description of immersion in terms of the concept of flow, which will be developed as central in my own presentation, has already been tentatively explored by other scholars, especially Zach Whalen. Whalen has examined the concepts of engagement and immersion with regard to the process of reading, where “immersion is giving in to the seduction of the text's story, to be blissfully unaware of one's surroundings and the passing of time as one escapes into

the pleasure of reading”, whereas engagement is an “experience ... with [the] narrative (or any other semantic object or expression) [that] involves an abstracted level of awareness of the object qua object” (Whalen 2004). His definition of these two key terms is quite similar to how I propose to define them, since he appears to be emphasizing a heightened level of concentration that leads to complete absorption when a player is said to be immersed. In addition, Whalen has also chosen to invoke the concept of *flow*, even though in doing so he has neglected to include a discussion of the original theorist of the term, Mihaly Csikszentmihalyi. He briefly mentions the value of this term as being a “dialectic between unconscious states of immersion and conscious moments of engagement,” which is a crucial component to the concept of flow. His discussion of the term is somewhat brief, and also focuses on the narrative elements of videogames, suggesting that flow is a state accessed exclusively by said means. By contrast, in Chapter 2 I will argue that both narrative aspects and gameplay are critical to a theory of immersion.

These various descriptions and definitions of immersion have all contributed to how I have chosen to define the term and analyze the phenomenon. Firstly, immersion is a state of complete concentration, focus and mental absorption. Secondly, there are various forms of immersion. Due to the heterogeneous nature of videogames as a mode of enjoyment derived from both gameplay and story-telling, it seemed natural to continue the dichotomy by adopting a framework that would consider immersion as an experience accessible through challenges (gameplay) and imagination (narrative). Research by Laura Ermi and Frans Mäyrä as well as Rod Munday and Andrew Glassner all point to these two kinds of immersion in videogames. Even though these scholars included a third form, that of sensory immersion, I decided to exclude it from my examination since for me, its reliance on specific aspects of the audio appeared to be less important than that seen in other forms of immersion. Lastly, in order to

clearly express my interpretation of what immersion is, I will explore the concept of flow as defined by Csikszentmihalyi, since not only does the concept of flow appear to explicitly reflect my perception of immersion, but other scholars such as Zach Whalen and Jesper Juul have also considered it essential when conducting their research on immersive experiences in videogames. With this in mind, it is now time to explore the concept of flow, in order to understand its relation to immersion and how it may be experienced in videogames.¹

Flow

Csikszentmihalyi's *Flow: The Psychology of Optimal Experience* (1990) has been a highly influential work which outlines decades of research on the positive aspects of human experience such as joy, creativity and the process of total involvement that he aptly termed “flow”. For him, happiness is not something that simply happens; it is not something that depends on outside events, but rather, depends on how we as people interpret such events. It is “a condition that must be prepared for, cultivated, and defended privately by each person. People who learn to control inner experience will be able to determine the quality of their lives, which is as close as any of us can come to being happy” (Csikszentmihalyi 2). The idea of happiness and how it is attained is his basis for the concept of optimal experience, or control over one’s inner being. When a person is said to be in control of their actions, or “masters of [their] own fate,” they feel “a sense of exhilaration, a deep sense of enjoyment that is long cherished and that becomes a landmark in memory for what life should be like” (Csikszentmihalyi 3). Furthermore, these are moments that usually occur when “a person’s body or mind is stretched to its limits in a voluntary effort to accomplish something difficult and worthwhile. Optimal experience is something that we make

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¹ Oliver Grau is another important theorist who has examined the dimensions of immersion. Readers who are interested may wish to read his book *Virtual Art: From Illusion to Immersion* (2003).

happen” (Csikszentmihalyi 3). Csikszentmihalyi’s first studies were directed at experts such as artists, athletes, musicians, chess masters, and surgeons, all people who for him seemed to spend their time doing activities they preferred. His theory of optimal experience was developed from the research done on these individuals, and was based on the concept of flow, “a state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it”

(Csikszentmihalyi 4). Furthermore, flow is a state where “attention [is] freely invested [in order] to achieve a person’s goals...it is a struggle for establishing control over attention”

(Csikszentmihalyi 40-1). Additional studies further proved that the flow experience was not restricted to elites of the above categories, but is in fact experienced by a wide range of people.

The most immediate connection to videogames may rest with the ideas of happiness and enjoyment, since people prefer to play games that are considered fun and entertaining. The question of which genre of videogame is most capable of providing such experiences is contingent on each individual player. There are, however, specific enjoyable aspects of videogames that arguably cross genres (aspects that will be further elaborated on in Chapter 4), thus allowing for a variety of games to be considered enjoyable by players, and ultimately allowing for the possibility of immersive experiences. Furthermore, all these elements are incorporated in the MMORPG genre and are thus a part of *World of Warcraft*: control, mastery, identity formation, exploration and escapism.

Any kind of game, whether real or virtual, can be considered as a flow activity since games meet several of the general conditions for inducing a state of flow, and are “designed to make optimal experience easier to achieve. They have rules that require the learning of skills, they set up goals, they provide feedback, they make control possible” (Csikszentmihalyi 72).

Most importantly, they “facilitate concentration and involvement by making the activity as distinct as possible from the so-called ‘paramount reality’ of everyday existence...[going] beyond the boundaries of ordinary experience” (Csikszentmihalyi 72). The primary function of games as a flow activity is that they provide enjoyable experiences that allow for the retention of a player’s concentration. A subcategory of games as defined by Roger Caillois is mimicry, games that create alternative realities, such as dance, theatre, and the arts in general. These sorts of games cause people to feel as though they are “more than what [they] actually are through fantasy, pretense, and disguise” (Csikszentmihalyi 73). This is where role-playing videogames can be located amongst all the different forms of games, and flow activities more generally. According to Csikszentmihalyi, every flow activity provides a “sense of discovery, a creative feeling of transporting the person into a new reality” (Csikszentmihalyi 74). It has the ability to “push the person to higher levels of performance, and [lead] to previously undreamed-of states of consciousness” (Csikszentmihalyi 74). It is by means of this growth that a person makes the change from a state of engagement to a state of immersion (or flow) when performing a given activity.

An example specific to videogames would be when a person first begins to play a new game. They have not yet developed the appropriate skill set to perform the game at an advanced level, so in order to enter a state of flow the challenges that person is faced with must appropriately reflect that player’s level of ability. If the player’s ability can meet the challenges, then that person would more likely have access to a state of flow. If the challenges are too difficult, the player will develop anxiety since she will not be able to meet the challenges she is faced with and might simply become engaged (because the player is still playing the videogame with some degree of concentration). If the player’s abilities or skills become too high and the

challenges do not match them by means of an appropriate level of difficulty, then the player will enter into a state of boredom, and again, fall out of the flow state and into one that is simply engagement.

With regard to the above discussion, there exists one further parameter to discuss in connection with the flow state experienced in videogames, which is called optimum game flow. As described by Jesper Juul (2009), the flow state in videogames is much more malleable than that of other flow activities. This is due to the fact that, at times, players expect to lose, or in other words, anticipate a lack in skill when faced with certain challenges. A certain degree of failing is a common occurrence in all videogames, and is meant to provide the player with a greater desire to succeed and a greater sense of accomplishment once they finally do complete the specific task. However, Juul also mentions that an excess of fails by the player will result in boredom since there is only a certain level of failure that will be tolerated by each individual player.

It is clear how music and sound effects would be able to aid in providing a player with the opportunity to experience flow. Sound effects facilitate concentration through directing a player's attention by means of particular sonic devices that will be explored in this thesis – sound symbols, leitmotifs, acousmatic sounds, dynamic audio and spatial acoustics –, whereas the music is capable of making the videogame “distinct...from the so-called ‘paramount reality’ of everyday existence” (Csikszentmihalyi 72) by means of mood induction, leitmotifs and the mobilization of cultural archetypes. The manner in which music can induce certain moods and evoke particular environments is complex and not always obvious, since music does not always possess explicit meaning in the same manner as language or environmental sounds. Because of this, I explore in Chapter 3 various musical tropes and conventions, particularly from film, which

suggest certain concepts, places, people and things. One last question will be addressed in the present chapter, however, in order to fully understand the kind of immersion I am arguing players experience in videogames, and that is the concept of the virtual and why virtual realities are so conducive to immersive experiences, and ultimately to flow.

Prior to this discussion, attention should be brought to Figure 2.1 on the following page, which outlines the elements involved in my analysis of immersion. As I have chosen to describe it, the underlying factor for all immersive experiences is the presence of complete concentration and mental absorption, or in other words flow, which is why it is located at the top of the figure. Below that are the two kinds of immersion I feel are experienced in videogames by players: challenge-based and mythical/imaginative. A variety of game sounds contribute to one or both kinds of immersion, and are positioned one level lower. These sounds can then be theorized as contributing to either the soundscape in the form of sound signals, keynote sounds and symbols, which will be shown to enhance gameplay, or as sounds that possess conventionalized meaning, and thus serve as enhancers of the mythical/imaginative. The former is located under challenge-based immersion since it will be used to address sounds that contribute to this form, and the latter arranged on the side of mythical/imaginative for the same reason. The organization of the chart mirrors the layout of the thesis, with sections on game sound, soundscapes, and genre theory to follow this chapter on flow and immersion.

FLOW

What it is: State of complete concentration and focus, willingly and enjoyably invested by a person
[This state is the commonality between all forms of immersive experience]

Challenge-Based Immersion

This form of immersion is derived from gameplay and is performance based
(Ludology can largely be found here since it focuses on Gameplay)

Mythical/Imaginative Immersion

This form of immersion is derived from the visual and narrative aspects of a videogame and is story based
(Narratology can largely be found here since it focuses on the symbolic and affective aspect of games)

**Note: Both kinds of immersion can be experienced by players; at times one or the other, and at times both simultaneously. The game conditions and the player are what determine which kind (if any) is encountered.

The various functions of sound, which are differently used, in order to aid with challenge-based immersion and mythical/imaginative immersion, or at times, both

1. Acousmatic sounds
2. Sound symbols
3. Leitmotifs
4. Surround sound
5. Dynamic audio (both Interactive and Adaptive)
6. Mood induction
7. Spatial acoustics
8. Masking

[The specific contribution of particular kinds of audio to these forms of immersion may be theorized both through soundscape theory and genre theory]

Soundscapes

How?: The aforementioned types of sounds may be theorized as *keynote sounds*, *sound signals* and *symbols*, which are all capable of supporting gameplay by enhancing performance and helping to construct virtual environments

Genre Theory

How?: The aforementioned types of sounds may be theorized by means of standard tropes and conventions often used in specific genres found in film and television, which can support certain moods, emotions, ideas, concepts or narratives

Figure 2.1 Concept of flow broken down by types of immersive experience, as well as by the audio types capable of inducing specific forms of immersion.

The Virtual

It can be argued that the attainability of an immersive state is strongly influenced by the power and believability of the virtual environment. Many virtual worlds are simulations that do not aspire to depict the actual world but rather strive to produce simulations that are “more real than real” (Shields 4), what Karen Collins refers to as the “cine-real, which is a sense of immersion and believability, or verisimilitude” (Collins 134). Virtual environments are capable of drawing a viewer into the spectacle, while transcending the everyday spaces of the temporal world (Shields 8). They are capable of causing a player to “forget...the geometry of the screen...in favour of a boundless experience of absorption in the surface, which is infinite space” (Griffiths 286). Additionally, according to Michael Bull (2004), sound possesses the ability to reorganize a person’s relation to space and place, which is a necessary condition for a person’s mind to agree with the intricacies of a virtual realm, supporting the idea that the audio component of a game can be partly responsible for inducing immersive states. Specifically, “through the power of sound, the world becomes intimate, known, and possessed” (Bull 181). It seems clear that a videogame as a virtual reality can provide the opportunity for an immersive experience.

Rob Shields suggests that “the virtual captures the nature of activities and objects which exist but are not tangible, not ‘concrete’. . . [the virtual is] real without being actual, ideal without being abstract” (Shields 2). Additionally, the virtual “calls into question preconceptions about the actual, demanding that we broaden our understanding of reality” (Shields 18). This is the basis of what I mean when I invoke the concept of the virtual. This does not, however, refer solely to videogames, as there are many other environments that can be considered virtual. For instance, Marcel Proust has remarked that dreams, memories and the past can all be considered virtual. One historical example of a virtual environment are the panoramas of the 19th century,

which were essentially circular paintings that were mounted in a rotunda, with a central viewing platform (Shields 9). Even though panoramas are a non-interactive form of virtual environment (and thus quite different from my focus on videogames), they nonetheless have the ability to “draw the viewer into [the] spectacle... transcend[ing] the everyday spaces of the temporal world” (Shields 8), and thus demonstrate the immersive power of all virtual spaces. More generally, virtual worlds are simulations that can “start out as producing actual worlds, bodies and situations; but...end up taking on a life of their own” diverging from the actual and becoming “more real than real” (Shields 4). Furthermore, culture itself may be considered virtual when we as spectators view and experience replicas of everyday existence, and yet choose to accept them as actual or real. It is irrelevant whether or not what we are viewing is an exact image of earlier models as long as we, as players, choose to accept it. Similarities, whether big or small, are arguably all that are needed in order to achieve said acceptance. From familiar social situations and interactions to confrontations and tasks and pursuits that mirror ones encountered in real life, it is the core of these experiences that provides a sense of realism. By extension, it does not matter in a videogame that there are alien races involved, or places which would be impossible to visit – in fact, it is the reason for the adventure, the purpose and motivation that creates the believability. It is in the acceptance of all this that immersion can begin to take hold of our psyche and transport us.

A key mental activity in any form of the virtual is “the willingness to accept an ideal ‘in essence’ in the place of actual presence” (Shields 36), or in other words, an acceptance of the virtual as a replacement for the actual. This is the critical basis for the concept of the virtual as it pertains to videogames, since the events encountered in videogames exist in a reality that is distinct from that experienced day-to-day, and which demand that players develop the ability to

suspend belief and broaden their acceptance of what can be considered as real. Furthermore, “fiction and fantasy reveal an enduring adult willingness to believe in virtual and abstract entities...where the illusion of presence [can be constructed] through props [and] simulations” (Shields 40-41). In addition to this, according to Janet Murray, “a stirring narrative in any medium can be experienced as a virtual reality” since the human brain is “programmed” to devote intense attention to the detail of stories (Murray 98). This concentration can be powerful enough to “obliterate the world around us,” affording an individual the experience of “being transported to an elaborately simulated place,” as is arguably the case with videogames (Murray 98).

In conclusion, it seems apparent that videogames as virtual realities are innately equipped with the necessary means to draw a user in, as long as that user *allows* him-/herself to be taken in by the pleasures of the medium, which in many cases means allowing oneself to enter into a state of flow. A player’s ability in performing a videogame depends on their level of skill versus the in-game challenges they are met with. I will argue that challenge-based immersion, as described by Laura Ermi and Frans Mäyrä, can be encouraged especially by means of sound effects, or as I will be analyzing them, as sound signals, key note sounds and symbols. By means of the analysis in Chapter 5, these types of sound effects will be shown to greatly enhance a player’s performance, ultimately allowing for and encouraging this kind of immersive state, and ultimately a state of flow. With regard to music as distinguished from sound effects, Chapter 3 will discuss how different musical conventions have been developed by composers in order to arouse certain concepts and affects. It will be argued that these sorts of musical devices are crucial to the establishment of the second form of immersive experience, mythical/imaginative immersion.

Chapter 2

***A Call to Arms!:* Narratology vs. Ludology and a Selective Overview of Approaches to Videogame Audio**

One important distinction in my examination of game audio as a conduit for immersive experiences will be story-telling versus gameplay. This decision was reached, in part, from the research conducted by other scholars in the field of multi-media and immersion, where a distinction between narratology and ludology has become common. This division has influenced the way in which the overall meaning and purpose of videogames are discussed, and this in turn has affected the study of particular aspects of the medium, such as sound. Specifically, by acknowledging both narrative and gameplay as central elements in the functioning of game sound, a stronger understanding of both sound effects and music in games may be developed, which can help to clarify the link between game sound and forms of immersion. Before delving into a discussion of videogame audio, focus will be placed on these two frameworks in order to ground the development of research in this discipline.

Narratology

Writing in 2003, Gonzalo Frasca noted that, “so far, the traditional – and most popular – research approach from both the industry and the academy has been to consider video games as extensions of drama and narrative” (Frasca 2003b, 221). He is referring to the narratological approach, so popular in media and literary studies, that distinguishes between the narrative text or story, and the medium, or telling of the story (Franzosi 520). These distinctions allow narratology, previously used to analyze more conventional narrative texts such as literary works and film, to be applied to the study of videogames.

In the 1990s, videogames began to be recognized by certain scholars as “interactive texts,” which challenged the prevailing understanding and analysis of narratives as exclusively linear forms of storytelling, while also suggesting the increasing importance of the player to the process (Kerr 23-24). In 2003, Barry Atkins used a narratological approach to explore the computer as a form of fictional expression, and after examining four games in different genres, concluded that videogames are indeed “more than a game,” and can be forms of “fiction making” after identifying clear parallels between videogames and other forms of fiction such as literature and film (Atkins 10). Pointing again to the infancy of the genre, he writes optimistically, “as the advance of communication and print technology was intimately related to the rise of the novel, and technological advance was inseparable from the development of cinema and television, so one cannot ignore the potential for advances in this new fictional form” (Atkins 23).

Ludology

Ludology (from *ludus* in Latin meaning to play) emerged at the end of the 1990s as a response to the narratological movement within videogame studies (Kerr 33). Like narratology, ludology has been heavily influenced by previous theorists, notably Johan Huizinga, Roger Caillois, and Brian Sutton-Smith. Initially, advocates for the ludological approach wholly rejected the narratological framework, stating that “it should be self-evident that we can't apply print narratology, hypertext theory, film or theater and drama studies directly to computer games” (Eskelinen 36). For Markku Eskelinen, this is due to the fact that the time scheme/causality of events and the nature of characters within games differ significantly from those found in narratives. Jesper Juul echoes Eskelinen and summarizes his arguments first by agreeing that players can tell stories of a game session, many videogames contain narrative elements, and games and narratives share some

structural traits. However, he feels that primary differences exist between the way stories relate to games and the way they relate to novels and movies, that concepts of time such as the now of interaction and the past of a narrative prevent games from truly being narratives, and lastly, that the relation between reader/story and player/game are very different, where the player exists in a liminal zone both outside of the game as observer and within the game as role-player (Juul 2001).

As debate in the field progressed, some theorists such as Aphra Kerr began to comment on the obvious acknowledgement by many ludologists of the existence of narrative elements within videogames, which inevitably blurred the distinctiveness of the ludological framework. Kerr suggested that “the ludological term will be applied more broadly in the future to refer to the field of game studies rather than a small group within it” (Kerr 35). These sentiments are also expressed by Gonzalo Frasca who believes that, “a ludologist is simply a game scholar, whatever is his or her position on narrative and games” (Frasca 2003a). Additionally, narratologist Marie-Laure Ryan has admitted that current narratological theories are inapplicable to games and agrees with Juul that narratives play an instrumental, rather than aesthetic, function within videogames, which can serve to draw the player into the game-world (Ryan 2001). Ryan is in agreement with many ludologists calling for a synthesis, stating that “we should not throw away the concept of narrative in ludology; it rather means that we need to expand the catalogue of narrative modalities beyond the diegetic and the dramatic, by adding a phenomenological category tailor-made for games” (Ryan 2001).

Evidently, while there exists a rift between the ludologists and their emphasis on gameplay, and the narratologists who view videogames as a form of discourse similar to literature, film, and drama, there is a growing agreement between the two camps that elements

from each are worth exploring in order to effectively study videogames. Furthermore, these two frameworks developed for the purpose of videogame studies have likewise stimulated research involving specific aspects of games, such as audio. As previously mentioned, it is the symbiotic yet distinctive contribution of these two core elements of videogames that motivates the structure of my analysis of game audio in relation to immersion. Since portions of game sound have been argued as necessary for either gameplay or narrative, viewing game sound under both lenses is crucial.

Videogame Audio

With the understanding that videogames intimately intertwine narrative, gameplay, and the player, scholars in the field have tended to analyze the audio with these three elements in mind, which has led to the identification of a variety of uses and functions. Some of the audio functions that will be outlined may appear to favour one of these three elements more than the others, however, none completely exclude any of the three. In what follows, acousmatic sounds, surround sound, masking, and dynamic audio (both interactive and adaptive) will be identified as categories of game sound that demand attention and concentration for the manner in which they enhance gameplay and lead to challenge-based immersion. Conversely, mood induction and spatial acoustics will be outlined as game sounds that draw a player's attention in and control focus by enhancing the cine-realism of the game and thereby enhance mythical/imaginative immersion. Lastly, I will argue that sound symbols and leitmotifs are especially capable of leading players to either form of immersion, since they are equally able to aid with performance and to create atmosphere and mood.

At times, videogame audio may be relied upon to convey a variety of information to the player (Poole 71). One way in which audio is often analyzed is in terms of sound symbols and leitmotifs. As theorized by Cohen (1998) and Collins (2008), sound symbols and leitmotifs are used to help focus a player's attention on certain objects and goals. Specifically, "structural aspects of [the] music may direct attention to specific aspects of a visual scene" (Cohen 1998, 14). This particular perspective on leitmotifs comes from film theory and emphasizes how they are used to help players identify particular characters, moods and environments (Collins 130; Chion 51-3). They can also activate and elaborate upon cultural conventions and expectations which can in turn influence the attitude and experience of the player, and the meanings developed through gameplay, as will be discussed in Chapter 3. In this respect, leitmotifs are of special importance both for challenge-based and for mythical/imaginative immersion.

Another manner in which the audio has been analyzed is through its acousmatic function. Acousmatic sounds are those which one hears without seeing their originating cause (Chion 71). With regard to videogames, the usefulness of acousmatic sound is normally associated with a player's performance (Poole 68), where some theorists have argued that the information provided by the audio in this manner is some of the most crucial, and is therefore argued to be the most critical role game audio possesses (Stockburger 10).

Surround sound technology has become a commonly used feature within many newer videogames and its purpose is normally said to be saturation of a player's auditory senses with the intention of enveloping their body within the game's sonic environment (Collins 132). Surround sound also has the ability to support acousmatic sounds and cues which aid with and enhance a player's performance (Stockburger 2003). It is not uncommon to hear players comment upon this function of sound, as in the following remarks found on a gaming website: "I

can now hear things in the game I never heard before. I'm talking background, ambient sounds that seriously have me jumping everywhere I go”². “You can instantly tell which direction an enemy is coming from and prepare for them. It is almost necessary to get the full effect of the game's atmosphere IMO [in my opinion]”³.

The audio component of a videogame has also been observed to provide a kind of sensory blanket, covering any distracting and unwanted noises external to the game. This function mirrors the use of audio in early cinema, specifically with silent film, where its main purpose was to mask noises coming from the projector (Gorbman 1987). According to Gorbman, this was done in order to prevent audience members from losing focus and interest in the film. The audio component can serve a similar function in videogames by masking distractions produced by the machinery, i.e., the “hum of the disk drive, fan [and] motor” (Cohen 1998, 14).

Theorists have often occupied themselves with the idea that the audio of a videogame is capable of inducing certain moods. It has been argued that music, especially, can convey to the player emotions and feelings expressed by the characters or environments in the game. A study conducted by Annabel Cohen examines music’s mood altering ability. In her study, Cohen played compilations of music which had been categorized as conventionally sorrowful, happy and neutral to participants. The results indicated that the music had in fact altered the moods of the participants in the expected direction (Cohen 1998, 15). As it pertains specifically to videogames, Collins has argued that mood induction occurs most frequently when a player’s character is faced with danger or in peril, by means of “chaotic, fast paced boss music” (Collins 133). More broadly, moods can be induced and elaborated due to the way in which conventional

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² Posted by Ryodin in August 2007 on IGN’s website <<http://boards.ign.com/bioshock/b8010/150076655/p1/?7>>.

³ Posted by cdion in August 2007 in response to Ryodin’s comment
<<http://boards.ign.com/bioshock/b8010/150076655/p1/?7>>.

musical configurations prompt conventional cultural associations. My analysis of *World of Warcraft* will demonstrate a variety of situations which seem designed to induce such effects.

Due to the interactive nature of videogames, theorists have developed methods for examining the music and sound effects in ways that deviate from methods used in film, distinguishing between interactive and adaptive audio. The former refers to sound events that react to a player's direct input (Collins 4). For instance, when a player pushes the appropriate button to make their character jump or attack, the same associated sound pattern will be heard every time. Conversely, adaptive audio reinforces goals and tasks by reminding the player of what they should be doing, which ultimately aids with performance (Collins 4). An example would be when the background music of a videogame increases in tempo as a way of directing the player's attention to the fact that they are running out of time to complete the level. Games that make use of both of these functions are said to make use of dynamic audio (Collins 4).

The last way in which videogame audio is commonly analyzed is by means of spatial acoustics (Jorgensen 2008; Collins 2008; Whalen 2007). Spatial acoustics refers to the representational aspect of a game's music and sound in order to promote the space of the virtual reality, supporting the "mood and...sense of presence in [the] game environment" (Jorgensen 163). In other words, the audio from within the game can be used to represent and "reinforce a sense of location" (Collins 130), as well as facilitate a sense of presence for the player through their character (Whalen 2007, 78). In a study conducted by Kristine Jorgensen (2008), it was observed that when sound was removed from gameplay, players experienced a decline in sense of presence and a decrease in the cine-realism of the game, as evidenced from the answers given by her participants: "It's like [gun scenes] don't work right, because it's like you're reminded

that this actually is a computer game. So when there's no sound, it's just like two animated figures standing there, shooting at each other" (Jorgensen 171).

All of the aforementioned videogame audio functions will be essential when discussing immersion in relation to the medium. It is clear how each function serves to attract and hold the player's attention, albeit in different ways: masking real-world noises, enveloping one's auditory senses, directing focus on goals and tasks, enhancing performance (and therefore maintaining attention), inducing moods, providing a realistic sense of presence and by enhancing the hyper-realism of the images on screen. It is the intention of my thesis to argue that all of these functions help maintain the player's complete concentration, thus keeping them in a state of flow – which I have already argued as the basis for the immersive experience encountered by players.

Chapter 3

Wrath of the Soundscape: Sources and Kinds of Meaning

The audio of a videogame is responsible for a variety of functions, as was discussed in previous chapters, though some of these functions are not as easily explained as others. It is fairly clear how the audio can mask noises external to the game environment by means of sheer volume, direct a player's focus through the constant pairing of sound signals, and enhance performance by means of acousmatic sounds. However, how is audio capable of inducing mood and establishing a hyper-realistic sense of presence? The latter functions are undeniably more difficult to achieve since they involve establishing affectual meanings via the soundscape provided by the game. There is no absolute template that can be used to invariably represent and signify any given object, person, emotion, place or environment, yet through convention certain associations have undoubtedly been made, especially with respect to musical sound

The 16th century proved to be a fundamental staging ground for the redefinition of the goals of music since, “composers began to reflect on music’s emotional capacity” (Gouk 91). Specifically, it was their intention to imitate and recreate, through music, “passions” or “affections”, loosely analogous to what we would call emotions (Gouk 92). According to Penelope Gouk, music following “the ancient ideal of expressing the ‘affect’ or emotional character” was seen in the development of monody and through the birth of opera (Gouk 92).

Further examples of musical signification can be located in the programme music of the 18th and 19th centuries, in which music was used to reflect particular events (such as a battle scene or military march), to mimic natural phenomena (such as a flowing river, birds, rain or storms) or to represent particular environments (such as the pastoral landscape evoked by Beethoven’s Sixth Symphony) (Rodman 118, 141). Put differently, programme music was thought to operate “through a set of iconic or sounds-like gestures to convey a story.

Programmatic music demonstrates how musical gestures can correlate with extramusical narratives and provide musical representation of that narrative” (Rodman 141).

Romantic music of the 19th century was also frequently representational, proving to be yet another musical style composers could use in order to communicate specific affectual meanings. The conventions developed in the romantic piano repertoire, for example, are still used as a guide for contemporary music endeavouring to convey concepts of romance, love, couples, loss and at times sadness (Tagg and Clarida 170-2). The effectiveness of the conventions from romantic music and even European classical music are arguably the reason why they were so often relied upon in film, from the silent era onwards (Tagg and Clarida 313). Slightly later, impressionist music was another form which frequently evoked certain imagery, albeit not usually as precisely as earlier programme music. Some pieces, such as Claude Debussy’s *La Mer*, are still extremely relevant for said purposes, and in this case, is considered a template for settings of the sea in film (Scheurer 113). Furthermore, according to Philip Tagg, the active conception of musical meaning in mass media, whether affectual or otherwise, is “based on the musical language of late romanticism and impressionism [and] has become the passive musical language of large parts of the cinema viewing world” (Tagg 59).

Lastly, the method of repeatedly pairing a musical figure (such as a chord, or melodic gesture) with something else (such as a character, idea or situation) is known as a leitmotif, a technique developed by Richard Wagner in the operatic tradition. It quickly became an essential practice in film music: “the practice of using operatic-style leitmotifs in silent film also thrived in sound film, where composers used the device to convey characters and settings” (Rodman 110). Additionally, the leitmotif serves as “a point of identification and as an embodiment of that

which it accompanie[s], delineating important narrative elements such as character or situation” (Kalinak 28).

Historically, then, music has been used as a means to convey emotions, concepts and ideas, through the advent of concert music, film, television and, more recently, videogames. The rest of the chapter will focus on genre norms primarily from film studies, with some attention to television studies, with the intention of demonstrating a selection from videogame audio’s representational vocabulary. The genres that will be discussed in further detail are: historical romance, horror, adventure, and ethnicized films. Following the discussion of genre will be an analysis of specific musical features in order to reveal conventions that contribute to the affectual meaning of the aforementioned, specifically: orchestration (instrumentation), timbre, dynamics, major/minor modes, melodic motifs, harmonic motifs and rhythmic motifs. A discussion of soundscapes will also be included so as to situate the use and importance of the conventions stemming from the music and sound effects of my case study *World of Warcraft*.

Why Film Music?

There are clear differences when regarding the music of a film and of a videogame; however, the essences of their roles are very similar. Even though film music is tailored precisely to the narrative of the medium whereas videogames can only accomplish this during cinematic sequences (relying elsewhere on interactive and adaptive audio [Collins 2008]), they are both used and manipulated for the purpose of conveying information, manipulating affect and establishing cultural reference points. Whether it is for the purpose of emphasizing the visuals, or adding another level of meaning altogether, the audio component for both mediums is meant to evoke particular emotions in their audiences and players. Since film studies have been around for

much longer than videogame studies, especially with regard to research on the music and sound effects, there is a solid foundation of scholarly material available in connection with film which may be extended to the study of videogames.⁴

Even from the very beginning, music and film were intimately linked due to cinema's use of topics, or conventions, in order to convey emotions, objects and actions. Catalogues of topical musical cues were published early on in the 20th century, containing both newly composed and pre-existing music (Rodman 118). An example is the collection compiled by Ernő Rapée called the *Encyclopaedia of Music for Pictures* (1925), organized by topics and themes such as love scene, chase scene, and sinister (Rodman 118), to name but a few. Composers were also thinking topically when creating music for television programs, an example being Marlin Skiles' how-to manual called *Music Scoring for TV and Motion Pictures* (1976). Skiles outlines what he refers to as mood categories, with some examples being drama, mystery, romance, humour, horror and scenic. Unlike Rapée, however, he differentiates the categories by timbre and register and not by means of musical gestures (Rodman 120).

Genre Theory

Musical genres can be identified by a variety of factors that range beyond the music, such as cultural values, rituals, practices, territories, traditions, and groups of people (Holt 19).

According to Fabian Holt, who is building on earlier work by Frith and Negus, "music is embedded in all these things" (Holt 19), in all aspects of life, because of what he calls genre culture. Because popular music genres are defined by many of the same parameters as culture, it

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⁴ Specific sources include Kevin J. Donnelly's *The Spectre of Sound* (2005), Claudia Gorbman's "Scoring the Indian: Music in the Liberal Western" in *Western Music and Its Others: Differences, Representation and Appropriation in Music* (2000), Michel Chion's *Audio-Vision Sound on Screen* (1994) and Annabel Cohen's "Film "Music: Perspectives from Cognitive Psychology" in *Music and Cinema* (2000).

is reasonable to consider them small cultures of their own (Holt 19). Genres used in a range of media, such as film and television, are said to function like “mental frameworks, [that] guide the way we watch and experience the images on screen, and ... music can be seen not only as a part of that, but also as almost a microcosm of the process” (Donnelly 88). Furthermore, videogames normally rely on the pre-established genres present in these forms of media which in turn allows them to possess and relay a variety of conventionalized information. There exists a level of expectation on the part of the player due to a certain degree of awareness and understanding of particular meanings associated with specific genres, especially once other aspects of the game are revealed, such as game type (role-playing game, action, third-person shooter) and style (horror, adventure, fantasy, and sci-fi). Simply put, the prevalence of recognizable music genres in videogames not only mobilizes concepts and affects conventionally attributed to the people and cultures linked with those genres, but also creates a generalized preconception of what that game should be about in terms of narrative content and visual components. The concept of genre as small culture suggests that such material is not only received as information by players, but in fact encourages them to think, feel, and act in certain ways, all of which can be relevant for discussing the immersive potential of generic conventions. Lastly, this level of expectation in videogames may be especially pronounced with people who are deeply rooted in gaming culture, and who understand these norms that have been developed by the industry.

Even though meaning may not be inherent in music, structuralist and semiotic approaches have been able to explore and uncover conventions of discrete musical elements. It is known that certain musical elements are considered regular fixtures for specific genres (such as distorted guitar for rock and twelve-bar chord schemes for blues), and can therefore function as genre signifiers. It is these conventions that we as listeners first perceive and register when we attempt

to “locate music generically” (Holt 23). More important, however, is the fact that individual musical elements of signification do not necessarily possess meaning when perceived as isolated events. Rather, it is their connection and organization relative to other aspects of a given context (musical, visual, conceptual) that provide them with a host of meanings (Holt 23). Specifically, “musical sounds are created and perceived in environments defined by music of the past, of what has already happened” (Holt 23). Lastly, meanings affixed to particular musical conventions may be identified from observing the shared values of a given social group. As previously suggested, the customs, rituals and shared values of a culture, or smaller social group within a culture are capable of creating and affixing meaning to genres, and knowledge of these aspects of a culture can increase insight into the articulation of these values in musical conventions (Holt 23). It appears that even though music lacks clear denotative power, it does in fact possess the ability to deliver specific information as long as a listener is knowledgeable of those sounds, and of the culture that revolves around and affects them. With this in mind, let us take a look at some of the specific film genres that have developed within the industry, and through time and convention have become signifiers of certain images and sounds.

Some Specific Genres Relevant to *World of Warcraft*

Since film genres have been especially well-studied, with research suggesting that specific types are capable of conveying particular meanings via their soundtrack, it will be useful to explore the film-like genres that can be located in *World of Warcraft* in further detail, specifically: historical romance, horror, adventure, ethnicized films, as well as the role of main title music.

Main Title Music

Main title music is used to communicate a variety of general information about the film to the audience. Fred Karlin states that “main-title music can say to the audience, ‘The movie you are about to see is...’ and then establish the overall tone and attitude of the film, or prime the audience’s expectations as to what will follow” (Quoted in Scheurer 50). Kevin Donnelly mirrors this sentiment maintaining that “...the opening title music prepares the audience for the film world and narrative to come” (Donnelly 37). Similarly, television theme music invites “the viewer into the narrative space, or story world, of the program” (Rodman 126), where it can be used to create the atmosphere for the film or television program and even suggest a sense of place (Scheurer 111).

Videogames make use of main title music for similar purposes. The music heard at the beginning of a videogame can prepare a player for the content to come by providing aural cues that have the ability to indicate the various elements that make up the environment and story of the game. *World of Warcraft* is no different in this regard, in that its main title theme, “Legends of Azeroth,” possesses elements that reflect the martial/heroic/adventurous theme of the game. Furthermore, the main title theme is, at times, quoted in the various musical pieces used throughout the game world, which can further link the aforementioned themes to scenarios a player may encounter.⁵

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⁵ It should be noted that a full description of *World of Warcraft* as well as my methodology, will be provided in Chapter 4. The briefer preliminary descriptions offered throughout this chapter are for the sole purpose of amplifying discussion of genre types that are localized in my case study, and will hopefully be clear in context.

Historical Romance⁶

Though it is the case with all films, music for the historical romance is particularly crucial in delineating the setting (place and time) and the social situation of the characters (Scheurer 111). A convention of including indigenous music and instruments in the score of this genre of film has also allowed for additional information about the characters to be conveyed musically (Scheurer 111). Furthermore, this must be done in terms that are understandable to the gamut of moviegoers, which can force composers to rely upon “the ‘universal’ sound of the classical Hollywood movie score” with minor or filtered borrowings “of period topics and indigenous musical topics to communicate a specific sense of time and place” (Scheurer 112). In addition to this, historical romances require a great deal of music due to the nature of historical spectacle. The elements of spectacle include: (1) period setting – architecture, (2) mass action and (3) broad visual landscape of nature. Because the music is foregrounded in these sequences it “first, saves the scene from being utterly boring and, second, provides an emotional subtext for the action” (Scheurer 122). Spectacle is also heavily relied upon as a “backdrop for the actions of the hero” since composers tend to construct a kind of “musical tapestry” that consists of motifs and topics in order to “convey atmosphere, geography, action and psychological status” (Scheurer 122).

With regard to *World of Warcraft*, there exist many zones throughout the game’s virtual world that adhere to the concept of spectacle as it relates to the historical romance. Specifically, many of the environments are vast, lush, beautiful lands home to peaceful villagers and tradespeople, such as Elwynn Forest and Dun Morogh. Indigenous music is also frequently employed throughout these types of environments, an example being the taverns which make use of Celtic music. The ambient music for these two zones in particular is also a bit more thematic

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⁶ Some examples of historical romance films are *Gone With the Wind* (1939), *Casablanca* (1942), *The Last of the Mohicans* (1992), *Sense and Sensibility* (1995) and *Titanic* (1997).

than ambient, richly composed at times, in order to convey the atmosphere and geography of the area.

Horror

The music for horror films tends to be some of the most structured and standardized in that “there is a pattern...The general practice is to make a great noise on your titles...But it is true that on horrors as a rule you need a lot of brass...” (Philip Martell quoted in Donnelly 89).

Expanding on this, horror film underscores tend to make use of a very specific texture which is defined by:

a number of stylistic aspects... A common feature is the use of melodic lines of deeply pitched strings, which are often slow and tend not to be particularly memorable or tuneful. Related to this is the principle of the drone, where tension is built through anticipation. Another defining aspect of music in the horror film is the use of unresolved dissonance. (Donnelly 90)

There is also a pool of conventional musical figures used in horror films, such as the stinger or sting, which is literally a physical shock produced by a musical blast (Donnelly 91). The music of horror films is also different from other genres by way of its “distinctive and enveloping ‘sound architecture’ or ambience” (Donnelly 93). To some, this function might be considered theatrical, since the music can be said to function as part of the scenery; however this enveloping quality provides the musical score with the means to create “whole environments” that the audience can enter, which in turn, equates “a mental state with a sonic construct” (Donnelly 93).

World of Warcraft makes heavy use of horror genre conventions, with zones that manifest a wide range of horror tropes. With ghosts, ghouls, zombies, wraiths, werewolves, dark eerie lands, dead vegetation and mysterious fogs in zones such as Duskwood, the game features images reminiscent of those from films in the classic horror style. The music for these areas

makes heavy use of stingers, drones, ostinatos, metallic and unknown sounds, crashing block chords, heavy dissonance, chromaticism and short, simple melodies.

Adventure

The music for adventure films is generally martial in nature, while also engendering a patriotic quality that sets the stage for war, battles, and underlines “the hero’s feats of courage, daring, and physical agility” (Taves 71). Generally, there are contrasting themes found in the music for adventure films, the two main ones being quiet love themes to accompany the heroine and the solidarity of the group of protagonists (Taves 71). More specific to the title music, there may be upwards of three major ideas: the hero, the setting and overall mood and a love relationship (Scheurer 109). The heroic element is always the predominant one, however, which reinforces the “centrality of the hero’s quest” (Scheurer 109). Furthermore, this heroic dimension is usually gestured musically by motifs based on the types of fanfare topic heard in the classical and light classical repertoire (Scheurer 109). Specifically, “once the fanfare is stated the main theme will be taken up, often by the strings, or by the brass with the strings providing an exciting contrapuntal theme featuring swirling or ascending figures” (Scheurer 110). Lastly, the music for adventure films can also be used as an emotional signifier since it can possess a “heightening function for...action sequences” (Donnelly 113).

World of Warcraft’s main title music follows the convention of adventure film music, in that it makes use of heroic elements such as fanfares and lift gestures⁷ as well as the heavy use of percussion, providing it with a martial quality. There is also a softer section to contrast the aggression of the rest of the theme and as a way of possibly directing attention to concepts

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⁷ The use of the term lift gesture is meant to represent intervallic movement, and is a term borrowed from Timothy Scheurer in his book *Music and Mythmaking in Film: Genre and the Role of the Composer* (2008).

opposite to war. The themes of some home cities, such as Stormwind and Ogrimmar, also make use of heavy percussion and martial topics, which—much like adventure film music—could be for the purpose of mobilizing concepts and affects of heroism, courage and war.

Sonic Stereotypes of Ethnicity in Film

Associating indigenous people with wilderness, nature and respect for the land is a stereotype habitually employed in ethnicized films (Pisani 294). Music can be used to underscore these elements while also alluding to specific ethnicities by means of standard conventions; “...music can be associated with...types of people and places.” (Donnelly 56). Furthermore, music is often regarded as “the essence of national/ethnic communities, and a paramount signifier of ethnic or cultural difference” (Donnelly 56). Even though the methods developed to underscore ethnicity have been stereotyped and are not always an actual representation of the given culture, they nonetheless have come to embody a widely recognized language through the use and development of these conventions (Donnelly 57).

Included in *World of Warcraft* is a variety of zones which seem to reference a number of peoples often portrayed as exotic. The indigenous races of certain zones tend to be very protective of their lands, and many draw strength from the wilderness they inhabit. Some zones are modelled after grasslands and coniferous forests, and are inhabited by races based on First Nations people such as the Tauren race from Thunder Bluff. The music for their home city and surrounding area makes use of steady 4/4 rhythms, powwow drums and simple melodies. Similarly, in the zone of Stranglethorn Vale, the indigenous tribal race of trolls native to this jungle land have erected many wooden bridges, stone monuments and grand structures. The

music incorporated for this zone borrows instruments from many different cultures as a way of referencing a generalized exotic other.

Concepts, Imagery and Musical Features

This concludes my introductory survey of the generic types which we will find to be of greatest relevance in *World of Warcraft*. It is by means of such easily recognizable conventions that meanings can be conveyed and images evoked in players, which can prime them for certain kinds of experiences and attitudes. If the visual scene and musical blanket of the game environment complement one another, are reflective of what the other is saying, then a degree of understanding of the environment will occur. As previously mentioned, once a player has decoded the messages of the music and has reached this level of comprehension then mythical/imaginative immersion can be experienced.

In Chapters 1 and 2 I developed an interpretation of immersive experience which suggests that sound effects are noteworthy in their ability to enable player concentration by means of directing attention and focus, which is especially associated with facilitation of challenge-based immersion. Conversely, music is more often associated with the cine-realism of a game's environment and with the mobilization of symbolic elements that can enhance mythical/imaginative immersion. Beginning with this basic distinction between sound effects and music, and taking account of the different kinds of sound effects and music in *World of Warcraft*, I have made further divisions and categorizations which are summarized in Figure 3.1. Specifically, sound effects are either the result of a player's direct input and are termed interactive, or occur more automatically (independently of player activity), as part of the

atmosphere of an area, and are termed ambient. With respect to music, the most important distinction I wish to make is between thematic and ambient music.

These divisions were first observed during my analysis of the game, and were also commented on by the game's lead composer, Jason Hayes (2004). The details of these four subcategories are outlined in Figure 3.1; however, it should be stressed that these divisions primarily describe functions rather than specific sounds, and while those functions often do align with particular types of sound or music, there will be exceptions. For example, while I suggest that ambient sound effects are usually associated with challenge-based immersion, it is often also useful to note the way in which a particular ambient sound effect might enhance the cine-realism of a zone, contributing towards mythical/imaginative immersion as well. In general, my categories of sonic and musical functions have a double intent: they suggest loose and general correlations between particular kinds of sound/music and particular kinds of immersion, and they provide a set of terms that can be used to examine the subtle blending of functions that can occur when studying the sound and music of any particular zone.

The discussion of genre types earlier in this chapter did not yet offer many specifics about how particular musical parameters operate in these contexts. In order to begin to approach such specifics (still from an introductory perspective), the intent of the following discussion of music and sound types is to prepare the reader for the analysis in Chapter 5 by outlining the musical features I encountered during analysis of my case study, *World of Warcraft*. In order to provide a broad background on the general cultural meaning of particular kinds of sound, the material will be presented without extensive discussion of its connections to immersion and to *World of Warcraft*; however, those connections will be made clear in later chapters.

General

Orchestration: The way an orchestra is set-up or how the sections are manipulated can suggest certain concepts or ideas. For instance, thicker orchestral textures tend to represent narrative climaxes, while low register instruments are relied upon to create suspense (Donnelly 169). Furthermore, according to Marcia Landy, orchestras can function in both a “literal and metaphoric fashion to provide the necessary musical accompaniment and to generate the proper solemn, ritual, or ceremonial affect” (Landy 111). Orchestral, and even choral music, can be used as a way of differentiating between the “individual and the collectivity,” or more specifically, between the hero of a story and the rest of the characters. Additionally, the use of a thicker orchestral texture can contribute further to “the sense of the vastness and greatness of the individuals and the events” (Landy 111).

Nature

Instrumentation and timbre: Pastoral scenes are common imagery in a variety of films, so it is no surprise that there is a standard trope to represent said scenes. To evoke the pastoral in the minds of listeners, composers often make use of flutes, horns, trumpets, clarinets, oboes, violins and harp (Donnelly 120). The most effective signifier however would arguably be woodwind instruments, since centuries of piping are said to have produced “a referential sound that still suggests the serenity of the pastoral landscape...the solo woodwind always points the pastorelle...” (Schafer 44). Lastly, the breathy sound of the [American Indian] wooden flute maintains strong associations with nature (Pisani 321), and is thus used to signify both Native Americans and wildlife.

Intervals and Motifs: A trope developed in the 1930s that came to represent the open West was a Stravinskian neoclassical influence of “sparse textures and instrumentation; melodic and harmonic emphasis on seconds, fourth, and flatted sevenths as opposed to thirds, fifths, and sixths” (Pisani 309). Long, legato (smooth, rounded) arpeggios that rise and fall can be used to evoke imagery of waves, the sea, gushing water, or even wind in the trees (Tagg and Clarida 172).

Categories of Sound Types

<u>Narrative Music</u> Narrative music is more melodic and harmonically rich, making use of a clear beginning and end. This kind of music is meant to tell the players things that revolve around the story/lore of the game or the specific scenario they are encountered with by invoking certain emotions, ideas and concepts <u>Specifically, emphasis is on:</u> Musical structure and themes developed by means of strong melodies, harmonies, rhythmic ideas, leitmotifs, and explicit use of genre conventions and clearly articulated formal structures	<u>Ambient Music</u> Ambient music is less structured, and for the most part less thematically conceived by means of melody. Much like narrative music, this kind of music is meant to evoke amongst players certain emotions, ideas and concepts, though in a much more general way, providing a general impression of what the zone is about <u>Specifically, emphasis is on:</u> Fade ins and fade outs, dynamics, sparse textures and melodies, and particular instrumentation (often through the use of ethnicized instruments to suggest certain people or places), drones, ostinatos, and lots of repetition
<u>Interactive Sound Effects</u> Interactive sound effects are heard as a result of player interaction/direct input. They are meant to increase a player's level of performance, which in turn, helps with focusing and attracting that player's attention. These types of sound effects are able to accomplish this as sonic signifiers of culturally learned information <u>Specific categories are:</u> Acousmatic sounds Sound symbols Leitmotifs Surround sound Dynamic audio (interactive and adaptive) <u>Specific examples would be:</u> Sound effects produced directly by a player's character – from the sound effects of their skills, their own speech, their movements, and from using items and weapons. (The above also work with regard to these sounds being made by another player, since these would be acousmatic sounds, which in turn aid with performance)	<u>Ambient Sound Effects</u> Ambient sound effects complete the atmosphere established by both kinds of music, in that they exist for the purpose of creating a sonically cohesive environment, by increasing the verisimilitude of the virtual realm. They may also be regarded as an additional layer of meaning that can aid with performance when they are classified as keynote sounds. <u>Specific examples would be:</u> Wind, water, fire, birds, animals, speech (talking, laughing, crying from other NPCs [non playable characters]), and various kinds of drones and bells (this last one can potentially be performance enhancing too).

Figure 3.1 Categories of sound types found in the game *World of Warcraft*, each with definition and examples.

Villains, Monsters, the Supernatural and Death

Instrumentation and timbre: In horror movies, such as *Plague of Zombies* (1966), a sense of mystery and the unknown is created by means of ringing tuned percussive instruments, like the vibraphone, and deep woodwinds (Donnelly 100). Composers of horror and science fiction films also create tension and foreboding by means of tremolos in the high strings, coupled with a “meandering melody in the low brass or strings” (Scheurer 180). Additionally, Eisler and Adorno state that the use of a tremolo on the bridge of a violin in serious music was meant to produce feelings of suspense, while also expressing an unreal atmosphere (Eisler and Adorno 17).

Lastly, low musical sounds tend to be representative of villainy or evil (Rodman 166). This association is said to have been established in classical opera, and has persisted in music for film. Scenes of suspense tend to begin in low ranges (Rodman 167), and horns can be played in their low registers to create an ominous effect (Rodman 167). Additionally, topics involving villainy tend to be more percussive (Scheurer 121). For example, Kathryn Kalinak delineates the defining characteristics of Darth Vader’s theme, stating that the instrumentation (trumpets, horns, trombones, and basses for the melody and low percussion such as timpani, for the accompaniment) carries connotations of darkness and militarism (Kalinak 195).

Rhythm: Rhythm is an important element for representing and identifying the villain in films, who stands in opposition to “standards of ‘civilized’ behaviour, social norms, and the code of the hero” (Scheurer 121). Additionally, “aggressive rhythms” or “hammering gestures” are commonly used to signify the villain, with an example again being Darth Vader’s theme from *Star Wars* (Kalinak 195).

Music themes found in horror films tend to make use of disjunctive rhythms and dissonances in the melodic line with asymmetrical harmonic progressions (Scheurer 180). When dealing specifically with the monster or main evil of a horror film, similar techniques are used in conjunction with “loud, closed, crashing chords that prominently feature minor seconds and tritones,” along with descending three-note patterns in the lower registers (Scheurer 185).

Dynamics and Tempo: Generally speaking, slow tempos and long notes seem to be highly representational of mournful concepts, such as funerals and death, and are potentially even more indicative of such qualities than minor modes, since “such semantic practices may...well predate classical conventions of major/minor affect” (Tagg and Clarida 316). In addition, Tagg and Clarida reference Erno Rapée’s section on sadness (Rapée 621-650), to further illustrate the aforementioned relationship, specifically: (1) sad music is mostly andante, (2) it makes use of quiet legato arpeggios or sedate block chords, (3) contains no sudden changes of dynamics, and (4) contains no quickly repeated notes (Tagg and Clarida 317). Slow, plodding tempos can also contribute to a sense of dark and evil happenings (Larson 21).

Indigenous/Exotic/Other

Instrumentation and timbre: There are times when the American Indian is specifically evoked and exoticized through the music of films. Some general practices include using a combination of drums and chanting (Donnelly 71), while specific instruments such as rattles, pipes or recorders (wooden flutes) may be used (Pisani 20). A sense of place can even be established if “instruments native to a culture [are] incorporated into the standard symphonic orchestra,” providing the necessary “colour” to establish a “‘feel’ for the place” (Scheurer 113). An example of the latter can be found in the movie *Captain Blood* (1935), where the use of unusual

instrumentation, such as the triangle, celesta, harp and muted trumpets, are incorporated into the orchestra in order to suggest or even define the exotic nature of the port (Kalinak 91). In addition, *Captain Blood* “assigns percussive instruments the job of carrying the melody,” furthering the exoticizing tendencies of the music (Kalinak 91). Another instrument commonly used to signify the exotic, or more specifically the jungle, are bongo drums (Rodman 125).

Ethnicity more generally can be symbolized through music by means of particular instrumentation. For instance, large warpipes are commonly used to denote Scotland (Donnelly 57), while the Armenian-Turkish doudouk is used to denote aspects of the Orient, an example being Peter Gabriel’s music for *The Last Temptation of Christ* (1988) (Donnelly 57). Further examples include uilleann pipes, tin whistles and bodhran drums, all Irish folk instruments, used to denote Ireland, or more generally, anything Gaelic (Donnelly 64). Additionally, the combination of period instruments with modern instruments is sometimes used to signify indigenous cultures in film, where the latter are used for harmonic support and the former are melodically foregrounded. An example can be found in the title theme for *Rob Roy* (1995) (Scheurer 111).

Rhythm: Rhythmic elements are used as the main signifier of Native Americans in film, with the most common being the strict 4/4 tom-tom beat (Scheurer 156-7). Other standard techniques are aggressively repeated notes, dissonance (or tonal ambiguity), and narrow melodic ranges with melodies that emphasize repetition (Scheurer 158). Repetition of rhythmic motifs is also standard, and is usually heard with “deep drums” and “wooden sounds” (Donnelly 73). These elements can be heard in the music for the film *They Died With Their Boots On* (1941), where a throbbing tom-tom is played in conjunction with a descending chromatic figure in the high woodwinds, “a figure [that is] bookended by the interval of an augmented fourth” (Pisani

292). Musical elements that come from authentic Native American music include pentatonic inflections, repeated final notes and melodic phrases that begin high and follow a downward pattern (Pisani 58).

Intervals and Motifs: More generally, people or worlds to be represented as ancient can be evoked by means of parallel fifths, lowered sevenths and open fifth drones (Pisani 328). Another trope of the exotic can be heard when clarinets are used to play parallel fourths in their lowest register, for the purpose of sounding “primitive and menacing” (Rodman 125). Lastly, melodies with “appropriately narrow range” that make use of the Scottish snap are usually instant signifiers of the Highlands or Scotland in general (Scheurer 111).

Heroes and Courage

Instrumentation and timbre: The concept of the hero in film, or heroism more generally, is often symbolised through the use of trumpets and trombones (Pisani 303). According to R. Murray Schafer, the horn, “more than any other instrument...symbolizes freedom and love of the outdoors...The horn of freedom achieves heroic proportions in Wagner’s *Siegfried*, where it becomes the acoustic symbol of the hero...” (Schafer 107). The role of the French horn in the television show *The Rifleman* is argued to be a signifier of both the heroic and the pastoral (Rodman 167). Even the hero’s struggles can be delineated by means of instrumentation, where bass and other low register instruments are frequently used for said purpose, an example being Michael Kamen’s music for *Robin Hood* (1991) (Scheurer 132). Other instruments, such as the bugle, flute and snare-drum, are commonly used to indicate marches, or military themes, as heard in the music for the movie *Glory* (1989) (Donnelly 77). Military processions, parades or the entrance of royalty also use trumpets playing in a fanfare style (Scheurer 114). Furthermore

the horn, for most cultures, is a signifier of warfare and the hunt (Schafer 45; Allen 2001, 62). A concept associated at times with heroes is religion and the use of bells, especially large church bells (Tagg and Clarida 414).

Lastly, high textures are often linked with the protagonists, or with the hero of the film (though high range can also suggest climaxes or tension in the narrative) (Rodman 167). For instance, horns tend to be used in their high registers for the purpose of a dramatic and/or suspenseful effect (Rodman 167).

Intervals and Motifs: Hero motifs usually exploit lift gestures of either a fourth, a fifth or an octave, though the most common heroic gesture is the open fifth (Scheurer 109, 133). Fanfares are also commonly used in conjunction with stepwise, ascending motivic patterns to similarly evoke the hero (Scheurer 131; Rodman 15). Specifically, these motifs are “effective in conveying notions of vigor and male efficacy” (Scheurer 132). An ascending figure that employs an intervallic ascent of 1-3-5 can also suggest “an outgoing, active, assertive emotion of joy” (Cooke 105). However, if this is turned into a minor ascending pattern the emotions evoked can be altered to that of pain, sorrow, protest or misfortune (Cooke 122). Lastly, if the pattern is rearranged into a 5-1-3 minor it can evoke a strong feeling of courage, where “it boldly acknowledges the existence of tragedy and springs onward (upward) into the thick of it” (Cooke 125).

Love and Longing

Instrumentation and timbre: Tagg and Clarida have suggested that “viscous string pads have acted and still act as sonic emulsifiers in many a voluptuous love scene on the screen” (Tagg and Clarida 170).

Intervals and Motifs: The ascending minor sixth has long been used to induce feelings of longing for animals (*Lassie*), and for geographically remote homelands (Weber's "rabien, mein Heimatland") (Tagg and Clarida 445). Furthermore, when the interval is repeated it intensifies the affective meaning (Tagg and Clarida 446). Conversely, a sloping melodic line can denote a sense of dysphoria (or even a falling of darkness), and is evident in a variety of treatments of *Romeo and Juliet* and *Love Story* (Tagg and Clarida 452). Additionally, the minor key semitone between a major second and a minor third maintains a strong connection with "longing, nostalgia and sadness that contains elements of pain, anguish and bitterness" (Tagg and Clarida 458).

Excitement, Suspense and Tension

Melodic/Harmonic/Rhythmic motifs: Tension can be created and effectively delivered in horror films by means of motivic contrast, where composers create "lines consisting of tropes and seemingly unfocused gestures: three notes will outline an intervallic leap in the violins only to be followed by a stepwise pattern in the low strings or brass that seems to bear little relation to the initial motif...sustained dissonant chords...[with] ominous irregular rhythms by [the] timpani" (Scheurer 180). Tension can also be created by means of rising pitch; by transposing repeated units of music up a semitone (Donnelly 100). Harp sweeps and syncopated trills can also be used in scenes for a similar affect (Tagg and Clarida 299-300).

Ostinatos are also used in horror films, where they are used to characterize ominous stalking themes (Scheurer 180). The ostinato is also a common device used for battles and action sequences. "Ostinato patterns, although superficially suggestive of stasis, gesturally convey a relentlessly rhythmic pounding sense of movement" (Scheurer 123).

Dynamics and Tempo: Rapid tempos tend to be representative of dramatic action, and can create the illusion of increasing speed (Tagg and Clarida 483). Furthermore, fast tempo music clearly aligns with a variety of what Philip Tagg and Bob Clarida refer to as verbal-visual associations (VVAs), such as fast, action, chase and excite (Tagg and Clarida 483).

Dynamics, or volume, may be “the most natural response to music, as loudness indicates action or violence while softness signifies intimacy or stability” (Rodman 167). Rodman’s analysis of an episode from the television show *The Rifleman* is used as an example to emphasize this relationship: high volume (along with timbre) signifies action.

Soundscapes

The greater portion of this chapter has been devoted to music and the established conventions that have been relied upon by film composers in order to convey and evoke certain emotions and concepts in audiences. These conventions have been described in detail because they will re-appear in later chapters, as well as in the Appendix, as a framework for my analysis of music in *World of Warcraft*. Yet questions concerning the purpose and meaning of the sound effects, as opposed to the music, still remain. Sound effects are without a doubt as important as music when creating atmosphere and mood, although arguably in a much different way. Sound effects do not possess meaning that is derived to the same degree from conventions; rather, the meanings they retain are to a larger extent solidified by real world encounters. Selected concepts from soundscape studies will be used in order to examine the sound effects of my case study, and to aid with the unraveling of their intended meanings and effects within the game environment.

It was R. Murray Schafer who first introduced the term soundscape at the end of the 1960s, defining it as a concept that consists of “events heard, not objects seen” (Schafer 8). Any

acoustic field of study can be considered a soundscape: a musical composition, a radio program or an acoustic environment (Schafer 7). Furthermore, according to Schafer, in order to understand any given soundscape the analyst must first discover the soundscape's "significant features...those sounds which are important either because of their individuality, their numerousness or their domination" (Schafer 9). To accomplish this, Schafer discusses the importance of distinguishing between keynote sounds, signals and soundmarks. It should be noted that only the first two will be relied upon in my analysis, since soundmarks provide similar information on sound types as keynotes do. Additionally, keynotes appeared to possess a more central role during my examination of the soundscapes of the chosen zones in *World of Warcraft*.

Keynote sounds are not necessarily consciously perceived; "they are overheard but... [not]... overlooked," since Schafer considers them "listening habits" (Schafer 9). Of utmost importance is the fact that even though keynote sounds may not be consciously heard, they are nonetheless "ubiquitously there," suggesting the possibility of a "deep and pervasive influence on our behavior and moods" (Schafer 9). Put differently, the keynote sounds of a given environment are important, since they are the sounds responsible for outlining the character of that environment and of its inhabitants (Schafer 9). In regard to the former, keynote sounds are those that are created by the environment's geography and climate, such as water, wind, forests, plains, birds, insects and animals (Schafer 9-10). In videogames, keynote sounds are usually audio samples that are used as a means to create the sonic ambience of the virtual environment (Grimshaw and Schott 4). Furthermore, they are triggered by the game engine according to a pre-set internal process and are not the result of player interaction (Grimshaw and Schott 4).

In contrast to keynote sounds, signals are sounds that are consciously listened to and which exist in the foreground of a soundscape. It is possible for any sound to become a signal as

long as it is consciously heard and it carries some specific importance. Certain sounds, however, maintain greater significance and thus can be said to force listening, an example being warning sounds such as bells, whistles, horns and sirens. Furthermore, it is possible for sound signals to be “organized into elaborate codes permitting messages of considerable complexity to be transmitted for those who can interpret them” (Schafer 10). Such signals would, however, require repeated exposure for a listener to learn how to decode the signal’s intended message. In videogames, sound signals are meant to be heard in order to grab the player’s attention and to deliver important encoded information which ultimately aids with performance and gameplay (Grimshaw and Schott 4). Additionally, the classification of a sound as either a keynote or sound signal may change, depending on a player’s proximity to the sound, and whether or not the player chooses to consciously attend to it (Grimshaw and Schott 4).

Most sounds of any environment are produced by known objects, allowing for their categorization by means of their referential aspects (Schafer 137), and because sounds have referential meaning, they cannot be overlooked as merely abstract acoustical events. Rather, they can be considered as signs, signals and symbols (Schafer 169), where a sign is “any representation of a physical reality”. It does not just sound, but instead indicates, whereas a signal (as previously discussed) is a sound with a specific meaning, eliciting a direct response from a listener. The last category, symbol, is arguably the most profound of the three (Schafer 169). A sound event can be considered symbolic if it is capable of arousing emotions or thoughts that reach past its “mechanical...or signalling function” (Schafer 169). Two examples given by Schafer are the wind and the sea. In videogames, symbols may be regarded as “identifying aural features of the acoustic ecology” that are consciously heard by players, and may either be keynote sounds or sound signals (Grimshaw and Schott 5). Symbolic sounds are typically used

as unique indicators of the particular game environment, since they tend to reference the internal game world (Grimshaw and Schott 5). Specifically, sound symbols are used in videogames to “assist a player in identifying other characters, moods, environments, and objects”, which in turn creates a virtual experience that is more “comprehensible” to players and can increase performance and skill (Collins 130).

Summary

The reason for detailing how certain game sounds may be perceived and understood by the player is for the purpose of further explaining and linking the gaming experience to particular psychological states. Both sound effects and music are capable of telling a player information about the setting, mood, environment and overall atmosphere as well as alerting and directing their attention to danger (battles), objectives (quests), atmosphere and spatial awareness (location). They can also affect a player's mood, and by mobilizing powerful cultural topics can prime the player to adopt certain attitudes and be receptive to certain experiences. Specifically, setting, mood, environment and atmosphere can provide the game with meaning that can enhance cine-realism, which has been previously argued as necessary for mythical/imaginative immersion. Conversely, dangerous encounters, objectives, spatial awareness and atmosphere can relay a variety of information to players that can aid and enhance performance, also necessary, but in this case for the purpose of challenge-based immersion. If the player is capable of decoding and accessing the range of information or meaning the audio has to offer, and is disposed to participate in the associated themes and narratives, then she or he is more likely to enter into one of the two aforementioned immersive states, to be fully absorbed, completely concentrated and focused, or put simply, in a state of flow. This chapter has described both

music and sound effects in terms of how they may carry conventional meanings that can generally help to enable such experiences. It remains to be shown how, in particular, such factors may be accessible through the audio in my case study *World of Warcraft*. When it comes time for the analysis in Chapter 5, these theories and examples detailing where the meaning of particular musical sounds comes from, how such meanings have been conventionalized, as well as how certain sound effects can be regarded as symbols and signals of a wide range of important information, will be extremely useful, since that analysis will be devoted to locating similar sound types and functions in my case study.

Chapter 4

Patch 4.0.1: The Mechanics of World of Warcraft, MMORPGs, and Methodology

Before analysing the audio for *World of Warcraft*, I will conduct a discussion of the genre,⁸ the gameplay, the players, and the intentions of the game's developers in order to inform the reader of background details for my case study and analysis. In addition, my methodology will be outlined.

The Basics

World of Warcraft (WoW) is a massively multiplayer online role-playing game (MMORPG) that was released by Blizzard Entertainment in 2004. The game is still active and as of October, 2010, boasted an online populace of over twelve million people.⁹ Specifically, MMORPGs are persistent virtual realms that allow a large number of players to interact with one another and freely navigate throughout the game world by assuming the role of a character. The game world continues to exist and evolve even when any given player has left the realm, or in other words, gone offline.

Gameplay for WoW takes place within the confines of the vast fictional world of Azeroth. The original version of the game (commonly referred to as vanilla WoW) consisted of only two continents, Kalimdor and the Eastern Kingdoms, each containing a different number of territories, called zones. Each player begins by creating a character that will represent them within the virtual realm of the game. There also exists a certain level of character customization that includes the choice of faction (Alliance or Horde), race (Human, Orc, etc.), class (Paladin,

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⁸ In this instance, the term genre is used to simply refer to game format, and does not carry with it the detailed meaning from previous chapters.

⁹ Statistic obtained from Blizzard Entertainment's official website at <http://us.blizzard.com/en-us/company/press/pressreleases.html?id=2847881>.

Shaman, etc.) and some physical features (such as hair and skin colour, hairstyle, shape of face and gender). The main objective of the game is to strengthen one's character by gaining experience points (known as levelling) and obtaining powerful weapons and armour (or gear). Players can accomplish this by playing the game solo through the completion of easier quests, or they can choose to group with other players to complete more difficult group quests, or dungeons. Once a player has reached the maximum level (which is currently capped at 85), the game becomes exclusively about accumulating very powerful gear. This can be accomplished with the help of others, or again by oneself. In regard to the former, players can opt to take advantage of the more social side of the game by joining a guild. Guilds are necessary in order for players to be able to easily group together to complete the most difficult portions of the game. If players choose not to join a guild for whatever reason, the game still offers options for these types of solo players to have access to equally epic gear. This is done through battling in specific player versus player (PvP) zones called battlegrounds. After having participated in these battleground events dozens of times, a player will have accumulated enough honour points to use towards the purchase of very powerful weapons, armour and accessories (such as rings, amulets and trinkets).¹⁰

The Genre and its Players

MMORPGs have steadily increased in popularity and subscriptions over the past decade (Kerr 59, 150), with the release of various successful titles such as *Ultima Online* (1997), *EverQuest* (1999), *Final Fantasy XI* (2002), *EverQuest II* (2004) and *World of Warcraft* (2004). Part of the reason for the rise in interest could be due to the fact that players tend to appreciate a game that

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¹⁰ Readers who are interested in further information on the mechanics, rules, objectives and gameplay may wish to visit *World of Warcraft*'s official community website at <<http://us.battle.net/wow/en/>>.

allows for a high degree of control or freedom; control over their own avatar but also control over the game environment and what they are able to do with it. The level of freedom afforded by a game depends heavily on its genre, with the highest level provided by those genres which allow players the freedom to roam and explore wherever they would like and to interact with almost any object (Kerr 114-116). This kind of control, freedom and flexibility has been stated by players of MMORPGs as a main reason for why they began to play and continue playing (Yee 2009). Additionally, this is a common reason given by female players when asked why they chose to play this genre of game as oppose to others (Kerr 114).

Different genres seem to provide different forms of pleasure amongst players. According to T.L. Taylor, with regard to MMOGs more generally, “there seem to exist the pleasure of mastery and of exploration, identity and team play, social interaction/community as well as combat” (Quoted in Kerr 116). RPGs have also been identified as a generator of the pleasure of exploration (Kerr 116). Further evidence for this can be derived from an online survey site created by Nicholas Yee called *The Daedalus Project: The Psychology of MMORPGs*. For six years, Yee collected survey data from over 40,000 players of MMORPGs in order to better understand their reasons for participating in these online worlds. Among the hundreds of questions he has posed to players, one of particular interest was the simple question ‘Why do you play?’. The spectrum of motivations seems to mirror the pleasures outlined by Taylor, while also providing some additional ones: various forms of role-playing (including the creation of a back story for their characters), fulfilment from learning the lore through the completion of quests, identity exploration, exploration of the world, accumulation of knowledge about the game, the fantasy of being somewhere else and escapism—the desire to leave the problems of the real world behind (Yee 2009; Hagström 2008; MacCallum-Stewart and Parsler 2008). The broad range of

reasons that players have stated for playing these online games is suggestive of the kinds of people more generally who would enjoy this form of play.

Perhaps most importantly for my own study, these reasons are also suggestive of a common desire of MMORPG players to become immersed in the game's content and to experience a form of proficiency arguably related to flow experience. There exist a multitude of different MMORPG players, all with different reasons for choosing to participate in these kinds of virtual worlds. Despite the degree of difference, I am proceeding on the assumption that one point of consistency might be a widespread desire among different sorts of players to experience some form of immersion, and that the design of a game such as *World of Warcraft* is crafted in part to make such experience attainable. Though the question of exactly how the audio component will affect immersion is extremely complex, my analysis will be conducted in such a way that it presupposes the willingness of all WoW players to allow the audio to induce this psychological state.

The Analysis, Composers and Intentions

The purpose of the analysis presented in Chapter 5 is to locate in *World of Warcraft* sound and music types and functions discussed in previous chapters, in order to hypothesize their possible meanings with special attention to their potential in fostering immersive experience. The music and sound effects from this part of the analysis will then be examined and determined as either necessary for mythical/imaginative immersion or challenge-based immersion, which will suggest how the audio is capable of inducing this phenomenon in players of WoW and in videogames more generally. Included in the thesis is an Appendix which describes the parts of the game I have chosen to analyze. A screen shot of each zone has been provided, as well as a brief

description of the zone, player comments, and a note on what sound types are used for the area. Readers unfamiliar with the game and wishing an overview of the zones on which my analysis is based, may wish to consult the Appendix before reading the rest of the analysis.

Selection of Music for Analysis

The virtual environments that characterize the different zones in the game are finite; they make use of a select number of aesthetic themes or landscapes such as jungle, swamp, desert, snowy tundra, haunted, lush forest, barren, demonic and/or infested. Depending on which one of these aesthetic styles provides the premise for a given zone, the soundscape for said zone will arguably reflect these visual concepts. In other words, all snow covered zones make use of the same music and ambient sound effects. Similarly desert zones, lush green forests and other distinctive zone types all have their own identifiable music and sound effects. For the analysis I have decided to select a single zone from the majority of these categories in order to provide a range of representative samples. In addition to this, I will be analyzing zone music as a separate category from the music used in cities, since the former is ambient and the latter thematic. According to the lead composer of the original *World of Warcraft* game, Jason Hayes, the purpose of the zone music was to create a certain atmosphere which would allow players to “bask in one aesthetic moment...more like you were just kind of fading in on the feeling of being in that area and getting a sense, maybe a more dramatic sense, of the reality of standing there” (Hayes 2004).

As previously mentioned, there is also distinctive music that was created for the main cities of the different races, and it is at times quoted when players encounter scenarios in the game that visually reference one of these particular races. The music created for such areas of the game is considerably more thematic than typical zone music would be, and makes use of more

structured music in order to give players a grandiose sense of what that race is about. According to Hayes, in addition to all the “atmospheric stuff” created for the zones, the developers were looking to:

punctuate the gameplay experience with things that were a little bit more thematic and a little bit more epic where we could get away with saying something of a little bit more substance musically. So where we elected to do that was in places like cities, when you first enter a city thinking of that in movie terms, as being like an establishing shot, where all of a sudden you arrive and you kind of see the first shot and you can get this theme that maybe represents the people that live in the city. (Hayes 2004)

Ultimately, the main goal of the composers for the game was to create music, both ambient and thematic, that could be considered as so natural, so organic to the environment, that without it players would not experience the full gamut of emotion and sensations the game has to offer:

You know at the end of the day, with a project like this I think the main goal is to have a situation where maybe for once people won't wanna turn the music off, you know, and if in any way this thing can be so organic to the environment to where it feels like it's just an extension of the lighting effects or...like a fog effect, you just really can't imagine it not being there that's what I really hope can happen that people get something out of there being music in the game. (Hayes 2004)

Sound Effects

Considerable attention in my analysis was also devoted to the sound effects that were created for the game. Similar to the music, many of the sound effects were produced for specific areas of the game in order to signal to players certain emotions, ideas or concepts, and again, are dependent on the aesthetic theme or landscape of the zone. These sound effects are comprised of the ambience loops included with each zone, city and dungeon. According to lead sound designer Brian Farr, “having a large variety of ambience we've been able to give each zone its own realistic feel” where his design team endeavoured to “bring ambience into every zone that looked

different” with each set of sounds for these areas “broken down into a night and day ambience” (Farr 2004). A specific example Farr mentions is Elwynn Forest: “If you’re in Elwynn Forest we tried to bring birds into it and make it seem happy and enchanted and if you go into a dark area we wanted to bring as many dark things into that as we possibly could get. From owls or pitching things way down low to make them sound scary” (Farr 2004).

Additionally, sound effects were created for every single object in the game, with the aim of providing the virtual realm of *World of Warcraft* with a high level of realism (Farr 2004). According to Farr, they attempted this sense of realism through an attention to detail, by including large sound sets for monsters, a huge variety of ambient loops, as well as unique sound effects for any doodad encountered by players in the game (such as fires, levers, books, scrolls, etc.).

Why choose the World...of *Warcraft*?

Aside from the fact that this game is played by millions of people, *World of Warcraft* is one that has clearly been developed with the audio component in mind. There was a deliberate attention to detail when creating all of the music and sound effects for the game, in order to enhance the emotional experience of the gameplay, as well as to increase the overall sense of realism. Consequently, WoW is arguably a prime candidate for analyzing the purpose and meaning of audio in relation to immersion.

The genre that *World of Warcraft* is a part of was also an enticing factor, since MMORPGs have not been addressed in this kind of detail by previous studies of audio and immersion. Studies on audio and immersive experiences have been conducted earlier, though for the most part have focused on single player games such as *Super Mario Bros.* and *Silent Hill*

(Whalen 2004), or on multiplayer games that are not persistent, such as *Urban Terror* (Grimshaw and Schott 2008). Furthermore, the MMORPG genre contains elements of a variety of other game genres, such as action, adventure and third person shooter, which would make the results of the analysis broadly applicable.

Methodology

Due to limitations of space, my analysis of music and sound in *World of Warcraft* was more extensive than can be fully presented in this thesis. Selections from my full analytical results appear in the thesis in two tiers: in the Appendix, which provides general background information, and in the sonic details discussed throughout the text where they are relevant to advancing my arguments about flow and immersion. Although this presentation is selective, readers may be interested to know the details underlying the full analysis.

I began my analysis by selecting a single zone that I deemed representative for each of the main categories of landscape/zone, specifically: a snowy zone, a desert zone, a lush forest zone, a haunted zone and a jungle zone. In the interest of space, some of the landscape/zone categories were omitted where the selection of the most aesthetically diverse areas was based on my personal knowledge of the game. I also chose to analyze three of the main cities: Stormwind, Ogrimmar and Thunder Bluff. Lastly, I wanted to add an example from a dungeon since they form a large portion of the game experience, as well as a more peripheral example, which I decided would be the experience inside a tavern.

Using a real-time video capture program called Fraps, I then recorded 2-3 minute sessions of gameplay in each of the zones in order to have a fixed sample of how the music and sound effects work in-game. It should be noted here that the use of these sessions of my own

gameplay experience as the focus for my analysis points out a fundamental methodological choice which influences the scope of my thesis and the nature of the claims I make about player experience. When suggesting a model of different kinds of immersion, and proposing a way of organizing sounds and music in terms of their contribution to this experience, I am offering a study based on my own experience. Further research involving the study of a wider range of players would be needed in the future in order to test, refine and expand the model offered here as a starting point.

In order to provide my analysis with a certain level of consistency, I decided to base my initial analysis of the music as it appears on the official soundtrack CD for the original *World of Warcraft* game. This enabled me to easily pinpoint all of the details of the music for the purposes of analysis, rather than attempting to do so during actual gameplay. Next, I turned to the videos and examined which portions of the analysis I had conducted on the CD version occurred during those recorded moments of gameplay, and determined how it interacted with the gameplay, while also providing suggestions for further implications.

I sub-categorized my analysis of the music into ambient and thematic types, not only because the composers emphasized this distinction but also because the ambient compositions created for the game contain quite a few sound effects, which to me seemed to alter the dynamic of the music in comparison to the more thematic pieces. In regard to the zones that make use of the narrative music, my analysis was also able to consider melodic and harmonic dimensions.

Upon completing the musical analysis, I turned to the sound effects for each individual zone. First, if it was a zone with ambient music, I listened to that portion of the audio to single out whatever sound effects were included, and then simply listed them off for future reference. I then turned once again to my video clips and examined them for the sound effects used during

gameplay, noting also those that were separate from the ambient music. From the footage I was able to identify both ambient and interactive sound effects. Once I had completed that process for each selected zone, I sifted through all of the sound effects and divided them into interactive and ambient, in order to provide a separate discussion of the former since, as was mentioned, they can occur anywhere in-game and are not specific to any particular zone (for instance, a battle can break out anywhere). Lastly, I sorted through all of my raw data and determined which portions were most important for the purpose of discussing the immersive capability of both the music and sound effects, and could be most illuminating in making connections between the theoretical discussion of Chapters 1, 2 and 3 and the specific case of WoW.

Now that my overall purpose, intention and methodology have been outlined, we may turn our attention to the case study, the virtual world of *Warcraft*, in order to determine the immersive power of the audio in this game.

Chapter 5

The Cataclysmic Analysis:

An Examination of the Immersive Potential of
Select Music and Sound Effects
from *World of Warcraft*

Immersion in *World of Warcraft*

The immersive experiences to be had in the game *World of Warcraft* are many and varied. As discussed in previous chapters, the conditions necessary for a player to enter into a flow state include (1) the ability of the audio to create a coherent virtual and symbolic environment via the musical signifiers and sound effects, and (2) the individual player's ability and willingness to receive, decode, and identify with said information, which would then allow them access to the flow experience. It was also previously mentioned that there exist two forms of immersion, challenge-based and mythical/imaginative, and even though their end result is a state of complete concentration, wilfully and enjoyably invested (or in other words, in flow), I suggest that the audio signs and signals that lead a player to one or both of these states differ. The intention of this chapter will be to make clear the various links between *World of Warcraft*'s audio and immersive states by detailing the musical signifiers and interactive sound effects used in the game, their possible purpose and use throughout the virtual world and their likely effects on players. Certain general aspects of the player will also be discussed in order to hypothesize their role and how it may impact the potential for an immersive experience.

Challenge-Based Immersion

As discussed in Chapter 1, challenge-based immersion is the result of the game being successfully performed by a given player in a manner which stretches their abilities but only to a degree which is satisfying rather than frustrating. The rules of *World of Warcraft*, as a game, are

meant not only to direct attention but to direct it in patterns that are enjoyable and which encourage players to exert their skills. Specific levels of skill are demanded by *World of Warcraft* depending on the zone of the game, and in order for a player to experience challenge-based immersion, they will need to produce the appropriate level of skill to meet the game's challenges. Sound effects presented as leitmotifs, acousmatic sounds, sound symbols and dynamic audio are important for transmitting information to a player, ultimately aiding with performance and in turn helping to create conditions for challenge-based immersion. Whether or not the player decides to attend to these sounds will alter the level of meaning derived from them, and as per the discussion in Chapter 3 on soundscapes, could change the status of the sound from sound signal to keynote to symbol. Put simply, the player's perception and interpretation of the sound effects are essential for the information these types of sounds are attempting to communicate to be successfully received. This in turn will determine whether or not players can meet the challenges they are faced with, and ultimately whether they experience challenge-based immersion. In *World of Warcraft*, specific sound effects that work in this manner are those of battle (weapons, spells, unarmed attacks, armour being hit, screams of pain, war cries), of actions (opening your backpack, looking at your map, drinking, eating, using various items, picking up various items off of NPCs and monsters), of monsters or animals (heard with aggro, when attacking creatures, when being attacked by creatures), and sounds of character class skills (offensive and defensive skills and spells). The specifics of each of these sound effects are described below to provide further insight into when and where they are heard and what these sounds might signal in certain situations, and thus how they may help facilitate challenge-based immersion.

Interactive Sound Effects

The complexity of the game's soundscape is dependent upon the particular zone the player is engaged in and the level of game activity within the vicinity, since the number of keynote sounds, signals and symbols will invariably fluctuate from zone to zone. Furthermore, interactive sound effects play a large role in this regard since it is the sounds produced by a player's direct input that can create the thickest sonic blanket. When the player encounters a sonically complex situation such as a battle, a phenomenon called the synecdoche effect is activated, where certain sounds are perceptually highlighted for the purpose of decoding and understanding the plethora of signals being relayed to the player. Put simply, the synecdoche effect is selective listening, "produced by simple acoustic vigilance, by the determination of a predominant functional criterion, or by adhesion to a cultural schema establishing a hierarchy" (Augoyard and Torgue 124). Additionally, "the search for a useful signal" often appears in situations of danger (Augoyard and Torgue 124), which is why battle encounters would most consistently trigger this sonic effect, and in turn would encourage the player to learn how to listen attentively to the game's environment in order to increase performance. As mentioned in previous chapters, interactive sound effects are ones that can be generated anywhere in the game, the player—and not the location—being the determinant. Each category of interactive sound effects listed below differently affects a player's experience, likewise affecting the way in which a player reacts, which can determine their level of concentration and potential for challenge-based immersion.

Battle

Sounds of battle are arguably the most important sound signals since they have encoded in them information that may prevent a player's character from falling to peril, and thus aid with performance. Such sounds include those produced by a character's weapons, spells, and unarmed attacks, as well as the sound effects that result from the aforementioned, such as the sound of armour being hit, screams of pain, grunts and war cries. There exists a large sound set for each category of sound in order to indicate to the player a variety of information. For instance, when a player uses their weapon against an enemy, that weapon possesses a range of sound signals that will alert the player of the effectiveness of their attack. Depending on the weapon, a dead-on hit will produce a heavy slash, a thud or piercing sound indicating that the attack was successful, and depending on the sound signal produced by the enemy being attacked, further information will be relayed. For example, if the enemy responds with a regular grunt or cry, the damage inflicted is within the character's normal range. If the grunt or cry is exaggerated, higher in volume and generally more intense, it is indicative of a critical hit, which alerts the player of higher than normal damage, bringing their enemy much closer to defeat. However, if the player's attack misses an enemy, is dodged or parried, an audible airy sound effect is heard to indicate the unsuccessful attack. This is important, since not only does it indicate the failed hit, but also indicates whether a special ability may have been activated for use as a result of the missed, dodged or parried attack. Conversely, when a player's own character is attacked, the sound signal of the screams of pain will likewise reveal to the player how much damage has been inflicted (normal versus critical), and may allow access to and use of other special abilities. Battles are ubiquitously important to all players in *World of Warcraft*, and thus these sounds are of the utmost importance for those desiring to perform the game with a high level of proficiency.

However, as mentioned in Chapter 3, if a player is engaged in a large scale battle, these sounds will also be produced by other players fighting in the vicinity and may not necessarily be of direct consequence, and therefore may not be attended to, resulting in a change of status from signal to keynote.

Skills

Extending from the previous discussion, the sounds of each player's skills are equally important for aiding with performance. All of the classes in the game possess skill sets specific to them, all of which make use of different sound signals in order to relay encoded information in a manner akin to the basic attacks. Specifically, skills can be both offensive and defensive, or put differently, for hurting and healing. Furthermore, some classes (such as mages, priests and warlocks) do not use armed attacks, instead relying solely on spells. The sound signals produced by the skills of these classes will likewise indicate to the player what kind of damage will be exacted upon them, as well as any secondary effect that skill may impose. Spells similarly possess large sound sets that are capable of indicating whether an attack connected with the enemy, how much damage was delivered and whether it triggered the use of additional abilities, all of which, once again, aid with a player's performance. For instance, if a paladin is attempting to cast a healing spell during a battle, the charging sound can signal to the enemy her intent, and an enemy who is quick enough to decode that information can react accordingly by using a skill of their own to prevent it. Ultimately, all the sound signals that can occur in battle are encoded with a large amount of information, which can tell a player how to respond and attack, when to retreat and when and how to use their own specific skills, all of which can enhance performance

and which demand complete concentration, assisting the player in achieving challenge-based immersion.

Items

Another group of interactive sound effects are those produced by all the items in the game, or “doodads” (Farr 2004). Specifically, they are the sound effect heard when opening your backpack, when checking your world map, when drinking and eating, when looting items from NPCs and monsters, as well as consuming certain items (be it a spell, enchantment, or potion). These sound effects are the result of player interaction; however, for the most part they only exist for the purpose of intensifying the cine-realism of the actions performed in-game (Farr 2004). Some may be further useful, for example where the crunching sound of eating (which regenerates health), and the gulping sound from drinking (which replenishes mana) indicate to a player that their character is successfully performing these actions. Eating and drinking are not possible once engaged in combat, so if the player is not paying close attention to their surroundings yet notices the cessation of these sound signals, the absence will notify them that either they have finished consuming their food and drink, or that someone has attacked them, causing them to finish prematurely. As previously mentioned, there exist a variety of other sound signals and visual cues that would indicate combat; however, these types of item sound effects are discussed to further demonstrate the variety and volume of signals available to the player during gameplay. With regard to receiving items, after a monster has been defeated its corpse normally yields one or more items that a player can then collect. The sound signal of the various items that can be looted from a monster is specific to each, and indicates to a player that the

items have been successfully gathered. Items are very important as they can make a player's character stronger, or help them with quests or overall gameplay.

Monsters and Animal

The last category of sound effects are those generated by monsters and animals, which are normally heard as a result of them becoming aggressive, or in WoW parlance, aggro. This is a very important sound signal, since it occurs all too often that when a player is adventuring through a zone they unintentionally draw the attention of a hostile creature, causing it to attack. The initial growl (tailored to that particular creature, which in itself can signal to the player what kind of aggressor they are about to face) indicates the change in situation, signalling to the player their imminent choice between fight or flight. As mentioned, this is very important sonically encoded information since often when a monster or animal becomes aggressive, it is from an out of sight location, which makes this acousmatic sound signal invaluable, particularly when this event occurs in the most difficult portions of the game, such as dungeons. In dungeon zones, even though it may have been only one player to have aggroed the monsters, the sound will also signal to the rest of the party, which can aid and increase performance. Lastly, as with battle sounds, there exists a large sound set for each monster in the game, not only to keep things from becoming repetitive (Farr 2004), but also to signal to players that their attacks have indeed connected with the monster or animal and to provide a general idea as to how much damage they have dealt. Once again, by perceiving and attending to these sound effects the player is able to understand the situation they are faced with, allowing them to react accordingly. This in turn attracts and maintains focus and concentration, which ultimately can help to deliver the player into a state of challenge-based immersion.

Mythical/Imaginative Immersion

Also discussed in Chapter 1 was a second form of immersion termed mythical/imaginative, which is a state of immersion induced by means of the mythical themes encountered in the game. This form of immersion has been argued to be most apparent in role playing videogames (Munday 58) such as *World of Warcraft*, and works by offering a player the chance to use their imagination, to believe in the fantasy of the game and even empathize with their character(s) (Ermi and Mäyrä 8). As discussed in Chapters 1 and 2, there exist audio functions such as that of mood induction, spatial acoustics and leitmotifs that are used as a way of enhancing the imaginative experience to be had in these types of games. The basis for the ability of the music to alter moods and enhance the cine-realism of *World of Warcraft* was the focal point of Chapter 3, where the ability of specific musical signifiers used elsewhere (especially in film and television) was outlined. This discussion established a link between the musical signifiers found specifically in *World of Warcraft*, and other sources where they have occurred, such as in film, television and culture overall, in order to propose certain conventional meanings these sounds might possess. An extensive list of the musical signifiers found throughout the game is discussed below, and summarized in Figure 5.1, to explicitly demonstrate their potential meaning as well as where and how they have been used throughout *World of Warcraft*. Furthermore, the list of musical signifiers is offered to the reader in order to solidify their relationship to mythical/imaginative immersion by showing the ability of the music to command concentration and attention through mood induction, atmosphere and the deployment of conventional cultural references.

Musical Signifiers

Timbre

Aside from dynamics, I would argue that timbre is the first musical dimension perceived by a listener. It matters not what notes are being played, with what accents and for what purpose; timbre is the raw sound of what is being said, where the meanings associated with particular timbres are undoubtedly a result of cultural influences. For example, if a person were to hear the sound of bagpipes the initial association would likely be Scottish or Irish music since not only are bagpipes an instrument of Scottish and Irish origin, but the two have been constantly paired by various media outlets. These kinds of culturally learned associations have clearly been seized upon by the music and sound directors for *World of Warcraft*, which is why timbre-related dimensions such as instrumentation will be the first musical element to be analyzed.

Instrumentation: As was mentioned by *World of Warcraft* composer Russell Brower, heavy use of “epic drums” is an important part of the game’s musical vocabulary. For him, drums were used to create a “very dark theme...[with] a strong mood of something brewing” (Brower 2008). It is therefore evident why the main title music, “Legends of Azeroth,” makes heavy use of drums. The piece includes a variety of timpani rolls with varying dynamics throughout, foregrounding the concept of war in relation to the theme, and more importantly, the game. There is also a strong emphasis on the bass drum throughout not only “Legends of Azeroth,” but also in the music for Ogrimmar. Cymbals are yet another heavily exploited percussive instrument, used in addition to the drums in order to further support the bond between hammering, aggressive gestures and war. In addition, drums are prominent in the most dangerous parts of the game, such as the dungeon of Shadowfang Keep. The association between percussive instruments and war is one that has been habitually used in film, derived historically in part from

Celtic armies, as well as their migrated counterparts the Galatians, who would clash their weapons onto their shields or armour in order to terrify their enemies prior to battle (Allen 2007, 125; Allen 2001, 62).

Another group of instruments evocative of specific concepts are brass instruments, which are primarily used in one of two ways. First, brass instruments are often evocative of regal and noble places and characters found throughout the game. They also suggest concepts of the hunt and warfare. In regard to the former, the most prominent areas of the game that make use of brass instruments in such a manner are human cities, such as Stormwind. Since Stormwind is a castle with a grand cathedral placed at its center, it is fitting that the composers chose to include a fanfare performed by trombones and French horns for a large portion of the city's theme. This link is further strengthened when players discover new areas of the game that are controlled by the humans (such as Theramore) – they make use of snippets of Stormwind's theme, and thus become extensions of the brass/noble/medieval relationship. As was mentioned, brass instruments are also heavily relied upon in the game in order to evoke concepts of war and the hunt. With regard to zones in WoW, trombones and French horns are used as the main timbral element of the Ogrimmar theme, a town inhabited by a race of orcs whose desires are driven by bloodlust. Their sounds are also the sonic essence of the aggressive portions of "Legends of Azeroth" (main title music) and Shadowfang Keep (a dungeon zone).

Woodwind and stringed instruments have also come to be known as signifiers of certain settings and situations. The latter have become the instruments of choice when scoring a romantic love scene in film, and are also relied upon to conjure emotions for a lost or distant homeland. Specifically, they are capable of evoking images of the pastoral, as is the case with Elwynn Forest, or even any beautiful scenic environment, as with the snowy mountainous range

of Dun Morogh. String instruments are also used in the main title music, "Legends of Azeroth," to draw attention to the love of the lands being ravaged by war. Woodwinds have also been relied upon for similar effects and are often used in conjunction with string instruments to further intensify this association, which is the case with the two aforementioned zones and also in Thunder Bluff.

Arguably one of the most revealing timbral signifiers is the use of instruments which have become conventionally associated with particular ethnicities (I will call them ethnicized instruments). Even though all the races in *World of Warcraft* are fictitious (aside from the humans)¹¹, many of them are representations of some real world ethnicities. For instance, the race of the Taurens (who hail from the city Thunder Bluff) are seemingly modeled on North American First Nations, and their music makes use of wooden flutes, tambourines and bass drums as a means of sonically evoking a generalized representation of said cultures. Another example involves the human and dwarven races as representations of Irish and Scottish culture respectively. Attempts to allude to these two ethnicities through music include the use of ethnic instruments such as the bodhran drum, tin whistle, fiddle, lute and harp. This music is most often found in taverns, such as Lion's Pride Inn. A last group to be discussed is the troll race in the zone of Stranglethorn Vale, who represent a variety of peoples, from Caribbean to Amazonian to Aztecan. Timbral cues for such cultures are derived from instruments such as the mbira, hand drums, clapsticks, rasps, shakers, wooden flutes, rain sticks, didgeridoo, manjiras and erhu. The combination and use of a wide variety of ethnicized instruments leads to a general conceptual link between the music, the zone and the generically exoticized other.

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¹¹ *World of Warcraft* categorizes humans as a race, evidenced by its inclusion in the race selection portion of character customization.

The last group of instruments to discuss in terms of timbral signification are electronic and unidentifiable sounds, similar to those which have been most commonly used in horror and science fiction films in order to allude to eerie, haunted and other-worldly concepts. A variety of said sounds can be heard in the haunted zone of Duskwood, some specific examples being spring-like sounds, metallic sounds, mechanical sounds and processed-electronic strings (usually played staccato). Another example can be found in the zone of Tanaris, a vast desert plagued by mysterious over-grown insects. A variety of unidentifiable humming and buzzing sounds are evocative of images of eerie and unnatural occurrences.

Choruses and Voice: Choruses have been used in very specific ways throughout the game environment of *World of Warcraft*, alluding to religious places and reverent people and to draw attention to the plight of the various races in the game. Stormwind is an excellent example of the former since the castle city is dominated by a cathedral placed at its centre and is home to the human race notable for their reverence and faith. The theme is able to evoke religious images by incorporating a choir, since many churches make use of choirs or forms of chanting during service or prayer. Another use may be for the purpose of drawing attention to the individuality of the player and their connection to the race and faction as a whole through the simple fact that it is a group of voices singing as a collective. The main title theme also makes use of a chorus, however briefly, at the end of the piece, incorporating a bit of the religious element into the main theme while also alluding to something of an ominous nature. Voice is also used in certain areas of the game where the intention is to create an atmosphere of the unknown or even primitivism. Such instances can be found in the theme music for Ogrimmar (a race of orcs with shamanistic beliefs), Duskwood (a forest plagued by the ethereal and undead) and Stranglethorn Vale (a

jungle inhabited by various tribes of homicidal trolls).

Melody and Harmony

The use of specific melodic and harmonic materials is a deliberate decision made by a composer in order to suggest something specific to the listener. Moreover, many of these gestural materials are the product of western art music, adapted and used for film and television, and more recently, videogames. There exist a variety of intervals and intervallic patterns that have become conventionalized through their constant pairing with particular ideas and concepts, many of which have been incorporated in the music throughout *World of Warcraft*. Heroic lift gestures of a 4th and 5th are meant to draw attention to the hero of the story, which in this case is the player and their character. Occurrences of such musical gestures appear in zones endeavouring to produce that type of effect, such as the home cities of Stormwind, Ogrimmar and Thunder Bluff, possibly as a means to reinforce the idea that the player is a saviour for their race. These heroic lift gestures also occur in the main title theme, “Legends of Azeroth”.

Another conventionalized lift gesture evocative of certain images, that of the 6th, is often said to be correlated with feelings of longing for a loved one or distant home land. This is most often heard in the starting zones of Elwynn Forest and Dun Morogh. The sense of longing becomes much more apparent once a player has ventured off into the vast world of Azeroth, only to eventually make their way back to their home cities via these starting zones. It is arguably an attempt to create a strong emotional connection between the player and their native land.

Lastly, there exist conventionalized intervals suggestive of evil, demonic, villainous or monstrous things and places. Intervals of a minor 2nd and minor 3rd as well as tri-tones have been traditional for said purposes. Such gestures can be heard in haunted, eerie or unnatural zones

meant to terrify a player, as in Duskwood and Tanaris, as well as in dangerous dungeon zones like Shadowfang Keep.

Dissonance and Chromaticism: Similarly to minor intervals, dissonance and chromaticism have been regularly employed in music as a way of evoking fear and the uncanny. The incorporation of the two throughout the game is linked to the evils in Duskwood, the villains of Ogrimmar, the other-worldly ambience of Tanaris, and the exoticized others from Thunder Bluff and particularly Stranglethorn Vale. The main title theme, “Legends of Azeroth,” also makes use of a fair bit of chromaticism, possibly to draw attention to the dangerous and mysterious nature of the game world.

Melodic Phrasing: Ascending and descending melodic lines also maintain particular meaning in that the direction of a musical phrase has the ability to suggest specific concepts and emotions. Ascending lines tend to be evocative of hope, strength, the hero and especially climatic moments dealing with these concepts, while descending lines are suggestive of things of a more negative nature, such as the onset of night/darkness, loss of light or hope, and even death. The music of some of the zones in the game world tend to make use of either ascending or descending melodic lines, though many take advantage of both, since even the most beautiful, serene zones, such as Elwynn Forest and Stormwind, have to deal with destruction and death due to the theme of war upon which the game is premised. Additionally, the main title theme incorporates both kinds of movement, arguably to draw the player’s attention to the good and the bad of the game world, while Duskwood makes heavy use of descending lines to emphasize the death of the plagued region.

Repetition: Repetition is a method used not only in music in order to emphasize that which is being said, but also in literature and speech. Repeating a point, or in this case a musical

point, could be for the purpose of drawing added attention for dramatic, suspenseful and emotional purposes. Put simply, repetition is capable of amplifying the meaning of a section of music within a composition by reappearing, and retelling what has already been stated (Augoyard and Torgue 92, 95, 97). Alternatively, repetition may be used to establish a certain mood or to create a groove, which may be the reason why a lot of repetition is specifically used for ambient zone music in the game. Furthermore, both thematic and ambient compositions in the game recycle their themes once they have been played through, as a way of maintaining the feeling of a zone.

Rhythm

Numerous rhythms have become conventionalized in Western culture and are capable of delivering a wide variety of information to the listener. First, by making use of typical rhythms from particular cultures, such as the Scottish snap found in the game's inns or the strict 4/4 tom-tom beat used at times for the Thunder Bluff theme, rhythm is able to evoke stereotypical cultural associations. Aggressive, pounding rhythms have also become suggestive of evil, or the villain, which again may stem from the percussive clashing sounds heard from an army preparing for battle, or even from the sounds produced during the conflict. Examples include the narrative music for Ogrimmar, Shadowfang Keep and "Legends of Azeroth".

Marches: Marches make use of a steady beat and have been used for centuries in martial settings. When this kind of rhythm is used in the game it instantly signifies to the player concepts of militarism, fighting, and war. Stormwind makes use of a prominent march in its theme which arguably emphasizes the fact that the city is in constant preparation for war. It is also fitting since

Stormwind is home to the human race and is reflective of standard military practices in the real world.

Dances: Some rhythms clearly signify dance since it is commonly known that certain formal dances, such as waltzes, are in $\frac{3}{4}$ metre, while a variety of classical repertoire is also in $\frac{3}{4}$ metre, including the minuet and trio. The composers for the music of *World of Warcraft* exploited the specific metre of $\frac{3}{4}$ in parts of the game meant for merrymaking, drinking and of course, dancing in inns (Lion's Pride Inn) and at festivals.

Ostinatos: Even though the essence of the ostinato is static, a quickly repeated motif has the ability to gesturally convey motion and a forward driving pulse. This tactic has been commonly relied upon in both film and television, and is almost exclusively reserved for action scenes. Moreover, an ostinato that is paired with increasing dynamics and tempo is capable of creating a high degree of tension (Rosen 47). The zones of the game that make heavy use of ostinatos are the most action-packed areas, which is to say the dungeons. Part of the theme for Shadowfang Keep, entitled "War," is practically composed as one big ostinato, encouraging and maintaining that forward driving pulse and sense of excitement while players battle the dangerous evils that lurk within. The main title theme also makes use of ostinatos that likewise encourage a sense of excitement and tension.

Volume and Space

Dynamics: As mentioned in Chapter 3, the volume and dynamics of a piece of music are capable of instantly grabbing a player's attention, especially when specific and extreme intensities are used. Music that makes use of loud or increasing dynamics is suggestive of climactic moments of excitement and suspense, encountered in zones meant for battle, such as

dungeons like Shadowfang Keep. Such dynamics also occur in zones meant to impact and stir a player's emotions as with home cities such as Ogrimmar and Stormwind (Hayes 2004).

Conversely, zones in the game that make use of soft/quiet or decreasing dynamics are suggestive of calm, serene, peaceful places, usually used in pastoral landscapes, like Elwynn Forest, and most other beautiful environments. However, quiet and decreasing dynamics can also be evocative of themes of sadness, loss or even death, as is the case with Duskwood. The inclusion of both intensities occurs in a variety of zones as well, possibly as a means to draw the player's attention to both the good and the bad present in the area.

Echo and Reverb: The echo and reverb of certain soundscapes in the game *World of Warcraft* is arguably included to evoke images of vast, open lands, which is perhaps why it is persistently used throughout the theme music for Dun Morogh (barren and frozen) and especially Tanaris (infinite desert). This effect mimics the phenomenon that occurs in open spaces found in the natural environment of the real world (Augoyard and Torgue 47, 116-7), and thus relies on a player's knowledge of such regions. Once an image of openness has been established, continued use of the effect can also suggest to a player a sense of loneliness and solitude, due to the way by which it suggests an absence of other players and NPCs in the zone.

Swells: Similarly used in film, swells are often relied upon as a means to emphasize the love, romance, and beauty of a land (or in this case zone) encountered by a player while adventuring. Even though there is no narrative arch for the swells to directly reinforce, they do occur throughout the game world in a manner that emphasizes and increases the affectual meaning derived from the other elements of music being heard. Some of the most dramatic swells occur in Elwynn Forest, Stormwind, Ogrimmar and Tanaris, the former two possibly to

conjure strong emotions of connectedness and affection for these areas, while the latter two for vigour and tension, respectively.

Stingers: Much like the ostinato and intense dynamics, stingers are meant to physically affect the player by delivering a sonic shock to their senses. A standard trope used in horror films, the sudden, loud sound is used to scare and startle, which is arguably why they are exclusively reserved for use in the haunted zones of the game, including Duskwood and The Undercity.

Drones

Drones are a musical sign conventionalized particularly from horror films and are possibly used as a way of affecting and changing the player's experience, suggesting a range of related affects such as tension, suspense, fear and the uncanny, depending on the specific game environment. The static, unrelenting nature of a drone is somewhat akin to the tensing of a person's body, or a long held breath—desired reactions for certain environments in the game. Additionally, for many cultures low-frequency drones tend to be connected to danger, sadness, and melancholy (Augoyard and Torgue 42). To further add to these affectual responses, many of the drones that occur in-game make use of electronic and unidentifiable sounds, conceivably for intensifying the emotional reaction elicited from the player due to the often unfamiliar or unnatural nature of such timbres. Lastly, drones created by sounds of nature, such as wind, can also produce a tense environment, or a “climate of anguish” (Augoyard and Torgue 45). Zones that make heavy use of these drone effects are Duskwood, Tanaris, Ogrimmar and Stranglethorn Vale. Finally, following from a previous discussion, drones performed by ethnically-coded instruments and voices can suggest the musical practices of various non-western cultures (Augoyard and Torgue

44), and are sometimes used in zones where such ethnicities are linked to a mood of eeriness or other-worldliness, such as Stranglethorn Vale, Ogrimmar and Thunder Bluff.

Mythical/Imaginative Immersion: Summary

The establishment of mythical/imaginative immersion rests in part on the ability of the musical signifiers to command attention and to influence a player's focus, mood, and expectations. The music in *World of Warcraft* has been shown to reference a variety of emotions and to mobilize a range of cultural themes. Specifically, it was demonstrated that themes revolving around ethnicity, war, religion, spirituality, death, heroes and villains were some of the main ones that are mobilized in the music for the game. In addition, the emotions encouraged by the music are directly linked to these themes; emotions such as fear, courage, love, hate, action, tension, honour, pride, hope, and aggression. Signs evocative of these themes and emotions can cause a player to mirror or react to them, which can be evidenced not only by their gameplay and demeanour in the virtual realm, but by their increased level of awareness and acuity. For instance, when a player enters a dungeon like Shadowfang Keep, they are aware of the imminent battles they will engage not only because they know that dungeons are evil places, but because the music is telling them certain things. Specifically, related to the action of battling and war is aggression, excitement, courage and even fear. The music of the keep does change depending on the location; however a main portion of it makes use of fast, loud music, built upon an ostinato, all elements that have been shown to reflect action and suspense. Other portions of the keep make use of quieter, slower music, with minor intervals and ostinatos, elements that have been demonstrated to relate to evil, fear or eerie/scary environments more generally. The high intensity portions of music will arguably cause players to react accordingly by becoming excited

and tense, which will prepare them for the fights to come. Conversely, the lower intensity segments of music will arguably elicit fear and suspense, causing the player to proceed with caution, by acknowledging the presence of unknown dangers lurking within.

What is important here is that the music not only relays information to the player that can be perceived and decoded, but that it is able to possess further meanings that can clarify and enhance the atmosphere/environment the player is engaged in. The latter includes knowledge of similar situations a player may have encountered in the past, as well as sound effects and a visual scene that can enrich and reproduce these meanings. Furthermore, by making use of similar or even identical music in zones of the same style/character, the music can successfully establish the aforementioned conceptual links by providing a level of musical coherence for these areas. To use the same example, the dungeon theme “War” that is used in Shadowfang Keep also occurs in the dungeons of Molton Core, Scarlet Monastery and the Deadmines (to name but a few) as a way of creating and maintaining this coherence across the virtual realm. On a grander scale, by having these types of places in the game use musical gestures and conventionalized meanings that appear in similar settings in other forms of media, coherence can be more easily achieved. Put differently, this will allow the player to quickly recognize the affectual meanings of a zone (since there is continuity), and more readily and easily understand and experience the intended emotions and meanings from having previous knowledge of these musical signs. More generally, such coherence is crucial in allowing the generic choices of the game to function as genre cultures, which in turn helps bridge the gap between generic signs as information and genre culture as a factor in orienting the overall mindset and experience of players. It is this cultural coherence of genre which helps establish the web of symbolic experiences and meanings that are crucial for the mythical dimension of mythical/imaginative immersion.

Lastly, the reason why the particular musical gestures under investigation are capable of fostering the mythical/imaginative immersion previously described is because these elements are recognizable and understood by players, which allows their intended meanings to be effortlessly delivered. Conventional elements such as loud or soft music, quick or slow music, certain timbral cues, specific musical lifts, etc., possess identifiable connotations since they have been repeatedly paired with particular meanings and are musical parameters that are easily detected by players. When a player is able to comprehend the messages and meanings being delivered to them by these musical features, their mental disposition will become affected. Specifically, their level of concentration, attention and focus will increase due to the high level of understanding, coherence and cultural mood established by the music, providing for a state of mythical/imaginative immersion to be experienced.

Chart of Musical Signifiers of *World of Warcraft*

Choruses	• Conventionalized as a signifier for reverent/religious aspects found throughout the game (a link made particularly with the human race) • Also alludes to groups of people, such as armies readying for battle
Dissonance and Chromaticism	• Used to allude to evil, villains or more generally the other, which can include exoticized peoples
Drones	• A convention used in encounters and environments evocative of tension, suspense, eeriness and other-worldliness.
Dynamics	• Loud or increasing dynamics tend to suggest excitement, suspense, climaxes, often suggestive of warfare and fighting more generally • Soft/quiet or decreasing dynamics tend to suggest calmness, serenity, peaceful and pastoral settings, and also at times sadness and even death
Echo and Reverb	• A convention used to emphasize the spatial openness of an area and to evoke solitude, loneliness, the uncanny and villainy.
Instrumentation	• Drums and cymbal crashes—to suggest war, battles and fighting • Brass instruments—allude to the regal, war and the hunt • Woodwinds and strings—suggestive the pastoral and romance (love and loss) of both people and land • Ethnically-coded instruments—allude to putatively ancient, exoticized, other people and places • Electronic and unidentifiable sounds—allude to the eeriness, haunting, the other-worldly, and also exoticized or ethnically-coded others.
Intervals	• Conventionalized lift gestures of 4ths and 5ths to evoke heroism • Conventionalized lift gesture of a 6th to evoke longing • Conventionalized interval of minor 2nds and 3rds to evoke evil, villains or monsters • Conventionalized use of tri-tones in order to evoke demonic and evil beings and places
Melodic Phrasing	• Ascending melodic phrases—can suggest hope, strength, the hero and climaxes dealing with these concepts, (or at times any kind of intense and suspenseful encounter) • Descending melodic phrases—can suggest falling of darkness, or loss of light and hope, or death
Ostinatos	• A motif or phrase persistently used to allude to and intensify action sequences or scenarios (usually involving war and fighting)
Repetition	• Repetition can be used to emphasize the meaning/idea that is being conveyed: aggression from battling/war, death and loss caused by war, etc. Repetition differs from the ostinato in that it refers to the repetition of larger ideas.
Rhythm	• Conventionalized rhythmic patterns used to allude to any ethnically-coded, exoticized peoples, which are in some cases opponents, and in others simply another race encountered while adventuring

	• Aggressive, pounding rhythms evocative of evil, villains or more generally the opponents encountered in war • Marches: Evoke concepts of militarism and fighting/war. • Dances: dance rhythms in $\frac{3}{4}$ are encountered in taverns, and are meant to allude to fun times, and merrymaking encountered in such settings
Stingers	• Creates a shock to the senses by a sudden, often loud sound. Used in fearful areas to emphasize their horrific aspect
Swells	• Similar to a crescendo, swells are often evocative of love, romance, and the beauty of a land (zone). They thus coincide with specific parts of narrative and with ambient music suggestive of these same concepts • Also used as a means to build tension and suspense
Tempo	• Fast—suggestive of action, excitement, intensity, suspense, usually suggestive of fighting, battles and war • Slow—suggestive of sadness due to loneliness or death, or alternatively for calm, peaceful scenarios/environments
Texture	• Solo—used to evoke and represent the hero or more generally, each individual player in the game • Orchestra—suggests the efforts of the group of heroes, or of all players of one side or faction • Both—the pairing, interweaving and trading-off of a melody between soloists, duettists and the entire orchestra can be suggestive of the relationship between an individual as a person/the hero and grander events (the overall narrative arch). Specific concepts such as loneliness, loss, sadness, hope etc. can possibly be evoked by textural means as well.

Figure 5.1 Overview of the musical signifiers found throughout the game *World of Warcraft*, as well as their pertinent conventional meanings.

Conclusion

Immersion is a psychological state that can be significantly facilitated and enhanced by the sonic environment of a videogame. Firstly, this thesis has suggested a detailed model of the nature of immersive experiences in videogames in order to ground its relationship to music and sound effects. Specifically, immersion has been treated as a state of complete concentration, attention and focus, or in other words, flow. Under this perspective, flow is the essence of all immersive states; however, the kind of immersion experienced by a player may vary depending on which sounds are most active in its induction. I have argued that if immersion is induced by means of sound effects, then a form called challenge-based immersion will most likely be experienced. Conversely, when immersion is induced by means of musical signifiers, a form called mythical/imaginative immersion is likely to be experienced. While these distinctions and correlations have been useful in structuring my analysis and developing a theory of immersion, it should also be noted that in actual gameplay many complex cross-mappings and blendings also occur.

It was suggested that when sound effects such as acousmatic sounds, leitmotifs, and dynamic audio are presented to the player as sound signals, keynote sounds and symbols, they have embedded in them information that will direct attention and alert the player to danger and tasks, which in turn aids and increases performance. Such sound effects not only indicate challenges but help the player to meet the challenges, and when the player becomes completely focused in part through the crucial contribution of these sounds, challenge-based immersion is likely to result. It was likewise argued that musical signifiers in the game can be used for the purposes of spatial acoustics, mood induction, cultural reference and leitmotifs, and have been conventionalized as signifiers of such themes by means of other forms of media such as film and

television, as well as from everyday experience within a cultural context. Through the use of such evocative musical materials, the believability of the environment increases and cine-realism is enhanced, which in turn attracts and maintains a player's attention, establishes a particular set of affects, expectations and identifications and can help establish an overall symbolic environment conducive to mythical/imaginative immersion.

The element of the player was also briefly discussed for the purpose of providing some insight into their individual involvement in the process of becoming immersed. While the basis for this preliminary work was largely auto-ethnographic, since the major arguments have been based on my own experience of gameplay, further ethnographic research would be beneficial in the future to gain a more nuanced appreciation of player experience and the specific ways by which players participate in the creation of immersive states. Further research on specific aspects of the player in relation to the music and sound effects of *World of Warcraft*, or any videogame for that matter, would be able to provide insight into this psychological phenomenon. Specifically, a player's level of comprehension and knowledge of sounds, their attitude and reaction to particular cultural reference points, the successful indication of challenges, an adequate level of sonic coherence, as well as their mental disposition with respect to repetition, are all factors that can greatly influence, and even alter any immersive experiences to be had, and which deserve further study.

It could also be advantageous to explore these factors as they occur with different demographics of players. This could include not only players from different cultural backgrounds, but also of differing age, gender, sexual orientation, etc. For instance, some researchers have already observed differences between genders in terms of videogame preferences, where women tend to enjoy computer games more, while also demonstrating a

higher desire to play massively multiplayer online games instead of action or fighting games (Kerr 109-110). There are also starting points in the literature with respect to national differences. For example, players from Asian countries such as Japan and Korea have been said to enjoy the social aspect of videogames more than do their Western counterparts (Kerr 118), though once again, other factors like game genre would likely be found to play a role in shaping such preferences. What is of importance here would be to determine how differences in play styles and preferences may lead to different kinds of immersive states, or may impede immersion altogether. The element of the player is extremely variable, and further studies in this area would help to more clearly articulate research done on this psychological phenomenon in relation to sonic events.

Appendix

Screenshots, Descriptions and Commentary of the Various Zones Analyzed

“Legends of Azeroth” (Main Title – Theme Music)

Figure A.1 Login screen for the original *World of Warcraft* by Blizzard Entertainment 2004-2011

The purpose of the main title music is to inform players what kind of game they are about to play. In this case, *World of Warcraft* is a game that focuses on war, battling and adventuring. According to Russell Brower, one of the composers for the game, the use of “epic drums” and French horns forms a large portion of Warcraft’s musical vocabulary (Brower 2008), both of which are heavily relied upon for this piece. These two instruments in particular were used to create a “very dark” theme, one that “had a strong mood of something brewing” (Brower 2008). There are also a variety of other musical conventions and tropes that are relied upon to reflect the concepts of war and adventuring.

It is interesting to note that players of the game have similarly commented on the music's capacity to evoke said concepts¹²: "This is my favorite by far. It makes you feel like an epic adventurer :)" (posted by Felixphaeton), "[The music] made the game feel more adventurous" (posted by alexanderh97), "This song is incredibly powerful. It is heroic, valorous, awe-inspiring... Strong, proud, free, honorable, and noble beyond compare" (posted by zettex93), "This is SO CLASSIC- I love this log in music... This would warm you up to raiding and fighting" (posted by alex94115), "I never played WoW, but I think hearing the login screen music is enough to understand just how epic of a game WoW is" (posted by GoldDronzer), "e... ep... epi... epic... EPIC!" (posted by 00nhyttyne).¹³

Further Interpretations

"Legends of Azeroth" incorporates elements of the hero and the heroic, war, love, loss and death by means of various musical signifiers. Specifically, through the use of heroic lift gestures, ostinatos, dynamics, heavy brass and drums, viscous strings and a choir the music is able to allude to the aforementioned themes. In addition, the thick orchestral texture used for the majority of the piece contributes to the theme's epic quality, and is arguably relied upon for the purpose of emphasizing the greatness of the heroes (each individual player) and the saga offered by the game.

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¹² It should be noted that all of the player comments on the music for *World of Warcraft* have been retrieved from various youtube links and reproduced exactly as they appeared on the site in order to maintain as closely as possible the original intent of the commentator.

¹³ Legends of Azeroth comments taken from <<http://www.youtube.com/watch?v=eE5oaOOwInE>>.

Stormwind

(Main City – Theme Music)

Figure A.2 Screen shot of Stormwind, the home city of the humans © Blizzard Entertainment 2004-2011

Humans are a young race, and thus highly versatile, mastering the arts of combat, craftsmanship, and magic with stunning efficiency. The humans' valor and optimism have led them to build some of the world's greatest kingdoms. In this troubled era, after generations of conflict, humanity seeks to rekindle its former glory and forge a shining new future. (World of Warcraft race selection screen)

The main themes of the races from the fictional world of Azeroth work similarly as the title theme of the game. In this instance, however, the themes occur in-game and are used to reflect the atmosphere of the particular city, and even more importantly, the character of the given race. As stated by Jason Hayes, the lead composer of the original *World of Warcraft* game, "...when you first enter a city... [it is] like an establishing shot, where all of a sudden you arrive and you kind of see the first shot and you can get this theme that maybe represents the people that live in the city" (Hayes 2004). Visually, Stormwind is a grand, regal city, shaped like a castle, which is

typical for a medieval setting. In keeping with this, there is a huge cathedral placed at its centre which may be taken to reflect the reverent side of the humans. They regard themselves as righteous, noble and devout, and the composer has crafted Stormwind's theme in an attempt to communicate these characteristics to the player. Since the game revolves around warfare, there also exist elements reflective of this concept. Furthermore, players have expressed sentiments that mirror these notions: "this track really sounds such a call to arms..." (posted by elwarriors77), "yeah man being in stormwind the first time was so awesome. i remember going to the cathedral for pally training and being blown away by how epic this song made me feel..." (posted by MusicBot1337), "first time i came to SW, i was like HOLY SHIT. /kneel" (posted by blackonecro), "My greatest moment in Warcraft was the first time I walked into Stormwind...I was welcomed by the mighty statues of the heroes of the second war, and when the choir kicked with the powerful notes I was completely dumbstruck" (posted by Jochnick), "this music is the best definition of pride and honor" (posted by nomonotonous), "It just magnifies the greatness that comes from the true Heart of an Alliance soldier. FOR THE GLORY OF THE ALLIANCE!" (posted by superbatlanternman).¹⁴

Further Interpretations

The specific musical signifiers incorporated in this piece seem to have been successful in indicating religion (choir), nobility (brass) and especially war (snare drum march and ostinato). War is the principal theme laced throughout the fictional world since the objective of the game is to defeat the opposing faction as well as various other evils or villains. As mentioned, the city of Stormwind is a grand castle, with a cathedral. The guards are dressed in plate mail armour, and

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¹⁴ Stormwind comments taken from <<http://www.youtube.com/watch?v=QYidb1LvMs8>>.

peasants can be seen walking about. The houses within the city's walls are wooden, with blue coloured roofs and golden accents (both regal colours). All of these elements suggest a city set in medieval times. In addition, there are various shops selling cheese, weapons, armour, drinks, and food. Green trees are also scattered throughout the city. In sum, it is a beautiful majestic place, and this is reflected in the music particularly by the bombastic quality of the opening sequence, and throughout the softer sections of music. There are also other sequences of music that can be heard by players when they are in the city, types of variations of the main theme: at times a quiet, solemn marching rhythm comes in played by a low register bell, as well as a female choir chanting a few notes which suggest a feeling of reverence. Both come and go rather quickly, though they contribute to the coherence of the main theme, of war (death) and of religion (hope).

Ogrimmar

(Main City – Theme Music)

Figure A.3 Screen shot of Ogrimmar, the home city of the orcs © Blizzard Entertainment 2004-2011

The orc race originated on the planet Draenor. A peaceful people with Shamanic beliefs, they were enslaved by the Burning Legion and forced into war with the humans of Azeroth. Although it took many years, the orcs finally escaped the demons' corruption and won their freedom. To this day they fight for honor in an alien world that hates and reviles them. (World of Warcraft race selection screen)

From this description of the orc race provided by the game, it is evident that they were created to represent the other. Not only are they constantly held in contempt by the humans, and more generally the Alliance, perpetuating their status as other, but their visual and aural descriptors have also been designed to further indicate this status. Their cities are constructed mostly of wood and coarse stone, accented with spikes and red rooftops; the latter two arguably used as specific visual indicators for the savage essence of this race. Unlike the human guardsmen in Stormwind, Ogrimmar's guards do not wear full plate mail armour. Instead, they are equipped

with leather, fur and pauldrons adorned with spikes, all of which are further suggestive of the savage. The fact that they adhere to shamanic beliefs also casts them as heathens in the eyes of the humans, once again, furthering their status as the other. The narrative music for Ogrimmar has been composed to reflect and represent all of these themes: of war, blood lust, and the savage. Additionally, because of the latter, this piece does not possess a coherent melody or musical arch; rather, it is disjointed and focuses on heavy, aggressive rhythms. Lastly, players have also remarked on the aggressive, war-crazed essence of this race, with many of the comments including a quote of the orcs' war cry of "Lok'tar Ogar" (Victory or Death): "Rise up, sons of the Horde! Blood and glory await us! Lok'tar ogar! For the Horde!" (posted by MechaOut), ":45 and onward... makes you wanna drink some blood... This is what todays militarys are missing. War music being played in battle. I really does work. There is a reason why armies sued to carry drum's and beat them while it marched" (posted by rowland2110), "...this is WARRIOR MUSIC" (posted by TheGhostfacekill86), "0.40-1.45 that part sayes to me that i need to crack some ally bones ... 1.45-2.45 sayes i wanna fight like a warrior... the begining part sayes ur dead" (posted by gerillamotherf), "Oh how I miss those war drums! :*LOK'TAR OGAR!" (posted by Maggotman22).¹⁵

Further Interpretations

By using low brass for the sparse melodies and maintaining a heavy percussive rhythm in addition to throat singing, drones, rattles and limited use of stringed instruments, the Ogrimmar theme is extremely reflective of stereotypes related to savagery, war and the exotic other.

Nonetheless, there are also still elements suggestive of the hero due to the presence of heroic lift gestures, since the orcs' desire for victory is no different from that of the humans.

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¹⁵ Ogrimmar comments taken from <http://www.youtube.com/watch?v=IuLMkfG_Xu0>.

Thunder Bluff

(Main City – Theme Music)

Figure A.4 Screen shot of Thunder Bluff, the home city of the Taurens © Blizzard Entertainment 2004-2011

Always the tauren strive to preserve the balance of nature and heed the will of their goddess, the Earth Mother. Recently attacked by murderous centaur, the tauren would have been wiped out, save for a chance encounter with the orcs, who helped defeat the interlopers. To honor this blood-debt, the tauren joined the Horde, solidifying the two races' friendship. (World of Warcraft race selection screen)

As the description suggests, the tauren are a race aligned with nature, whose home city evokes a variety of concepts and images associated with the stereotypical view of the Native American. Unlike in early cinema where the Native Indian was seen as a savage and barbaric individual, the tauren invoke themes that represent one who is strong, honourable, spiritual and caring of the earth. The latter is likewise a stereotypical description; however, it is one that promotes the strength, nobility and honour of this race, which encourages concepts of heroism. Visually, Thunder Bluff encompasses a variety of typical signifiers of indigenous tribes: tepees, totem

poles of carved animal heads, drying animal skins, and war or powwow drums (bottom right of image). Even the names of individual tauren incorporate wilderness and nature, an example being the Grand Chieftain Cairne Bloodhoof. Their home city is also located amongst one of the few zones Horde cities inhabit that is lush, green and serene, again, linking the tauren with nature and the wild. Players have also readily picked-up on the reference to Native Indians that the designers seemingly intended, as well as the elements of nature, spirituality and peacefulness this race represents: “I can see the tauren getting their spears and bows and going on a grand hunt in the vast plains of Mulgore (posted by Dklonmy), “It evokes the tribal spirit of the tauren race” (posted by glitch509), “I CAN see the tauren getting stuff to go hunting...” (posted by WoWavonCHIC13), “i love this type of music its like Indians thats why i like it” (posted by dragonsea83), “...It's peaceful and calming” (posted by MistakenUser06), “The Tauren are definantly the "native-americans" of WoW imo” (posted by Aggronistheman97), “...just like north-american indians music” (posted by 01JohnCooper), “Native American...Spiritual Music !!! Tauren's are Indians :) :)” (posted by Junkiedrumer), “They sound so peaceful, yet traditional” (posted by Ladencrel).¹⁶

Further Interpretations

By incorporating a variety of musical signifiers evocative of the aforementioned concepts, Thunder Bluff is a city appropriately representative of the tauren race. Specifically, through the use of a steady and heavy bass drum beat, wooden flutes (with a focus on woodwind and general neglect of brass), tambourines, chromaticism, and drones, the theme is suggesting to players a race and city of an ancient origin, aligned with nature.

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¹⁶ Thunder Bluff comments taken from <<http://www.youtube.com/watch?v=wsXkbM6Jfjg>>.

Elwynn Forest (World Zone – Ambient Music)

Figure A.5 Screen shot of the zone Elwynn Forest © Blizzard Entertainment 2004-2011

Elwynn is a gorgeous span of fertile land and thick forests. The weather is brightly sunny and cheerful during the day and silent and peaceful at night... Home to many farmers, loggers and miners, Elwynn Forest is a tranquil region with several friendly places to stop... One should stick to the roads though, as the forest is home to many fearsome and territorial creatures. Those who can defend themselves are not in any danger, but others may not be so lucky.¹⁷

From the screen shot and description provided above, it is apparent that the zone of Elwynn Forest is one that is meant to represent an area of a peaceful, serene and tranquil nature. Yet there are still various dangers that lurk throughout the zone, though the overall character is one of amity since the majority of dangers are simply wild animals. The ambient music that was created for Elwynn Forest is gentle, in terms of tempo, volume and texture, and players have likewise

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¹⁷ Description taken from <http://www.wowwiki.com/Elwynn_forest>.

observed and commented on several of the musical features of this zone: “I first noticed the harmonius music in Elwynn Forest. Every normal Human being would have noticed that too;)” (posted by magictouch115), “The music is so welcoming in the game, it gives the atmosphere a peaceful feeling” (posted by MrKhash), “... hearing this music, it enhanced the gaming experience...” (posted by RailwayEnthusiast), “The music is beyond deep. It defines the human struggle and shows compassion and triumph” (hayes712), “...listening to this whilst questing is very atmospheric” (posted by Hellmut34), “the elwynn forest...soundtrack and experience has an air of mystery to it” (posted by helgard36), “yeah, like you travel the World. To the farthest corners. fighting many great battles, having seen and experienced so much... and then this is you returning home....” (posted by rlinfinity). ¹⁸

Further Interpretations

Through the use of a variety of instruments commonly relied upon to evoke images of the pastoral, such as the harp, French horn, flute and oboe, as well as particular lift gestures, gentle dynamics and tempo, and carefully chosen melodic phrasing, the ambient music for the zone of Elwynn Forest attempts to suggest to players a beautiful environment, though at times, afflicted by the war.

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¹⁸ Elwynn Forest comments taken from <<http://www.youtube.com/watch?v=Pw3H92vRBfA>>.

Dun Morogh

(World Zone – Ambient Music)

Figure A.6 Screen shot of the zone Dun Morogh © Blizzard Entertainment 2004-2011

Dun Morogh is a snowy...high altitude region, covered with constant snowfall and great pine trees. Winds howl through the peaks in symphony with the wolves that prowl the crags. Southwest of Ironforge is Coldridge Valley, which hosts the dwarven smithing enclave of Anvilmar...The Khaz Mountains surround Dun Morogh on all sides, making it accessible only by certain passes that are currently watched over by dwarven troops. Troggs ...[and] Frostmane trolls menace dwarven patrols. Several villages and towns dot the landscape, and though the trade routes can be perilous, dwarven mountaineers and warriors keep their settlements safe.¹⁹

The ambient music created for the zone of Dun Morogh is rather repetitive in terms of the musical techniques used to convey concepts of a cold, vast, wintery landscape. Similar to the other ambient pieces, the theme makes use of a lot of fade-ins and fade-outs, in order to provide players with a certain feeling, or sense of presence, that may be reflective of the atmosphere of

¹⁹ Description taken from <http://www.wowwiki.com/Dun_Morogh>.

the zone they are engaged in (Hayes 2004). Furthermore, players' comments tend to mirror the description provided by the lore offered on WoW Wikipedia: "this song ... EXACTLY describes how dun morogh feels" (posted by ringdingdol), "soo calmy soo lonely soo far you feel on the edge of the world in a mountain with so much snow and so much cold" (posted by mechkapechka), "Whenever i look outside my window - that snowy blanket on my neighborhood :) i always think of this music..." (posted by 40mbe), "I remember this tune well, the cold snows, the strange tranquility of it all..." (posted by GmodPlusWoW), "...hearing this music, so peaceful and inspires u too adventure and explore" (posted by FeanorKelsick), "...Then I heard this music and I clicked my mouse and slowly turning my screen 360 and being stunned by the huge zone full of moutains snow and trees, then I walked and heard the snow cracking under my feet ..." (posted by magictouch115), "Best ingame music, i get it cold out here if i play there 0.o" (posted by strontschijt), "The music at 1:08 gives me chills.....its the perfect winter night song" (posted by UndercoverCracker).²⁰

Further Interpretations

By means of texturing, instrumentation and melodic phrasing, the ambient music for the zone Dun Morogh is evocative of a cold, barren environment. The entire first section is for the most part scarcely harmonized, making use of a select few, simple textures, and because of this the piece is capable of alluding to an open and even barren landscape. Additionally, the instruments used are performed in a manner meant to evoke a snowy, peaceful setting by means of a tinkling piano and a plucked harp for the former, and instruments common to pastoral settings for the latter. Descending melodic lines are suggestive of the tranquility of the region, as well as the

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²⁰ Dun Morogh comments taken from <<http://www.youtube.com/watch?v=aoiwkFzqmF0>>

falling of snow. Lift gestures are also apparent throughout, which maintains a sense of continuity with the rest of the virtual world in terms of the player as hero and their relation to the ongoing war.

Duskwood

(World Zone – Ambient Music)

Figure A.7 Screen shot of the zone Duskwood © Blizzard Entertainment 2004-2011

...a realm of horror... Duskwood is a cursed, dying land. Beneath the eternal blanket of darkness which gave Duskwood its current name...[it is] a land covered in gnarled trees and inhabited by the hideous undead and extradimensional Worgen, brought along with the black fog hanging over the woods.²¹

Various players who have had the opportunity to play and explore this zone of the game have expressed views similar to the above description about Duskwood's horrific atmosphere, and what they personally experienced during their encounters: "The piano makes it sound creepy, yet sad and abandoned at the same time" (posted by MsHamstergurl), "this song is very scary especially in a haunted forest like duskwood..." (posted by VladSura96), "it is scary if ur home alone and it's midnight and u got no lights turned on in ur house and you're playing wow,

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²¹ Description taken from <<http://www.wowwiki.com/Duskwood>>.

leveling in the.... duskwoods” (posted by XNacariusX), “...freaked out by the creepy music, i was running down the path to Raven hill and a spider attacked me, i fell off my chair” (posted by Yanchea), “when i went through Dsukwood, the music and the creatures scared me half to death!...” (posted by WolfSpirit111), “ahhh this used to scare the crap out of me when i'd run through duskwood... spiders and wolves, and stitches oh my!” (posted by 1Lilbec).²²

Further Interpretations

The ambient music that was composed for the dark, evil zone of Duskwood makes use of a large range of horror film tropes: stingers, drones and ostinatos for tension and suspense, low register instruments for evil, high strings for further tension and suspense, minor intervals (particularly the use of minor seconds) for evil, the fading in and out of sparse, disjointed melodic motifs that end unresolved and lastly the use of crashing chords and quick crescendos for their physical effect.

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²² Duskwood comments taken from <<http://www.youtube.com/watch?v=ChIkjleFhfE>>.

Stranglethorn Vale

(World Zone – Ambient Music)

Figure A.8 Screen shot of the zone Stranglethorn Vale © Blizzard Entertainment 2004-2011

The Stranglethorn Vale is a vast jungle south of Duskwood... Ancient Gurubashi trolls once ruled the region, and the ruins of their great cities crumble in the jungle's heat and growth...vicious animals and plants, including the eponymous strangle-thorns, make travel dangerous. The Arena, a center for gladiatorial games set in a ruined Gurubashi fighting stadium, draws shady characters of all races...After the Empire's fall the cities of the troll empire fell into ruin, although they are still populated by trolls... [More recently] crafty Goblin Trade Princes [have] arrived on the jungle's shores ... quickly set[ting] up their mining and deforesting operations. The Goblins have maintained a tenuous hold over these remote facilities, but they remain threatened by the Jungle Trolls' growing obsession with purging their ancient lands of any and all foreign invaders.²³

Stranglethorn Vale is a zone that was meant to resemble a jungle by means of incorporating various jungle-themed elements, such as tribes with their stone monuments and villages, wooden dangling bridges, aggressive animals (wild cats, gorillas, snakes and crocodiles), and the lush

²³ Description taken from <http://www.wowwiki.com/Stranglethorn_Vale>.

thick scenery of a variety of trees, shrubs and vines. Additionally, since it is a zone inhabited by an ancient tribe of trolls, the ambient music that was composed for Stranglethorn Vale incorporates a large variety of conventions evocative of concepts that relate to ethnicized people, and ancient worlds more generally. One of the main ways the music successfully achieves this is through the use of a large variety of indigenous instruments. Some players have noted the relation between the use of such ethnicized instruments and the jungle-themed zone: “Does [this music] remind anyone else of the film *The Last Samurai*?” (posted by EagleInFlames), “Sounds like an erhu to me” (posted by RyokoYaksa), “STV reminds me of Jamaica, MON!” (posted by kelloggcerealxoxo), “...the music owns! and it reminds me of donkey kong :P (posted by Mognster122),²⁴ “The Erhu is the perfect Instrument for this!” (posted by strgaltddelete), “This music brings back so many memories. From valiantly fighting... to trekking the Jungles with my comrades...” (posted by Warluigoi), “he secon panflute audible, the 0:03 one and the string instrument at 0:21 sounds very asian inspired, imo” (posted by SIRDancealot), “i think theres a hint of chinese music?” (posted by chimijean).²⁵

Further Interpretations

The ambient music for the jungle zone, Stranglethorn Vale, makes use of a wide variety of ethnicized instruments that are evocative of exoticism, specifically: the mbira, hand drums (or bongo), clapsticks, rasps, shakers, wooden flutes, rain sticks, the didgeridoo, manjiras, and the erhu. Additionally, sparse melodies and the heavy use of chromaticism are likewise suggestive of

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²⁴ Comments made by EagleInFlames, RyokoYaksa, kelloggcerealxoxo and Mognster122 taken from <<http://www.youtube.com/watch?v=dZIIVid0AME>>.

²⁵ Comments made by strgaltddelete, Warluigoi, SIRDancealot, chimijean taken from <<http://www.youtube.com/watch?v=2LZ8Bb04CwA&feature=related>>.

an ancient, exotic race. Even exotic bird calls and primitive sounding vocal grunts are incorporated into this zone's ambient music to further the overall exoticized and mysterious atmosphere.

Tanaris

(World Zone – Ambient Music)

Figure A.9 Screen shot of the zone Tanaris © Blizzard Entertainment 2004-2011

*Tanaris...an arid land, covered in sand dunes and frequently exposed to dangerous sandstorms...has been an endless sea of sand for aeons. Nozdormu, the great dragon of time, was said to make this land his home since time immemorial, thriving in the solitude of oppressive heat and miles of sand.*²⁶

The essence of the zone Tanaris is that of its vast desert which is why the ambient music for the region was created to represent almost exclusively this aspect. Sparse textures and melodies are used as a means to sonically mimic and allude to the zone's barren and evil desert; musical signifiers picked up on by various players: "this song fits the place since its so deserted[...]" (posted by thunderheart226), "tanaris msuic scares me so much, its so desolate sounding" (posted by HamletTangerine), "[...]The notes in the beginning of this songs sums up this soundtrack pretty good" (posted by Welocy), "it's cool how this track gives that barren/isolated

²⁶ Description taken from <<http://www.wowwiki.com/Tanaris>>.

feel so well of the desert of tanaris” (posted by timbo81), “its a nice scary mood for a dark scary hot dessert silthus should hav music like this only more evil” (posted by soulslayernick13).²⁷

Further Interpretations

The ambient music for Tanaris is composed mostly of sound effects and ambient sounds meant to evoke a desert setting, with the aid of a few scant melodies. This was probably a deliberate musical decision for the purpose of physically mimicking the zone’s desolate, sparse environment. Specifically, through heavy use of echo and reverb and a variety of incessant buzzing sounds and drones, the ambient music for Tanaris is able to suggest a sense of openness as well as to evoke images of sweltering heat. Additionally, since the zone is meant to be riddled with various evils, and home to some malevolent tribes, it also features elements which allude to the exotic, even villainous other by means of drones, rain makers, chromaticism, minor intervals and note clusters.

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²⁷ Tanaris comments taken from <<http://www.youtube.com/watch?v=Eemwik5vzBY>>.

Shadowfang Keep (Dungeon)

Figure A.10 Screen shot of the courtyard inside the dungeon Shadowfang Keep © Blizzard Entertainment 2004-2011

...Shadowfang Keep, [was] once a bastion of Alliance power but [is] now the dark residence of a mad former mage of the Kirin Tor, named Arugal. The worgen that stalk the Keep, as well as the cursed villagers of Pyrewood, are the doings of this madman. During the Third War, Arugal made these worgen as allies but they could not be controlled and turned on him and the other soldiers. He went mad after this and now accepts them as his "children." His worgen run rampant throughout much of the forest [and the keep].²⁸

Shadowfang Keep is one of the many dungeons found throughout *World of Warcraft*. Dungeons are special areas of the game where players are required to group together in order to defeat the dangers that lurk within. All of the monsters in a dungeon are elite, or in other words extra strong, which is why a group of players is normally required when attempting these portions of the game. There are always a few larger monsters, termed bosses, throughout a dungeon with a main boss found at the end. Since the atmosphere of such encounters is inherently grand and

²⁸ Description taken from <[http://www.wowwiki.com/Shadowfang_Keep_\(original\)](http://www.wowwiki.com/Shadowfang_Keep_(original))>.

epic, the accompanying music would need to be able to represent or reflect such an environment in order to provide and maintain an immersive experience for players. One such piece of music is entitled “War”, and is a musical theme found throughout a variety of dungeons, including Molten Core, Maraudon, the Scarlet Monastery and the Deadmines.

Many players have noted the intense and epic nature of their dungeon encounters, stating the role of music as central to the experience: “The first time I heard this was in Shadowfang Keep, and it really set the mood...” (posted by wayne62682), “I used to love this track in Molten Core :D it fired me up...” (posted by Iria2k), “best music. it remember me castle shadowfang” (posted by Evilsork), “I love to think back to when I first entered Shadowfang Keep and the dude opened the door and this track started playing...” (posted by ForForm), “I love going to SFK simply because of this track. It astounded me the first time I heard it, and it still does today” (posted by HappiestTomato), “Epic music” (posted by MyWoWadventures).²⁹

Further Interpretations

The essence of the theme “War”, used in Shadowfang Keep, is one of excitement, action and intensity. The musical signifiers relied upon to evoke and promote these emotions in players are a fast tempo, increased dynamics, dramatic crescendos, a melodic theme built upon an ostinato, heavy use of brass and percussive instruments and ascending melodic lines, as well as minor intervals.

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²⁹ Shadowfang Keep comments taken from <<http://www.youtube.com/watch?v=vUmD0T-IYn4>>.

Lion's Pride Inn (Tavern)

Figure A.11 Screen shot of the Lion's Pride Inn found in the town of Goldshire, in the zone of Elwynn Forest
© Blizzard Entertainment 2004-2011

It is clear which visual signifiers would lead players to associate these virtual taverns with ones from the real world, such as: the wood-burning fire place, the stone walls, the huge stack of barrels in the corner, the mugs of ale on the wooden tables, the wooden floorboards, the wooden stools, the candle chandelier, the barmaid, the bartender and the butcher in the back. Possibly due to this attention to detail, players have almost universally remarked on the music of taverns, and now they tend to encourage role-playing. Others have also noted the atmosphere-inducing elements of tavern music: "I find it great that Blizzard actually takes the time to make such great music for what, a few minutes in a tavern? They actually put thought into the atmosphere and how it would go along with an Inn or Tavern type of feel" (posted by koolio669), "In between

songs you can hear a bunch of people talking and someone going up/down the stairs. Not quite sure what they're saying, but it's really cool the first time I hear it..." (posted by LongviewGD182), "I remember spending all day RPing in the INN of Goldshire...ahhhh good times" (posted by MAGExNINJA), "This song is fun when you're in character on a roleplaying server... Good times playing this at 1:00 AM sharing stories with your friends at the bar..." (posted by ZeroBatteries), "I love this, when I was bored I always went to Goldshire to buy a beer and sit in a chair and see all folks asking for quests listening this music was really peaceful" (posted by JamesAshcraft), "this Irish music awesome" (posted by Secconcept), "love this one :) makes me think of Scottish people dancing xD" (posted by jonnytdg), "lol I know, I love to just sit inside the tavern and drink a beer while listening to the music" (posted by DjSlavik).³⁰

Further Interpretations

Alliance Taverns are generally quite similar to one another in terms of their visual and musical characteristics. The music used for these settings is Gaelic in essence, and relies on ethnic Irish instruments such as the bodhran drum, tin whistle, harp and fiddle, as well as instruments like the lute which evoke a vaguer sense of ancientness and historical identity. The music specifically used in Lion's Pride Inn employs dance rhythm in $\frac{3}{4}$ metre, as well as the rhythmic motif of the Scottish snap. Other musical signifiers suggestive of a typical tavern are the heavy use of repetition, simple melodic structuring, ornamentation as well as improvisation—all musical elements common to folk, dance music.

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³⁰ Lion's Pride Inn comments taken from <<http://www.youtube.com/watch?v=bGCKLFsDDVw&feature=related>>.

Glossary

The page numbers that are included with each entry are intended to direct readers to selected passages of special importance as opposed to being a comprehensive index.

Acousmatic sounds – Sounds that are heard from out of sight locations, such that the originating cause for the sound is unknown. Pg. 28.

Aggro – Refers to causing someone or something to become aggressive and is a term that is widely used amongst players of *World of Warcraft*. Pg. 75.

Ambient music – This is music that makes use of simple melodies and structures, with lots of repetition, fades and swells. Intended to enhance the overall mood of a scenario rather than to introduce linear or narrative elements. Pg. 47.

Ambient sound effects – These types of sound effects are usually a part of the backdrop of the environments encountered throughout a game and are usually meant to enhance the overall sonic mood of a given space. Pg. 47.

Epic – A term used by players of *World of Warcraft* to refer to something that is high quality, such as gear, to a player's increased level of skill and ability or to a situation or event that is grandiose in nature. Pg. 60.

Game engine – Refers to the software responsible for creating and maintaining all the parameters of a videogame. The term is generally used when referring to technical aspects of the program outside of what is directly presented to users. Pg. 55.

Gear – Another term habitually used by players of *World of Warcraft*, which refers to equipment: weapons, armour and accessories. Pg. 60.

Honour points – Honour points are awarded to players of *World of Warcraft* who participate in player versus player gameplay. These points are accumulated in order to purchase in-game gear for their characters. Pg. 60.

Interactive sound effects – These sound effects are produced as a direct consequence of a player's actions and input. Pg. 47.

Keynote sounds – A concept derived from soundscape theory. These types of sounds define the unique character of a given setting. In videogames, keynote sounds are those that make up the sonic ambience of the virtual environment. Pg. 55.

Ludology – A theoretical approach to videogame studies that places focus on the aspect of gameplay, while de-emphasizing the narrative component. Pg. 25-26.

MMORPG – An acronym which stands for Massively Multiplayer Online Role-Playing Game. These videogames are created as persistent virtual worlds, where players are free to roam and interact with one another as well as with the game's environment. The creation of a character is central to these types of games, with emphasis on socializing and role-play. Pg. 59.

Narratology – A theoretical approach to videogame studies which contrasts with the ludological approach since it concentrates much more narrowly on the narrative aspect of games. Pg. 24-25.

NPC – An acronym which stands for Non-Playable Character: characters a player may encounter in a game that are controlled by the game engine and not by another player. Pg. 47.

Soundscape – A term first introduced by R. Murray Schafer which refers to the sonic features of an event or environment. Though derived from the word landscape, the concept of soundscape places emphasis on acoustical properties as opposed to visual ones. Pg. 54-55.

Sound signals – A concept derived from soundscape theory. Contrary to keynote sounds, sound signals possess greater importance and demand attention since they are densely encoded with

information that is often meant as a warning or alert. In the context of videogames, these sonic warnings can enhance performance. Pg. 56.

Sound symbols – A concept derived from soundscape theory. Symbols reach beyond the function of sound signals in that they are able to arouse emotions and thoughts in a listener beyond basic signalling. In videogames, they are often used to help with the identification of moods, environments, objects and other characters. Pg. 56-57.

Special ability – Refers to the skills a player's character possesses that become available for use during specific moments in combat, i.e. a hunter's counterattack when they dodge, a warrior's overpower attack when their enemy dodges, or a mage's deep freeze spell when they successfully ice an opponent in place. Pg. 72.

Stinger – An abrupt blast of sound meant to startle a listener. This sonic device is frequently employed in horror and sci-fi films. Pg. 40.

Narrative music – Music that makes use of richly composed melodies and harmonies, relying on formal structures while also placing greater emphasis on the development of musical ideas when compared to ambient music. Pg. 47.

Virtual Environment – An environment, in the context of this thesis computer generated, meant to simulate a real or imagined space. Pg. 21-23.

Zone – A term employed by the game *World of Warcraft* to refer to areas or regions of the game world. It is similar to the idea of a territory or province. Pg. 59.

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