Meaningful Play: Performativity, Interactivity and Semiotics in Video Game Music

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Video games are a challenging object of study for the musicologist because they are never played the same way twice. As interactive texts, they lack the static and repeatable form of other audiovisual media. Furthermore, the timing of musical events in video games is dependent on both player interactions and conventional cues, and the analysis of these musical events must be able to account for a dynamic context of reception. The relationship between the pre-composed music of video games and interactive gameplay is consequently difficult to analyse. However, through an understanding of interactivity as a performative act, we can treat the musical experience of gameplay as the text to be studied—a text the player has a non-trivial role in creating. The player's unique series of actions during gameplay evolves into an interpretation of the designers' complete, preconceived game experience. Similarly, although music is received in a series of unique contexts during gameplay, the player's actions shape the music into an interpretation of the musical experience envisioned by the composer. This article discusses a video game music analysis which incorporates a performative approach to interactivity. It examines the types and sources of meaning found in video game music, with particular focus on the player's role as a producer. In doing so, it is argued that video game music exhibits a twofold semiosis, the analysis of which must contextualize both the music's initial composition and the player's interactivity in relation to the complete musical experience.

The musicology of video games, often referred to as ludomusicology,[1] has been built on three modes of enquiry: a study into the history of music and audio in video games; an engagement with the technological procedures and innovations in video game music; and analysis of video game music texts. Analytical progress has been made by applying techniques and theories from other fields—most commonly film music studies—such as in Zach Whalen's seminal article 'Play Along – An Approach to Videogame Music'[2] and David Bessell's early chapter 'What's That Funny Noise? An Examination of the Role of Music in *Cool Boarders 2*, *Alien Trilogy* and *Medievil 2*.'[3] However, many ludomusicologists show a desire for intellectual independence akin to that among video game theorists. Karen Collins, towards the start of her influential and comprehensive book 'Game Sound: An Introduction to the History, Theory and Practice of Video Game Music and Sound Design,' indicates that those studying video games 'must be wary of theoretical imperialism' (making

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[1] Roger Moseley, 'Playing Games with Music (and Vice Versa): Ludomusicological Perspectives on *Guitar Hero* and *Rock Band*', rogermoseley.com (2012, accessed 13 February 2014), 6–7 and footnote 17, <http://www.rogermoseley.com/Music/musicology/Entries/2012/1/19_Playing_Games_with_Music,_and_Vice_Versa_Performance_and_Recreation_in_Guitar_Hero_and_Rock_Band_files/Playing%20Games%20with%20Music.pdf>.

[2] Zach Whalen, 'Play Along - an Approach to Videogame Music', *Game Studies* 4/1 (2004, accessed 13 February 2014), <http://www.gamestudies.org/0401/whalen/>.

[3] David Bessell, 'What's That Funny Noise? An Examination of the Role of Music in *Cool Boarders 2*, *Alien Trilogy* and *Medievil 2*', in Geoff King and Tanya Krzywinska (eds.), *ScreenPlay: cinema/videogames/interfaces* (London: Wallflower Press, 2002), 136–44.

reference to video game theorists Gonzalo Frasca and Espen Aarseth).[4] To be sure, video game music can be notated, dissected and scrutinized like Beethoven, Bartók or the score of *Ben-Hur* using similar techniques and with appreciable success. But while this approach has helped establish the field of video game music studies, a comprehensive analysis of video game music needs to address the medium on its own terms in order to identify where innovation or a departure from established practices are necessary.

This article seeks to reexamine musical communication through video game music by conceptualizing interactivity as a performative act. Through an exploration of the textuality of the video game and its constituent elements, the article shows how an understanding of the performativity of interactions allows a more thorough semiotic analysis of video game music. Firstly, a similitude is established between interactions (actions performed in the interactive context of a video game) and performative expressions. The article then applies this finding to video game music and shows how performativity is evident in the player's reiterative configuration of the musical experience. A distinction is drawn between the semiosis of the music's initial composition and that of the player's reiterative configuration, illustrated by an example from the video game *The Elder Scrolls IV: Oblivion* (Bethesda Softworks, 2006). This approach allows the ludomusicologist to more accurately account for video game music's communicative powers, and for its ability to participate in the creation of substantive gameplaying experiences.

Ludomusicology and the quest for 'meaning'

In a field as young as ludomusicology (at the time of writing, approximately fifteen years), unanswered questions and untested hypotheses far outweigh

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[4] Karen Collins, *Game Sound: An Introduction to the History, Theory, and Practice of Video Game Music and Sound Design* (Cambridge, MA: MIT Press, 2008), 5.

established knowledge. Even familiar concepts from other disciplines need to be tested thoroughly as they are applied in this new field. At times, this may seem like the retreading of old ground, but it is an essential step in providing and proving the foundations upon which to build a nascent discipline. For instance, although the intersection of music and semiotics has received considerable attention from the academy over the years,[5] the issue of musical semiotics in video games remains relatively wide open for discussion,[6] and conclusions reached about the role of music in other fields and media must be reappraised prior to ludomusicological application. This should be done naturally—is it not the nature of research in the humanities and social sciences to recursively and reflexively examine culture and its constituents? But the point is worth stressing since video games bear such striking aesthetic similarities to other music-bearing screen media (such as film). It cannot be assumed that what holds for film music must hold for video game music; from time to time, we must ask what seem like old questions in order to test appropriated theories and form new hypotheses.

The main bodies of knowledge drawn upon for this article are the fields of ludomusicology and video game theory (particularly where each addresses semiotics and interactivity theory), semiotics, and performativity theory. A primary point of intersection of these fields is found in Collins' chapter 'An

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[5] See, for instance, Leonard Meyer, *Emotion and Meaning in Music* (Chicago: University of Chicago Press, 1961); Jean-Jacques Nattiez, *Fondements d'une Sémiologie de la Musique* (Paris: Union Générale d'Éditions, 1976); and the works of Jonathan Dunsby, Jean Molino, and Theo van Leeuwen discussed and cited later in this article.

[6] Karen Collins introduces a semiotic consideration of video game audio in 'An Introduction to the Participatory and Non-Linear Aspects of Video Games Audio', GamesSound.com (accessed 13 February 2014), <http://gamessound.com/texts/interactive.pdf>; originally published in Stan Hawkins and John Richardson (eds.), *Essays on Sound and Vision* (Helsinki: Helsinki University Press, 2007). Collins also cites numerous technical studies of procedural music in video games that discuss musical semiotics in 'An Introduction to Procedural Music in Video Games', *Contemporary Music Review* 28/1 (2009), 5–15.

Introduction to the Participatory and Non-Linear Aspects of Video Games Audio,[7] wherein Collins suggests a semiotic approach that accounts for the player's participation and the non-linearity of gameplay; this article seeks to supplement Collins' work, as shall be discussed at a later point. Collins' books *Game Sound: An Introduction to the History, Theory, and Practice of Video Game Music and Sound Design* [8] and *Playing with Sound: A Theory of Interacting with Sound and Music in Video Games*[9] further develop theories of music and interactivity, with the latter examining in detail how the player may be considered to be performing while interacting with game sound. In *Playing with Sound*, Collins is informed in part by the work of Hanna Wirman on the player's role as a cocreator of video games.[10] While Collins focuses here on the player's (inter)actions with video game music, and Wirman develops the player's role into that of 'coproducer' of the video game itself,[11] this article seeks to focus specifically on the communication of meaning through video game music. Examining this issue in light of J.L Austin's work on performative expressions[12] helps to discern a more complete picture of how video game music can be meaningful.

However, 'meaning' is neither a straightforward nor uncontentious term in musicology. For the purposes of this article, 'meaning' should be understood as 'communicative meaning', which I define as a non-intrinsic, receivable, informative, and influential meaning that is (or has been, or will

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[7] Collins, 'An Introduction to the Participatory and Non-Linear Aspects of Video Games Audio'.

[8] Collins, *Game Sound*.

[9] Karen Collins, *Playing with Sound: A Theory of Interacting with Sound and Music in Video Games* (Cambridge, MA: MIT Press, 2013).

[10] Hanna Wirman, 'On Productivity and Game Fandom', *Transformative Works and Cultures* 3 (2009, accessed 13 February 2014), <http://journal.transformativeworks.org/index.php/twc/article/view/145/115>.

[11] *Ibid.*

[12] J.L Austin, *How to Do Things with Words*, 2nd ed. (Oxford: Clarendon Press, 1975).

be) communicated. This builds upon the work of Robert Goyer, who defined 'communication' as 'the sharing of experience' (usually) between two sentient beings in relation to a 'referent stimulus,' with 'meaning' defined as a 'discriminative response to a stimulus;'[13] and also of Donald Ellis, whose defence of the stability of meaning within the context of communication studies relies on 'the assumption of semantic realism' and 'the distinction between meaning and significance.'[14] Ellis argues that 'the process of communication is designed to produce meaning and that certain evidence, reasons, and assumptions can be brought to bear on messages that privilege certain meanings,'[15] concluding that 'the validation of a conclusion about meaning is the sine qua non of communication.'[16] In applying this definition in a musicological context I look to the works of Jean Molino and Theo van Leeuwen on semiotics in music, which will be discussed in greater detail below; in short, Molino outlines the 'processes that necessitate, if not communication in the strict sense of the word, at least a network of exchanges among individuals' that enables 'the transmission of information,'[17] while van Leeuwen proposes that music can present both denotative and connotative signs through socially-informed 'meaning potentials.'[18]

In discussing 'meaning' in relation to music at all, I acknowledge the criticisms often leveled at musicologists who seek an intrinsic meaning in

[13] Robert S. Goyer, 'Communication, Communicative Process, Meaning: Toward a Unified Theory', *The Journal of Communication* 20 (1970), 15.

[14] Donald G. Ellis, 'Fixing Communicative Meaning: A Coherentist Theory', *Communication Research* 22/5 (1995), 517.

[15] *Ibid.*, 516.

[16] *Ibid.*, 540.

[17] Jean Molino, 'Musical Fact and the Semiology of Music', transl. J.A Underwood, *Music Analysis* 9/2 (1990), 128.

[18] Theo van Leeuwen, 'Music and Ideology: Notes toward a Sociosemiotics of Mass Media Music', *Popular Music and Society* 22/4 (1998), 26.

music (see, for instance, such criticisms in Tia DeNora's *Music in Everyday Life*),[19] criticisms this article will seek to avoid. DeNora's approach to musicological epistemology is, at times, problematic and excessively confrontational. However, many of the approaches to musical action, agency and signification in *Music in Everyday Life* may be usefully employed by ludomusicologists, whose objects of study often exhibit multiple concurrent agency and signification relationships. Furthermore, DeNora's deconstruction of music as a reflexively configured medium[20] is instinctively familiar to video game and video game music theorists. If one reintroduces the role of the text's author(s) as a communicator and contextual initiator into DeNora's conceptualization of musical signification within a reflexively configured context, one may approximate the thrust of this article. As shall be shown below, the authors' role elucidates the non-intrinsic and informative nature of communicative meaning in music, both of which imply that this communicative meaning is intended to be receivable by the player. DeNora broadly suggests that a communicative meaning should have influence over the player;[21] as such, this article will proceed on the assumption that this influence is non-trivial, while avoiding any attempt to examine it precisely. (Such is the task of more focused empirical investigations, which could help develop a much needed and specifically ludomusicological understanding of music's psychological and sociological influences on video game players, but which are beyond the scope of this article.) So defined, 'meaning' can be understood as a viable object of ludomusicological research without resorting to conjecture. It is possible, therefore, to discuss what video game music 'means' meaningfully, and without needlessly retreading old ground.

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[19] Tia DeNora, *Music in Everyday Life* (Cambridge: Cambridge University Press, 2000), 21–25.

[20] *Ibid.*, 158.

[21] *Ibid.*, 158–9.

A complex context

Video games, like films, are audiovisual media; they contain visual elements and they usually contain sound effects. But video games require certain modes of active engagement on the player's part that are beyond what is required of film viewers. Firstly, they require physical engagement—this may be unidirectional (such as a keystroke on a keyboard, or a swing with a Nintendo Wii Remote) or bidirectional (such as the vibration of a Sony PlayStation controller, or the resistance to movement of a force feedback joystick). Rather than being simply a method of control, physical engagement enables a duplex flow of information between the player and the game. Secondly (and perhaps consequently), video games require active intellectual engagement. Playing a game involves making choices based on the information the game provides, and the outcomes of these choices determine the shape of the gameplay experience. A viewer of films or a listener of music may be, in DeNora's terms, 'partner to the construction of music's semiotic force'[22] even while appearing passive, but a video game player will rarely appear (and certainly never be) passive.[23]

Yet, the engagement required when playing video games highlights a tension between the creation and reception of the visual, aural, musical and narrative elements of games. Most game elements are composed statically—they are written, recorded, composed or designed as monolithic or granular entities, and can be removed from the game context (whether whole or in part) and studied as linear, repeatable, or stable objects. It is possible, for instance, to locate the music file containing the title theme of *The Elder*

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[22] *Ibid.*, 43.

[23] See, among others, Mark J.P Wolf, 'Introduction', in Mark J.P Wolf (ed.), *The Medium of the Video Game* (Austin: University of Texas Press, 2001), 2–5. For a discussion of the nature of video games outside of the context of a comparison with films (as proof of concept, perhaps) see Jesper Juul, *Half-real: Video Games between Real Rules and Fictional Worlds* (Cambridge, MA: MIT Press, 2005).

Scrolls V: Skyrim (Bethesda Softworks, 2011) on a computer hard drive, to transfer it to a portable MP3 player, and to listen to it as one may listen to a symphony.

In contrast, video game elements are perceived dynamically. The way a player perceives the music, visual elements or story—and the messages the player understands through these elements—are subject to constant changes. Karen Collins categorizes the different types of audio that may be present in video games;[24] an outline which applies in a more specific sense to video game music. A distinction may be drawn between diegetic audio (which takes place within the 'game world', the virtual world displayed on the screen), and non-diegetic audio (which takes place outside the game world); this parallels the distinction between diegetic and non-diegetic audio in film.[25] Collins also distinguishes between dynamic and non-dynamic audio, according to whether a piece of audio is always encountered in the same context. Furthermore, dynamic audio can be described as either interactive or adaptive: interactive audio reacts to the player's inputs, while adaptive audio reacts to variable parameters outside the player's control. Additionally, Collins notes that game audio may shift between categories as a game progresses. Thus, while audio and music are created and given meaning in a static environment, a player (or ludomusicologist) hears them as part of a dynamic experience, where both context and meaning can change.

The complexity of the contexts surrounding video game music make the task before the ludomusicologist appreciably challenging. To determine music's place in a video game—to trace communicative meaning through

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[24] Collins, 'An Introduction to the Participatory and Non-Linear Aspects of Video Games Audio'.

[25] The topic of diegetic distinctions in video games is widely discussed (and somewhat controversial) in video game studies as well as ludomusicology. A full exploration of this discussion is outside the scope of this article. However, the basic distinction between 'diegetic' and 'non-diegetic' given by Collins in this instance is accurate enough for the purpose at hand.

video game music—requires the ludomusicologist to weave together the text's many aspects: the musical and the audiovisual, the unidirectional and the bidirectional information flows, the composed and the interactive, the static and the dynamic. This is not an easy task.

A Performative Approach to Interactivity

Considering the complexity of the video game as a medium, it is hardly surprising that a number of writers have questioned whether film is its closest analogue. Markku Eskelinen and Ragnhild Tronstad explain the observational, interpretive and reconfigurative processes of video games by comparing them to theatre, performance art and 'Happenings'.[26] Similarly, Kirk Hamilton of the online magazine *Kotaku* writes that 'video games have more in common with music than they do with film.'[27] In support of this view, Hamilton quotes Chris Dahlen, former editor-in-chief of *Kill Screen* magazine:

> Both forms marry performance and production, gut and theory, and repetition and spontaneity. Neither one is complete until the work gets a player, and a classic will endure a million renditions, as the performers move from practice, to mastery, to reinvention.[28]

After quoting video game music composer David Kanaga, who wrote that the

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[26] Markku Eskelinen and Ragnhild Tronstad, 'Video Games and Configurative Performances', in Mark J.P Wolf and Bernard Perron (eds.), *The Video Game Theory Reader* (New York & London: Routledge, 2003), 195–220.

[27] Kirk Hamilton, 'The Case for Video Games as Music', *Kotaku* (accessed 15 May 2013), <http://kotaku.com/5920350/the-case-for-video-games-as-music>.

[28] Chris Dahlen, 'From the Editor', *Kill Screen* 1/5 (2011), i.

relationship between video games and music is 'not just an analogy,'[29] Hamilton asserts that 'games *are* music, they have a real musical aspect to them. Leaving harmony aside, even the simplest games have a rhythm… and rhythm is a vital, often-misunderstood element of every video game.'[30] He also references an article by Julian Benson for the online magazine *Rock, Paper, Shotgun* in which Benson 'transcribes' the video game *Braid* (Number None, 2008), before detailing numerous contemporary and upcoming games that engage with and explore this similitude. While many of the games Hamilton lists are 'music games' (video games with explicitly music-oriented gameplay) they are not all so, and it is clear he understands the similarity between video games and music to be ubiquitous across the medium.

A common thread between the texts of Eskelinen and Tronstad, and of Hamilton, Dahlen, Kanaga, and Benson, is that a similarity exists in the ways a person interacts with video games and with performance artforms, including music. Precisely, interacting with each requires:

- Actions (physical or otherwise)
- Goals (the reasons behind actions)
- Effects (what actions achieve)

Observe, for example, a piano player:

- The player presses a series of keys on the piano with their fingers
- The player does this in order to play notes in a particular order
- This has the result that music is heard.

Then observe how a video game player:

- Moves their computer's mouse to the left

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[29] David Kanaga, 'Played Meaning (Concerning the Spiritual in Games)', Wombflash Forest (accessed 15 May 2013), <http://wombflashforest.blogspot.co.uk/2012/06/played-meaning-concerning-spiritual-in.html>.

[30] Hamilton, 'The Case for Video Games as Music'.

- In order to initialize the 'look left' routine of the video game program
- With the result that they can see and interact with the game elements to the left of their character in the game world.

Separating interactivity into these three stages displays with some clarity that engagement with a video game encompasses both the physical and the intellectual. It also shows that the engagement not only requires non-trivial effort, but also produces non-trivial changes in its context. This is helpful for attempting to understand interactivity through the lens of the performative.

Performativity, simply put, is the location of meaning within the relationship between expressions and actions. Arguably, 'performativity' is a twofold term—Tobias Janz remarks that 'in the German-speaking discussion there are two different terms related to the English term "performativity",'[31] and while he indicates that the terms 'overlap in several respects' it is usually best for English speakers to tease apart their language's unwieldy conflations. On the one hand, the term 'performativity' can state that actions are expressions of meaning; Nicholas Cook writes that

> the contemporary performance studies paradigm… stresses the extent to which signification is constructed through the very act of performance, and generally through acts of negotiation between performers, or between them and the audience. In other words, performative meaning is understood as subsisting in process and hence by definition irreducible to product.[32]

On the other hand, the term 'performativity' can refer to expressions performing actions, as in the 'performative utterances' of J.L Austin whereby

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[31] Tobias Janz, 'Performativity and the Musical Work of Art', *Word and Music Studies* 12 (2011).

[32] Nicholas Cook, 'Between Process and Product: Music and/as Performance', *Music Theory Online* 7/2 (2001), accessed 15 May 2013, <http://www.mtosmt.org/issues/mto.01.7.2/mto.01.7.2.cook.html>.

to say something is to do something.[33] The former is usually understood in reference to actions in a theatre or a theatre-like context, while the latter is frequently used when conceptualizing or realigning the locus of the individual, and is often associated with the construction of identities (as in Judith Butler's discussions of gender identity)[34] or the taking-on of personas. However, on teasing apart these two notions, one can see that Janz's 'overlap' is most likely an understatement, for one cannot exist without the other. Rather than the conflation being a linguistic shortcut, it recognizes a complementarity between what is expressed and what is acted. An expression always performs an action; an action always expresses. As Cook has it, 'Process and product form an insoluble amalgam…. not so much alternative options as complementary strands of the twisted braid we call performance.'[35]

The use of avatars and the taking-on of personas in video games are as old as the medium itself,[36] so it seems intuitive that performativity theory and interactivity would have more than a superficial link. Even before delving too deeply, an obvious and convincing link exists between the use of an avatar and the ability to perform actions within the game world. Only an avatar can wield a digital sword. But to connect interactivity and performativity more thoroughly (and more usefully), it must be shown that all interactions are performative—that all actions in the game world are expressions, and/or an expression within the game world performs an action.

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[33] Austin, *How to Do Things with Words*, 6.

[34] See Judith Butler, 'Performative Acts and Gender Constitution: An Essay in Phenomenology and Feminist Theory', *Theatre Journal* 40/4 (1988), 519–31; also Judith Butler, *Gender Trouble* (New York: Routledge, 1999), 171–80.

[35] Cook, 'Between Process and Product'.

[36] See, among many others, Bob Rehak, 'Playing at Being: Psychoanalysis and the Avatar', in Mark J. P. Wolf and Bernard Perron (eds.), *The Video Game Theory Reader* (New York & London: Routledge, 2003), 103–27.

Where better to begin exploring this complementarity than with the first principles of performativity: Austin's 'performative utterances'.

According to Austin, an utterance, or speech-act, involves:

1. A 'locutionary act': the uttering of an expression which has a meaning
2. An 'illocutionary act': the invoking of what is conventionally invoked by an expression
3. A 'perlocutionary act': the achieving of an effect.[37]

An illocutionary act may be considered as the expression's 'goal', brought about through what Austin terms the 'illocutionary force' of the expression;[38] a perlocutionary act is the 'effect' the speech-act has, whether that effect was intended or otherwise. These elements are relatively simple to transfer to any action-based framework. But to fully apply this utterance-centred framework to the concept of interactivity requires equating the 'action' element of an interaction with the locutionary act—understanding the action to be an expression that bears meaning. If this is held together with the goals and effects of the player's actions, it is possible to bring aspects of performativity theory to bear on video game theory, and in particular the concept that expressions have effects—not merely ephemeral effects on the mind of an observer, but tangible effects on the text itself.

When embarking on the quest to reconceptualize interactive actions as expressions, the first step is to clarify the nature of the text to be studied. In drawing the conclusion that all speech-acts are in some way performative, Austin makes the observation that his object of study 'is *not* the sentence but the issuing of an utterance in a speech situation.'[39] In a similar way, when studying video games it is the experience of gameplay held under the

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[37] Austin, *How to Do Things with Words*, 94ff.

[38] *Ibid.*, 100.

[39] *Ibid.*, 139.

microscope, not just the game. That is, it isn't the bits and bytes of data on a hard drive that are notated and dissected; nor is it the multisensory spectacle of the elements displayed on the screen and transmitted to the player's ears. The former may be of interest to the computer scientist, and the latter is analogous to watching a film; neither encompasses a video game's purpose and full function. As Dahlen wrote, video games are incomplete 'until the work gets a player.'[40] Play is the motivation behind a player's actions and choices, which are central to a video game. Gameplay allows narratives to progress, enables data processes to create visual and aural phenomena, and reveals the rules of play that make the game a game. It is only through gameplay that the video game theorist has a text to study.

However, since play involves choices as well as actions, the text summoned into existence by gameplay is unfortunately not well defined. Eskelinen and Tronstad draw parallels between video games and ergodic art (a term derived from the work of Espen Aarseth), which necessitates conceptualizing the video game as a system with

> a potential for actualizing itself differently every time it is used…. Thus the stable and continuous identity of the material foundation of the work of art is questioned, and we have to entertain the possibility that for every individual system we also have, to some degree, an individual medium.[41]

To sidestep that particular rabbit hole, and to maintain some sense of continuity between two playings of one game, it is possible to think of the gameplay experience as a set of 'experience potentials'. Theo van Leeuwen argues that musical systems have the ability to convey denotative meanings (meanings which are not dependent on an external contextualization) because they 'constitute meaning potentials which specify what kinds of

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[40] Dahlen, 'From the Editor'.

[41] Eskelinen and Tronstad, 'Video Games and Configurative Performances', 197–8.

things can be "said".[42] To borrow his terminology of 'potentials' and apply it to the current study, it is possible to think of a set of 'experience potentials' as a set containing the kinds of things that may be experienced.[43]

It is fairly intuitive to describe video games as sets of experience potentials. For example, a Formula One racing simulation would likely contain the experience potential of driving a simulated formula one car around a simulation of the Monaco grand prix circuit. Each player who played the game would have a different driving style, but each would still have his or her own version of that experience. However, the game would not contain the experience potential of flying a simulated fighter jet during Operation Desert Storm. The set's elements are the experiences allowed by the parameters designed into the game, and the set excludes experiences not allowed by those parameters (with the exception of cheating, although sometimes cheating is itself a designed parameter).[44]

If video games are understood as sets of experience potentials, the video game theorist may begin to see how a player's actions are able to shape the text. The player's actions and choices, which are largely responsible

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[42] Van Leeuwen, 'Music and Ideology', 26.

[43] Van Leeuwen used the terminology 'system network' when discussing meaning potentials in more detail; in this article, the concept of the 'set' is used instead (in a pseudo-mathematical fashion) as it allows more precise discussion of elements, bounds, exclusivity, etc.

[44] An example of cheating as a designed parameter can be found in the video game *Quake* (id Software, 1996). Entering the text 'god' into the game's command console (in the PC version, usually accessible by pressing the tilde key) and pressing Enter enables 'god mode,' wherein the player character takes no damage from enemies. Opening the executable file in a text editor enables one to find the text 'god' in a grouping of other enterable commands, including 'fly' (which enables 'flymode,' wherein the player character can fly) and 'give' (in conjunction with an item code, enables the player to give the character any specified number of an item e.g. ammunition). These commands allow the player to cheat, but are nevertheless designed parameters constructed into the game during development.

for the textual quandary at hand, are essentially choices between potential experiences within the set. A player of *Skyrim* is presented with the choice between joining the 'Stormcloaks' or the 'Imperial Legion', which are opposing military factions within the game's world. A subtler example might be whether or not the player of a racing car game decides to brake before a corner on a racetrack, or even with what force the player decides to brake. Each of these choices results in the subsequent choices presented to the player being altered. Choosing the Stormcloaks faction leads the player through a particular series of quests available only to members of that faction, with associated consequences for the game narrative. Likewise, deciding to apply the brakes late in a corner may make the racing game player's car leave the track, and the subsequent need to regain first place requires the player to make decisions about overtaking other cars. When choices are made, the parameters of the game are reconfigured.

Though many of the choices made by a player may be ostensibly trivial, when considered over the entire length of the gameplay experience the player's set of choices and actions is immensely unlikely to be identical to another player's set. Each player, acting as an autonomous intelligence, is likely to derive a unique overall experience from the set of experience potentials, making different choices according to what he or she has learned within the game and his or her personality outside the game. At this point, the video game theorist may be in danger of throwing in the towel at the prospect of an undefined number of unique experiences, but this is unnecessary. The experiences produced by a game, though unique and potentially infinite, are similar on account of their being drawn from the same set of experience potentials. As a consequence of the set's elements being designed to operate within a parametric system (the game), the set can be considered as bounded in size despite its infinite variation, and a convenient level of abstraction can be applied to attain a certain level of detail (and to maintain the theorist's sanity). This also has the advantage of drawing the theorist's attention back to the 'macroscopic' level of play of which the player is consciously (or, at least, semi-consciously and semi-instinctively) aware.

However, reconfigured game parameters are not expressions *per se*, unless the reconfigurations are in some way meaningful. Arguably, this meaning comes from the skills, comprehension, personalities and memories of the players. In much the same way that a pianist may play a piece of music differently to another pianist reading the same manuscript, a player may respond to the choices in a game in a different way to another playing the same game. The experience the player has of the game is the intersection between the set of experience potentials and the player's own self, and is obtained through observation, interpretation and action. Observation is an implicit precursor to interpretation, and as Eskelinen and Tronstad note, 'We have to interpret in games, but we do so in order to configure, in order to proceed from the beginning to the winning or some other situation.'[45] Therefore, in the reconfiguration of a game's parameters there are three points at which the player's skills, the things he or she has learned both in game and out, and the personality that determines his or her most likely actions, will affect the outcome of the reconfiguration. It follows that the reconfigurations will, in some way, reflect the characteristics of the player, which is impossible if they are incapable of bearing meaning. Though Frank Sinatra worded it more forthrightly when he sang 'I did it my way,' the player's actions are no less expressions of individuality, and they trace a path 'from the beginning to the winning or some other situation'[46] in the player's own style.

The remaining parallels between interactions and Austin's 'performative utterances' are more straightforward. The 'illocutionary act' and the 'perlocutionary act' have been broadly paraphrased above as the 'goal' and 'effect' of a speech-act respectively, and the application of these to the video game context is simple. The player's interactions in a video game are always undertaken with a purpose in mind: namely, procession towards the goal, whether that means to win the game or to progress through it, or even to

[45] Eskelinen and Tronstad, 'Video Games and Configurative Performances', 199.

[46] *Ibid*.

simply have fun. Meanwhile, to parallel the perlocutionary act and the effects of interactions, it is necessary only to show that interactions have effects at all; as the above discussion of interactions has shown that they reconfigure the parameters of the video game, this work is already achieved.

Through an understanding of the video game text as a set of experience potentials, interactions have been shown to be performative acts. The relationship between these two concepts is undoubtedly more nuanced and complex than in the discussion above, and there is much scope for exploring this relationship further. One particular element deserving of further attention is the locus of the audience. Douglas Robinson writes, 'Behind the performative as a speech act lies performance, drama, the entire rich world of the theater, acting, staging, pretending, histrionics…. To perform is to act in a social context.'[47] Ostensibly, the lone video game player has no audience, as there may be no apparent social context to his or her activity (although some may view his or her activity as *anti*-social). However, it is possible to reframe the video game itself as a virtual audience. Eskelinen and Tronstad's invocation of the ergodic hints at this: the game is 'actualizing itself differently every time it is used,' with the existence of a 'feedback loop' implying that the information relayed by the game to the player is, in some way, a response to the information relayed by the player to the game, and thus the game is fulfilling the role of a conventional (human) audience.[48] Alternatively, it may be argued that interactive performativity may reflect the characteristics of certain religious practices that may be performed with or without an audience (for example, prayer). Robinson indicates that religious practice was an early example of performative linguistics;[49] Cook indicates that both musical practice and religious expression are 'intrinsically meaningful', relying on

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[47] Douglas Robinson, *Performative Linguistics: Speaking and Translating as Doing Things with Words* (London: Routledge, 2003), 39.

[48] Eskelinen and Tronstad, 'Video Games and Configurative Performances', 198.

[49] Robinson, *Performative Linguistics*, 29–30.

'socially agreed forms of expression even when conducted in private.'[50] A more thorough treatment of either of these arguments is beyond the scope of this article, though it is clear that the question of the locus of the audience is more of a speed bump than a roadblock.

Video Game Music and Performativity

To this point, this article has been discussing video games as complete texts. It has not yet discussed whether an understanding of interactivity as performativity helps to trace communicative meaning in video game *music*. Proceeding to this end requires determining music's location within the video game text as reconceptualized above.

Locating music within the video game text as a whole depends on the (somewhat axiomatic) understanding that music forms just one part of an audiovisual text. It is arguably true of all video games (even 'music games') that music is not the only semiotic force, but that video games consist of multiple semiotic forces working together. And while each may be studied individually, the existence of a semiosis (to paraphrase Peirce's definition, a 'signification process')[51] between the player and 'the game', rather than 'the music and the video and the sound effects and so on', indicates that the whole is greater than the sum of its parts, semiotically speaking. Thus, the music heard when playing *Skyrim* becomes, to the player, 'the music "of" *Skyrim*' rather than 'the music I heard at the same time as playing *Skyrim*'; the game *as a concept* is pre-eminent when interacting with the game's elements, affecting and even determining the ways this interaction takes place. Thus, while keeping in mind the pre-eminence of 'the game' in the mind of the player, the discussion of interactions above may be rephrased

[50] Cook, 'Between Process and Product'.

[51] Charles S. Peirce, 'Pragmatism', in *The Essential Peirce: Selected Philosophical Writings*, ed. the Peirce Edition Project (Bloomington, IN: Indiana University Press, 1998), 411.

such that the object of an interaction is not the monolithic 'game', but the cooperative collection of elements that comprise the game. This has many implications, but the most relevant to the purpose of this article is this: just as the video game text is the set of 'experience potentials' in gameplay, the video game music text is the set of 'musical experience potentials' in gameplay.

Van Leeuwen's terminology of 'potentials' is again quite apt here (in no small part because it is more in line with his original intent), as it helps to make sense of the player's interactive relationship to the music. The set of musical experience potentials encompasses the kinds of musical experiences that a player can have while playing a video game. Again, this is straightforward to conceptualize: someone playing *L.A. Noire* (Rockstar Games, 2011), a game set in Los Angeles in the 1940s, will have musical experiences containing a lot of jazz, but not musical experiences containing J-pop. Furthermore, to his notion of 'meaning potentials' van Leeuwen adds the observation that 'meaning potentials can, of course, only become actualized within specific social contexts. Meaning potentials delimit what *can* be said, the social context what *will* be said.'[52] In a video game, the set of musical experience potentials created by the game music composer will 'delimit what *can* be said' by the music of the video game. In the example of *L.A. Noire*, composers Andrew and Simon Hale used 1940s-style jazz to produce musical experience potentials that would align with the game's 1940s-style narrative and visual aesthetic. But 'what *will* be said' is delimited by the music's 'social context'—that is, by the social relationships informing its reception.

As was shown above, the player's interaction with the video game reflects the player's self and is, therefore, an expression. The player's skills and personality are reflected, and so is what the player has learned both in game and out. No player is an island; the social relationships involved in the reception (and subsequent reconfiguration) of the video game and its

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[52] Van Leeuwen, 'Music and Ideology', 26.

elements are manifold. Friends, birth culture, movies watched in the past, games played in the past, game level, the player's character choice, the darkness of the current in-game scene, and what the player chooses to do next may all inform the player's reception of the game and its elements, forming the contexts in which the player will engage with the game's musical experience potentials. These contexts delimit what meanings the music will bear. For example, the *L.A. Noire* player may learn that a specific jazz tune within the game indicates a particular event is about to take place. The player may also have had a messy break-up with a jazz-playing boyfriend or girlfriend recently, and hearing jazz may induce unusually intense feelings of anger and provoke irrational responses. Either context will affect how the player then reconfigures the game world, and with it the musical experience.

When video game interactions are understood as performative acts, therefore, the musical experience of gameplay is both subject to, and a semiotic force influencing, the reiterative configuration of the game and its elements (including music). Consequently, an interaction with the set of musical experience potentials in a game is itself a performative act:

1. Something is said: the player, through interactions, configures the game and its music
2. There is a goal, which is derived from the overall gameplay experience (winning, etc.)
3. There is an effect: the musical experience informs the player's reception of the game and its music, which in turn affects the player's reiterative configuration of the game and its music

The premise of this article, as set out above, was that the medium of video game music must be addressed on its own terms if it is to be addressed accurately; the article set out to more accurately trace communicative meaning in video game music. The performativity of the player's interactions with the set of musical experience potentials shows that both the sources and flows of meaning are utterly dependent on the player. One may follow

Dahlen's example above and assert that until the video game gets a player, video game music is incomplete. The music's initial composition imbues it with meaning, through both social conventions and its relationship to other elements within the game, but the player's configuration of the game is a significant enough source of musical meaning to warrant a separate semiotic analysis.

A Two-fold Semiosis

To conduct these semiotic analyses, it is helpful to start with Karen Collins' work on interactivity in video game audio. Collins demonstrates that 'the participatory nature of video games potentially leads to the creation of additional or entirely new meanings other than those originally intended by the creators by not only changing the reception, but also changing the transmission.'[53] Collins' resulting terminology of 'participatory supplementary connotations'[54] is useful, as it highlights the player's role in adding meaning to the text. However, understanding the performative nature of interactions allows a more nuanced semiotic model of video game music to be developed, one that supplements Collins' approach in two key ways. Firstly, it allows that meanings derived from separate sources are identifiable (even if generally) and that they can be studied separately—meanings imbued by initial composition can be studied separately to meanings imbued by performative expressions, and *vice versa*. Secondly, it allows a more complex analysis of the player's role in the text, including an exploration of the ergodic nature of gameplay, and an inquiry into whether the player creates or merely adds to the musical experience. The approach suggested, therefore, is to conduct

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[53] Collins, 'An Introduction to the Participatory and Non-Linear Aspects of Video Games Audio'.

[54] *Ibid*.

separate semiotic analyses of video game music's initial composition and interactive configuration, as detailed below.

Semiosis 1: Initial Composition

The semiotic analysis of video game music's initial composition begins with a conventional semiotic approach. Meaning is produced by a composer, is channeled through the video game music and is received by the player. This is a simplistic but flexible place to start as it allows a precise focus on the composer-channel relationship to be developed, while allowing the process of reception to take care of itself. This creative relationship is termed by Jean Molino as 'poietic', in contrast to the 'esthesic' dimension of interpretation between the object and the receiver.[55]

On the one hand, using semiotic terminology originally developed for linguistics when discussing music is controversial—Dunsby maintains that

> it has never been shown that music is a system of communication that is essentially similar to these other, legitimate areas of semiotic study. Nor can it be certain that the transmission-reception hypothesis will work, or could be expected to work for music.[56]

On the other hand, the understanding of interactions as performative acts is based upon van Leeuwen's assertion that 'meaning potentials delimit what *can* be said, the social context what *will* be said.'[57] For van Leeuwen, music's implicitly social nature bridges the divide between transmitter and receiver, allowing the transmission of interpretable meaning through music. This is easily demonstrable in the case of video game music, as many of the contexts

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[55] Jean Molino, 'Musical Fact and the Semiology of Music', 129–30.

[56] Jonathan Dunsby, 'Music and Semiotics: The Nattiez Phase', *The Musical Quarterly* 69/1 (1983), 41.

[57] Van Leeuwen, 'Music and Ideology', 26.

informing the composer's composition are transmitted directly to the player through other video game elements. The narrative, graphic elements, sound effects and underlying software inform the music's initial composition (presumably through consultations between the composers, writers, designers and software developers during development of the game), allowing the combination of elements to communicate a coherent flow of information. But these elements also inform the player's reception of the video game and its music *after* development, allowing the player to interpret information from any one of the elements through its association with the others. As the player's reception of the video game is arguably the whole point of the video game development process, it can be assumed that the composer (along with those developing the other elements) configured the flow of information to be receivable and thus interpretable—that the development of the video game and the composition of its music are, in effect, the configuration of 'what can be said' through the video game and its music.

[Insert figure 1: MeaningfulPlayFigure1.tif]

Figure 1: Semiosis of initial composition

Semiosis 2: Interactive Configuration

The semiotic analysis of video game music's interactive configuration by the player is more nuanced than that of the music's initial composition. It begins by following Collins' method, compensating for the inability of the conventional semiotic approach to account for interactivity by including 'participatory supplementary connotations', or additional meanings imbued in the channel by the player through participation and experience. [58] This approach shows that the player has two semiotic roles to play: firstly, a

[58] Collins, 'An Introduction to the Participatory and Non-Linear Aspects of Video Games Audio'.

receiver of meaning; and secondly, a transmitter of meaning.

As a receiver of meaning, the player must interpret the meanings channeled through the game's music by the composer. In a sense, this is Molino's 'esthesic' process—to receive is not passive, but the active observation of an object.[59] However, as has been discussed above, Eskelinen and Tronstad note that the ergodic qualities of video games make interpreting them an even more complex task: 'In addition to the usual activity of constructing meanings, we must do nontrivial work to produce sequences of signs that are not necessarily shared by any other user.'[60] Thus, interpretation requires both observation and modification of the object. The player will listen to the music of the game, but they will also configure the game and its music in order to interpret it more accurately.

As a transmitter, furthermore, the player will be adding meaning to the game's music; meaning derived from the player's experiences both in and out of the game. Collins' notion of 'participatory supplementary connotations' formulates an understanding of this process, showing that the player's additions change both the reception and the transmission of the creator's intended meanings.[61] However, the claim was made earlier in this article that video game music is incomplete without a player. Thus, in a sense, the player is less of a 'participant' and more of an 'instigator' of the musical experience. It has also been shown that the player's interactions with the game's musical experience potentials are performative expressions, and that the player's musical experience is therefore unique. The consequence of these arguments is that the musical experience of a video game is not created simply 'for the player', but that it is created 'for the player and by the player'—that is, the player's role in creating the musical experience of gameplay is comparable in significance to the composer's. And if the player is indeed a cocreator—as

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[59] Molino, 'Musical Fact and the Semiology of Music', 130.

[60] Eskelinen and Tronstad, 'Video Games and Configurative Performances', 198.

[61] Collins, 'An Introduction to the Participatory and Non-Linear Aspects of Video Games Audio'.

asserted by Wirman[62]—the player's additions are not only 'participatory' but also 'poietic'. Rather than 'participatory supplementary connotations', it is possible to go further and to refer to the player's meaning-building role as an 'interactive poiesis'. Thus, through an analysis of the player's ergodic interpretation and interactive poiesis, an understanding can be developed of video game music's interactive configuration, and consequently 'what will be said' through video game music. (Note that this will often require empirical psychological or ethnographic research; this article attempts only to show where the results of such research would fit into the semiotic whole.)

[Insert figure 2: MeaningfulPlayFigure2.tif]

Figure 2: Semiosis of interactive configuration

Example from The Elder Scrolls IV: Oblivion

As an illustration of the above semioses, consider the music file 'battle_05.mp3', which constitutes part of the non-diegetic music of the video game *The Elder Scrolls IV: Oblivion* (Bethesda Softworks, 2006; hereafter referred to as *Oblivion*). This game is an RPG set in an open game world (a province called 'Cyrodiil' including its nine cities, part of a land called 'Tamriel'). The player must first construct a character from a set of attributes, skills and physical traits, and then develop the character's skills by using them in gameplay. A central narrative is developed through a set of missions, but the timing of the player's choice to start each mission moderates the player's progression through these missions; similarly, both the timing and order of the player's (optional) completion of side missions are moderated by the player's choice. Thus, the player is afforded significant amounts of freedom in both character development and narrative progression. One of the

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[62] Wirman, 'On Productivity and Game Fandom'.

mechanisms of this freedom is the exploration of the game world, which allows the discovery of mission locations, population centres and other landmarks. However, the wilds of Cyrodiil are populated by animals (aggressive and otherwise), monsters (minotaurs, sprites, trolls, etc.), and bandits, any of which the player is likely to encounter (and have to fight) at random times and locations throughout his or her explorations. The music file 'battle_05.mp3' is one of eight music files employed by the game during battle situations (as shall be discussed below), and so it may accompany one of these random encounters.

At this point, the reader may be inclined to believe that this example is unsatisfactorily general due to the indeterminacy of the game's battle music algorithms and the variability of the player's actions that trigger these algorithms. However, the mechanisms of gameplay and the flow of the narrative are such that the game will, without exception, place any player in a circumstance similar to that below a great number of times during the course of gameplay. Thus, although it is unlikely that any player will replicate this example exactly, any and every player of *Oblivion* will experience situations similar enough that the conclusions drawn from the example apply unconditionally. Furthermore, the generality of this example is useful when considering, for instance, 'battle_04.mp3' (another of *Oblivion*'s music files used in battle situations), and likewise when seeking to apply this analytical framework to the music of other video games.

The semiotic analysis of initial composition seeks to determine the intended meaning of the music. The most obvious clue to the music's intended meaning is its filename; even without playing the game, it is possible to ascertain that this music has something to do with battle simply because its filename is 'battle_05.mp3'. Though not presented to the player within the game, this information is available to anyone with the game installed on his or her personal computer and who can navigate the game's data files. On a less trivial level, it may indicate that the composers and software developers might have implemented a file naming policy, perhaps to

simplify the process of making the game software play the correct type of music at the correct moment.

The music has a minor key and a fast tempo, and begins with a descending staccato horn melody below a mid-range pedal point on strings. It then transitions to a variation on the game's main theme with a rhythmic lilt (perhaps imitative of the parry and thrust of swordplay). These elements may indicate an alignment with the game's high fantasy narrative and visual design; they may also hint at feelings of alarm, danger or adventure to any listener or player familiar with the tropes of Western film music. In particular, note that the music of *Oblivion* in general exhibits similarities to the music of *The Lord of the Rings* trilogy of films (Peter Jackson, 2001–3)[63] and the *Pirates of the Caribbean* film *Curse of the Black Pearl* (Gore Verbinski, 2003);[64,65] these films had been released sufficiently prior to *Oblivion* that their musical accompaniments to high fantasy and/or swordplay may be considered to inform the general public's reception of such themes.

If, when playing *Oblivion* and undertaking a journey through the wilds of Cyrodiil, the player happens to journey to the edge of a body of water, it is likely that he or she will soon stumble into the vicinity of a Mud Crab (one of the game's aggressive wild creatures, albeit a relatively weak one). Upon gaining the attention (and therefore the aggression) of the mud crab, the game's algorithms select a piece of battle music. If, in this situation, 'battle_05.mp3' is chosen, the first notice the player may have of the impending claws of the mud crab are the music's descending melody and

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[63] Iain Hart, 'Music and the Narrative Universe in Video Game and Film' (honours thesis, The University of Sydney, 2010), 12-33.

[64] Starjackerseth, review of *The Elder Scrolls IV: Oblivion*, Bethesda Sotworks, *GameFAQs* (accessed 15 February 2014), <http://www.gamefaqs.com/xbox360/927345-the-elder-scrolls-iv-oblivion/reviews/review-121349>.

[65] Daniel Ran, 'The Elder Scrolls: Retrospective,' *Daniel Ran's blog* (accessed 15 February 2014), <http://www.danielran.com/blog/the-elder-scrolls-retrospective>.

pedal point (which may be heard even before seeing the crab, if the player is looking in the wrong direction). The meaning the player may receive in the music could therefore be 'Danger!' Likewise, the variation on the main theme is heard when the player is in the heat of battle (should the crab survive that long), when the message to the player might be 'Fight for glory and honour, brave adventurer!' After slaying the mud crab, the player may then take to a well-worn path, and in time be beset by a Minotaur (a half-man, half-bull monster that players only encounter in later stages of the game due to its strength and ferocity). The player may then hear 'battle_05.mp3' and, as with the fight with the mud crab, this will signify that an aggressor is approaching and warn the player of danger. The rousing variation on the main theme may here convey the same message to the player if the player-character is strong enough to defeat the Minotaur; if not, it may signify a less optimistic kind of courage on account of the character's impending death. However, the congruous musical and visual communications experienced in these separate encounters indicate the composers' intention to convey battle-relevant themes, perhaps of danger, alertness or courage, through 'battle_05.mp3' when it is experienced during gameplay (further to what the file name and culture-context signifiers imply).

The semiotic analysis of the interactive configuration seeks to determine the effect of the player's ergodic interpretation and interactive poiesis on the musical experience of gameplay. Thus, it considers the effect of the player's interactions, which are informed by the player's choices. In *Oblivion*, battle music is triggered when the player's character comes within a certain radius of an enemy that can detect the player's presence (the player may avoid detection if the character's 'sneak' skill is high enough and the character is crouching, or if the character is invisible). As hinted above, it is possible for this condition to be met when the player is unaware of the presence of the enemy, and in this instance the music is the player's first indication of danger. To alleviate this danger, either by fight or flight, the player must know from whence the danger comes, and this entails moving the mouse to change the character's view direction, to 'look around' and find

the enemy visually. This is an ergodic interpretation—to interpret the music's full meaning requires a reconfiguration of the game parameters (in this instance, visual and locational parameters). If the above mud crab's aggressive approach toward the player took it behind a stone momentarily, the player may have to both look around and move the character in order to find and fight the crustaceous foe. Note also that this reconfiguration may change the music's received meaning from 'Fight for glory and honour, brave adventurer!' to 'Die with honour, poor soul,' if the player expects to find a mud crab and instead finds a Minotaur.

On one level, the player is the author of this musical experience simply because he or she moved their character within the game's prescribed radius for battle engagements. The player's full authorship, however, is more substantive. The player has developed his or her character by progressing through the game, and his or her choices in doing so may result in a character that is more suited to flight than to fight. If that is the case, the player may never interpret the music as meaning 'Fight for glory and honour,' as 'Run away while you still can' may be the communicative meaning received. Alternatively, the character may have a high 'sneak' skill, so the player may be able to habitually avoid unexpected battles and the resulting terror. Furthermore, the choices behind the player's character development may be reflections of the player's own characteristics, or of the kinds of characters he or she prefers to develop when playing video games. Or, indeed, the player may have entered a battle by attacking an otherwise peaceful town guard, motivated only by frustration at having to tidy his or her real-world apartment. In each case, the player's musical experience of 'battle_05.mp3'—and therefore, in some small way, *Oblivion* as a whole—is uniquely constructed and received, by virtue of ergodic interpretation and interactive poiesis acting upon the initially composed communicative meanings of the music. Empirical research is required to determine exactly the various meanings that will be brought into the musical experience by the player, but this example serves to show how any such added meanings may

be incorporated into the set of musical experience potentials delineated by this music.

Conclusion

An understanding of a video game player's interactions as performative acts enables a semiotic analysis of video game music that specifically accounts for the medium's interactive contexts. By viewing the video game theorist's object of study as the experience of gameplay—and consequently the ludomusicologist's object of study as the musical experience of gameplay—this article has shown interactions to be personal expressions. Consequently, unique musical experiences are created through ergodic interpretation and interactive poiesis acting upon the communicative meanings present from the music's initial composition. This approach to video game music allows the ludomusicologist to weave together the musical, the audiovisual, the composed, the interactive, the static and the dynamic, and therefore to address the medium on its own terms. There is much scope, however, for further study into the nuances of this approach, including the locus of the audience, the application of this approach to mobile and/or social video games, the extent to which a phenomenological approach may aid the study of interactive poiesis, and empirical research into the meanings received and contributed by players during gameplay. It is certain that further study in these and other areas will continue to develop our understanding of how music makes play meaningful.

Acknowledgements

Author Biography

Iain Hart is a Ph.D. candidate at the University of Sydney. His research focuses on the communicative functions of music in video games. He completed undergraduate degrees in Science and Arts at the University of Sydney, achieving honours for his research on the similarities between film music and video game music in comparable thematic genres.

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