

Analytical Approaches to Video Game Music

Introduction

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One aspect of video game music that is both compelling and challenging is the question of *how* video game music should be studied. Game music is often sonically similar to classical music, popular musical styles and music in other media like film. Techniques from these other established fields of study can be applied to game music. Yet at the same time, game music exists as part of a medium with its own particular qualities. Indeed, many such aspects of games, including their interactivity, complicate assumptions that are normally made about how we study and analyse music.

Relationship with Film Music

Some scholars have examined game music by making fruitful comparisons with film music, noting the similarities and differences.¹ Neil Lerner has shown the similarities between musical techniques and materials of early cinema and those of early video game music like *Donkey Kong* (1981) and

¹ K. J. Donnelly, 'Emotional Sound Effects and Metal Machine Music: Soundworlds in Silent Hill Games and Films', in *The Palgrave Handbook of Sound Design and Music in Screen Media*, ed. Liz Greene and Danijela Kulezic-Wilson (London: Palgrave, 2016), 73–88; Miguel Mera, 'Invention/Re-invention', *Music, Sound and the Moving Image* 3, no. 1 (2009): 1–20; Florian Mundhenke, 'Resourceful Frames and Sensory Functions – Musical Transformations from Game to Film in *Silent Hill*', in *Music and Game: Perspectives on a Popular Alliance*, ed. Peter Moormann (Wiesbaden: Springer, 2013), 107–24; Zach Whalen, 'Case Study: Film Music vs. Video-Game Music: The Case of *Silent Hill*', in *Music, Sound and Multimedia: From the Live to the Virtual*, ed. Jamie Sexton (Edinburgh: Edinburgh University Press, 2007), 68–81.

Super Mario Bros. (1985).² William Gibbons has further suggested that the transition of silent film to ‘talkies’ provides a useful lens for understanding how some video games like *Grandia II* (2000) and the *Lunar* (1992, 1996) games dealt with integrating voice into their soundtracks.³ Such parallels recognized, we must be wary of suggesting that films and games can be treated identically, even when they seem most similar: Giles Hooper has considered the varieties of different kinds of cutscenes in games, and the complex role(s) that music plays in such sequences.⁴

Film music scholars routinely differentiate between music that is part of the world of the characters (diegetic) and music that the characters cannot hear, like typically Hollywood orchestral underscore (non-diegetic). While discussing *Resident Evil 4* (2005) and *Guitar Hero* (2005), Isabella van Elferen has described how games complicate film models of music and diegesis. Van Elferen notes that, even if we assume an avatar-character cannot hear non-diegetic music, the player can hear that music, which influences how their avatar-character acts.⁵ These kinds of observations reveal how powerful and influential music is in the video game medium, perhaps even more so than in film. Further, the distinct genre of music games poses a particular challenge to approaches from other fields, and reveals the necessity of a more tailored approach.

Borrowing Art Music Techniques

Just as thematic/motivic analysis has been useful in art music and film music studies, so it can reveal important insights in game music. Jason Brame analysed the recurrence of themes across *Legend of Zelda* games to show how the series creates connections and sense of familiarity in the various instalments,⁶ while Guillaume Laroche and Andrew Schartmann have conducted extensive

² Neil Lerner, ‘Mario’s Dynamic Leaps: Musical Innovations (and the Specter of Early Cinema) in Donkey Kong and *Super Mario Bros.*’, in *Music in Video Games: Studying Play*, ed.

K. J. Donnelly, William Gibbons and Neil Lerner (New York: Routledge, 2014), 1–29.

³ William Gibbons, ‘Song and the Transition to “Part-Talkie” Japanese Role-Playing Games’, in *Music in the Role-Playing Game: Heroes and Harmonies*, ed. William Gibbons and Steven Reale (New York: Routledge, 2019), 9–20.

⁴ Giles Hooper, ‘Sounding the Story: Videogame Cutscenes’, in *Emotion in Video Game Soundtracking*, ed. Duncan Williams and Newton Lee (Cham: Springer, 2018), 115–42.

⁵ Isabella van Elferen, ‘Un Forastero! Issues of Virtuality and Diegesis in Videogame Music’, *Music and the Moving Image* 4, no. 2 (2011): 30–9.

⁶ Jason Brame, ‘Thematic Unity Across a Video Game Series’, *ACT. Zeitschrift für Musik & Performance*. 2 (2011), accessed 29 October 2020, www.act.uni-bayreuth.de/de/archiv/2011-02/03_Brame_Thematic_Unity/index.html.

motivic and melodic analyses of the music of the *Super Mario* games.⁷ Frank Lehman has applied Neo-Riemannian theory, a method of analysing harmonic movement, to the example of *Portal 2* (2011).⁸ Recently, topic theory – a way of considering the role of styles and types of musical materials – has been applied to games. Thomas Yee has used topic theory to investigate how games like *Xenoblade Chronicles* (2010) (amongst others) use religious and rock music for certain types of boss themes,⁹ while Sean Atkinson has used a similar approach to reveal the musical approaches to flying sequences in *Final Fantasy IV* (1991) and *The Legend of Zelda: Skyward Sword* (2011).¹⁰

Peter Shultz has inverted such studies, and instead suggests that some video games themselves are a form of musical analysis.¹¹ He illustrates how *Guitar Hero* represents songs in gameplay, with varying degrees of simplification as the difficulty changes.

The Experience of Interactivity

Musical analysis has traditionally been able to rely on the assumption that each time a particular piece of music is played, the musical events will occur in the same order and last for approximately the same duration. Though analysts have always been aware of issues such as optional repeats, different editions, substituted parts and varying performance practices, art music analysis has often tended to treat a piece of music as highly consistent between performances. The interactive nature of games, however, means that the music accompanying a particular section of a game can sound radically different from one play session to the next. The degree of variation depends on the music programming of the game, but the way that game music is prompted by, and responds to, player action asks us to reconsider how we understand our relationships with the music in an interactive setting.

⁷ Guillaume Laroche, 'Analyzing Musical Mario-Media: Variations in the Music of Super Mario Video Games' (MA thesis, McGill University 2012); Andrew Schartmann, *Koji Kondo's Super Mario Bros. Soundtrack* (New York: Bloomsbury, 2015).

⁸ Frank Lehman, 'Methods and Challenges of Analyzing Screen Media', in *The Routledge Companion to Screen Music and Sound*, ed. Miguel Mera, Ronald Sadoff and Ben Winters (New York: Routledge, 2017), 497–516.

⁹ Thomas B. Yee, 'Battle Hymn of the God-Slayers: Troping Rock and Sacred Music Topics in *Xenoblade Chronicles*', *Journal of Sound and Music in Games* 1, no. 1 (2020): 2–19.

¹⁰ Sean E. Atkinson, 'Soaring Through the Sky: Topics and Tropes in Video Game Music', *Music Theory Online* 25, no. 2 (2019), accessed 29 October 2020, <https://mtosmt.org/issues/mto.19.25.2/mto.19.25.2.atkinson.html>.

¹¹ Peter Shultz, 'Music Theory in Video Games', in *From Pac-Man to Pop Music: Interactive Audio in Games and New Media*, ed. Karen Collins (Aldershot: Ashgate, 2008), 177–88.

Elizabeth Medina-Gray has advocated for a modular understanding of video game music. She writes,

modularity provides a fundamental basis for the dynamic music in video games. Real-time soundtracks usually arise from a collection of distinct musical modules stored in a game's code – each module being anywhere from a fraction of a second to several minutes in length – that become triggered and modified during gameplay. . . . [M]usical modularity requires, first of all, a collection of modules and a set of rules that dictate how the modules may combine.¹²

Medina-Gray's approach allows us to examine how these musical modules interact with each other. This includes how simultaneously sounding materials fit together, like the background cues and performed music in *The Legend of Zelda* games.¹³ Medina-Gray analyses the musical 'seams' between one module of music and another. By comparing the metre, timbre, pitch and volume of one cue and another, as well as the abruptness of the transition between the two, we can assess the 'smoothness' of the seams.¹⁴ Games deploy smooth and disjunct musical seams to achieve a variety of different effects, just like musical presence and musical silence are meaningful to players (see, for example, William Gibbons' exploration of the careful use of silence in *Shadow of the Colossus* (2005)).¹⁵

Another approach to dealing with the indeterminacy of games has come from scholars who adapt techniques originally used to discuss real-world sonic environments. Just like we might analyse the sound world of a village, countryside or city, we can discuss the virtual sonic worlds of games.¹⁶

¹² Elizabeth Medina-Gray, 'Modularity in Video Game Music', in *Ludomusicology: Approaches to Video Game Music*, ed. Michiel Kamp, Tim Summers and Mark Sweeney (Sheffield: Equinox, 2016), 53–72 at 53, 55.

¹³ Elizabeth Medina-Gray, 'Meaningful Modular Combinations: Simultaneous Harp and Environmental Music in Two *Legend of Zelda* Games', in *Music in Video Games*, ed. K. J. Donnelly, William Gibbons and Neil Lerner (New York: Routledge, 2014), 104–21 and Elizabeth Medina-Gray, 'Musical Dreams and Nightmares: An Analysis of *Flower*', in *The Routledge Companion to Screen Music and Sounded*, ed. Miguel Mera, Ronald Sadoff and Ben Winters. (New York: Routledge, 2017), 562–76.

¹⁴ Elizabeth Medina-Gray, 'Analyzing Modular Smoothness in Video Game Music', *Music Theory Online* 25, no. 3 (2019).

¹⁵ William Gibbons, 'Wandering Tonalities: Silence, Sound, and Morality in *Shadow of the Colossus*', in *Music in Video Games*, ed. K. J. Donnelly, William Gibbons and Neil Lerner (New York: Routledge, 2014), 122–37.

¹⁶ Kate Galloway, 'Soundwalking and the Aurality of *Stardew Valley*: An Ethnography of Listening to and Interacting with Environmental Game Audio', in *Music in the Role-Playing Game*, ed. William Gibbons and Steven Reale (New York: Routledge, 2019), 159–78; Elizabeth Hambleton, 'Gray Areas: Analyzing Navigable Narratives in the Not-So-Uncanny Valley Between Soundwalks, Video Games, and Literary Computer Games', *Journal of Sound and Music in Games* 1, no. 1 (2020): 20–43.

These approaches have two distinct advantages: they account for player agency to move around the world, and they contextualize music within the other non-musical elements of the soundtrack.

The interactive nature of games has made scholars fascinated by the experiences of engaging with music in the context of the video game. William Cheng's influential volume *Sound Play* draws on detailed interrogation of the author's personal experience to illuminate modes of interacting with music in games.¹⁷ The book deals with player agency and ethical and aesthetic engagement with music in games. His case studies include morality and music in *Fallout 3* (2008), as well as how players exert a huge amount of interpretive effort when they engage with game music, such as in the case of the opera scene in *Final Fantasy VI* (1994). Small wonder that gamers should so frequently feel passionate about the music of games.

Michiel Kamp has described the experience of listening to video game music in a different way, by outlining what he calls 'four ways of hearing video game music'. They are:

1. Semiotic, when music is heard as providing the player 'with information about gameplay states or events';
2. Ludic, when we pay attention to the music and play 'to the music or *along with* the music, such as running to the beat, or following a crescendo up a mountain';
3. Aesthetic, when 'we stop whatever we are doing to attend to and reflect on the music, or on a situation accompanied by music';
4. Background, which refers to when music 'does not attract our attention, but still affects us somehow'.¹⁸

Kamp emphasizes the multidimensional qualities of listening to music in games, and, by implication, the variety of ways of analysing it.

'Music Games'

In games, we become listeners, creators and performers all at once, so we might ask, what kind of musical experiences do games afford? One of the most useful

¹⁷ William Cheng, *Sound Play: Video Games and the Musical Imagination* (New York: Oxford University Press, 2014).

¹⁸ Michiel Kamp, 'Four Ways of Hearing Video Game Music' (PhD thesis, Cambridge University, 2014), 15, 89, 131.

places to start answering this question is in the context of so-called ‘music games’ that foreground players’ interaction with music in one way or another.

Unsurprisingly, *Guitar Hero* and other music games have attracted much attention from musicians. It is obvious that playing instrument-performance games like *Guitar Hero* is not the same as playing the instrument in the traditional way, yet these games still represent important musical experiences. Kiri Miller has conducted extensive ethnographic research into *Guitar Hero* and *Rock Band* (2007). As well as revealing that these games appealed to gamers who also played a musical instrument, she reported that players ‘emphasized that their musical experiences with *Guitar Hero* and *Rock Band* feel as “real” as the other musical experiences in their lives’.¹⁹ With work by Henry Svec, Dominic Arsenaault and David Roesner,²⁰ the scholarly consensus is that, within the musical constraints and possibilities represented by the games, *Guitar Hero* and *Rock Band* emphasize the performative aspects of playing music, especially in rock culture, and opening up questions of music making as well as of the liveness of music.²¹ As Miller puts it, the games ‘let players put the performance back into recorded music, reanimating it with their physical engagement and adrenaline’.²² Most importantly, then, the games provide a new way to listen to, perform and engage with the music through the architecture of the games (not to mention the fan communities that surround them).

Beyond instrument-based games, a number of scholars have devised different methods of categorizing the kinds of musical interactivity afforded players. Martin Pichlmair and Fares Kayali outline common qualities of music games, including the simulation of synaesthesia and interaction with other elements in the game which affect the musical output.²³ Anahid

¹⁹ Kiri Miller, ‘Schizophrenic Performance: *Guitar Hero*, *Rock Band*, and Virtual Virtuosity’, *Journal of the Society for American Music* 3, no. 4 (2009): 395–429 at 408.

²⁰ Henry Adam Svec, ‘Becoming Machinic Virtuosos: *Guitar Hero*, *Rez*, and Multitudinous Aesthetics’, *Loading . . .* 2, no. 2 (2008), accessed 29 October 2020, <https://journals.sfu.ca/loading/index.php/loading/article/view/30/28>; Dominic Arsenaault, ‘*Guitar Hero*: “Not Like Playing Guitar at All?”’, *Loading . . .* 2, no. 2 (2008), accessed 29 October 2020, <https://journals.sfu.ca/loading/index.php/loading/article/view/32/29>; and David Roesner, ‘The *Guitar Hero*’s Performance’, *Contemporary Theatre Review* 21, no. 3 (2011): 276–85.

²¹ Melanie Fritsch and Stefan Strötgen, ‘Relatively Live: How to Identify Live Music Performances’, *Music and the Moving Image* 5, no. 1 (2012): 47–66.

²² Kiri Miller, *Playing Along: Digital Games, YouTube, and Virtual Performance* (New York: Oxford University Press, 2011), 15.

²³ Martin Pichlmair and Fares Kayali, ‘Levels of Sound: On the Principles of Interactivity in Music Video Games’, *DiGRA ’07 – Proceedings of the 2007 DiGRA International Conference: Situated Play*, University of Tokyo, September 2007, 424–30.

Kassabian and Freya Jarman emphasize musical choices and the different kinds of play in music games (from goal-based structures to creative free play).²⁴ Melanie Fritsch has discussed different approaches to world-building through the active engagement of players with music in several ways,²⁵ as well as the adoption of a musician's 'musical persona'²⁶ for game design by analysing games, turning on Michael Jackson as a case study.²⁷

Opportunities to perform music in games are not limited to those specifically dedicated to music; see, for example, Stephanie Lind's discussion of *The Legend of Zelda: Ocarina of Time* (1998).²⁸ William Cheng and Mark Sweeney have described how musical communities have formed in multiplayer online games like *Lord of the Rings Online* (2007) and *Star Wars: Galaxies* (2003).²⁹ In the case of *Lord of the Rings Online*, players have the opportunity to perform on a musical instrument, which has given rise to bands and even in-game virtual musical festivals like Weatherstock, where players from across the world gather together to perform and listen to each other. These festivals are social and aesthetic experiences. These communities also exist in tandem with online fan culture beyond the boundary of the game (of which more elsewhere in the book; see [Chapter 23](#) by Ryan Thompson).

Play Beyond Music Games

Music is important to many games that are not explicitly 'music games'. It is indicative of the significance of music in the medium of the video game that the boundaries of the 'music game' genre are ambiguous. For instance, Steven Reale provocatively asks whether the crime thriller game *L.A. Noire* (2011) is a music game. He writes,

²⁴ Anahid Kassabian and Freya Jarman, 'Game and Play in Music Video Games', in *Ludomusicology: Approaches to Video Game Music*, ed. Michiel Kamp, Tim Summers and Mark Sweeney (Sheffield: Equinox, 2016), 116–32.

²⁵ Melanie Fritsch, 'Worlds of Music: Strategies for Creating Music-Based Experiences in Video Games', in *The Oxford Handbook of Interactive Audio*, ed. Karen Collins, Holly Tessler and Bill Kapralos (New York: Oxford University Press, 2014), 167–177.

²⁶ Philip Auslander, 'Musical Personae', *TDR: The Drama Review* 50, no. 1 (2006): 100–19.

²⁷ Melanie Fritsch, 'Beat It! Playing the "King of Pop" in Video Games', in *Music Video Games: Performance, Politics, and Play*, ed. Michael Austin (New York: Bloomsbury, 2016), 153–76.

²⁸ Stephanie Lind, 'Active Interfaces and Thematic Events in *The Legend of Zelda: Ocarina of Time*', *Music Video Games: Performance, Politics, and Play*, ed. Michael Austin (New York: Bloomsbury, 2016), 83–106.

²⁹ Cheng, *Sound Play*; and Mark Sweeney, 'Aesthetics and Social Interactions in MMOs: The Gamification of Music in *Lord of the Rings Online* and *Star Wars: Galaxies*', *The Soundtrack* 8, no. 1–2 (2015): 25–40.

Guitar-shaped peripherals are not required for a game's music to be intractable from its gameplay . . . the interaction of the game world with its audio invites the possibility that playing the game is playing its music.³⁰

If games respond to action with musical material, the levels of games can become like musical scores which are performed by the gamer when they play. We may even begin to hear the game in terms of its music.

Reale's comments echo a broader theme in game music studies: the role of play and playfulness as an important connection between playing games and playing music. Perhaps the most famous advocate for this perspective is Roger Moseley, who writes that

Like a Mario game, the playing of a Mozart concerto primarily involves interactive digital input: in prompting both linear and looping motions through time and space, it responds to imaginative engagement . . . [It makes] stringent yet negotiable demands of performers while affording them ample opportunity to display their virtuosity and ingenuity.³¹

Moseley argues that 'Music and the techniques that shape it simultaneously trace and are traced by the materials, technologies and metaphors of play.'³² In games, musical play and game play are fused, through the player's interaction with both. In doing so, game music emphasizes the fun, playful aspects of music in human activity more generally. That, then, is part of the significance of video game music – not only is it important for gaming and its associated contexts, but video games reveal the all-too-often-ignored playful qualities of music.

Of course, there is no single way that video game music should be analysed. Rather, a huge variety of approaches are open to anyone seeking to investigate game music in depth. This section of the Companion presents several different methods and perspectives on understanding game music.

Further Reading

Cheng, William. *Sound Play: Video Games and the Musical Imagination*. New York: Oxford University Press, 2014.

Kamp, Michiel. 'Four Ways of Hearing Video Game Music.' PhD thesis, Cambridge University, 2014.

³⁰ Steven B. Reale, 'Transcribing Musical Worlds; or, Is *L.A. Noire* a Music Game?', in *Music in Video Games*, ed. K. J. Donnelly, William Gibbons and Neil Lerner (New York: Routledge, 2014), 77–103 at 100.

³¹ Roger Moseley, *Keys to Play: Music as a Ludic Medium from Apollo to Nintendo* (Berkeley: University of California Press, 2016), 216–17.

³² Moseley, *Keys to Play*, 22.

- Kassabian, Anahid and Jarman, Freya. 'Game and Play in Music Video Games', in *Ludomusicology: Approaches to Video Game Music*, ed. Michiel Kamp, Tim Summers and Mark Sweeney. Sheffield: Equinox, 2016, 116–32.
- Medina-Gray, Elizabeth. 'Analyzing Modular Smoothness in Video Game Music.' *Music Theory Online* 25, no. 3 (2019).
- Miller, Kiri. *Playing Along: Digital Games, YouTube, and Virtual Performance*. New York: Oxford University Press, 2012.
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