THERE IS A BODY IN THE SOUND: TIMBRE AND EMBODIMENT IN THE OVERLAP OF FILM, MUSIC, AND DANCE

by

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DISSERTATION ABSTRACT

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Dance, film, and music are living art forms. They unfold through time, motion, environments, and bodies. They take up shapes, rhythms, textures, and tones. They tell stories. And they often amplify one another in ways that I find deeply moving. In this dissertation, I argue that dance, film, and music move me not because they *can* intersect, but because they *do.* They are pieces of one another, enacting the very shapes and motions of living.

This dissertation contributes to the growing scholarship at the edges of these overlapping disciplines. Drawing on new material feminism, theories of musical and cinematic embodiment, kinesthetic empathy in dance, and timbre studies, I propose a collection of theoretical models to analyze the coalescence of sound, bodies, motion, and meaning. These models include a semiotic approach to the analysis of timbre in film music (with a case study focus on musical timbre and spell sounds in the Harry Potter film saga), a system of music-dance analysis applied to dance-centric music videos (with a focus on two politically powerful case studies that responded to the 2016 Orlando Shooting), an embodied approach to timbre and meter in dance scenes that reference flight (with analyses of scenes in *WALL-E* [2008], *La La Land* [2016], *The Dragon*

Prince [2019], and *The Witcher* [2019]), and a model of dance as the structuring force in certain montages, even when dance is not present as the subject of the scene (with analyses of "Married Life" in *Up* [2009] and "Look What We Made" in *The Theory of Everything* [2014]). Though these models may seem many and varied, what unites them is the premise that there is a body in the sound, and in it, film, music, and dance converge.

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To my family. My soul dances with you.

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CHAPTER I: INTRODUCTION

I think the reason dance has held such an ageless magic for the world is that it has been the symbol of the performance of living.
-Martha Graham[1]

Dance, film, and music are living artforms. They unfold through time, motion, environments, and bodies. They take up shapes, rhythms, textures, and tones. They tell stories. And they often amplify one another in ways that move me. In this dissertation, I argue that dance, film, and music move me not because they *can* intersect, but because they *do.* They are pieces of one another, enacting the very shapes and motions of living.

To illustrate this overlap, three lessons I encountered in the course of my Western music education are a useful starting point. The first lesson is among the earliest in my training: the definition of a beat. "A beat," my band directors said, "is the up and down of the foot." I practiced moving my foot up and down in time with music, anchoring my heel, feeling the muscles in my shin, calf, and ankles contract and release. The movement marked time itself with the feeling of gravity: the downbeat was restful and anchored, the upbeat suspended and uncertain. The second lesson came later in my musical training. I learned that the audience would not like to see this fundamental up and down of the foot. I was told that foot-tapping and other more excessive movement from a musical performer (such as when I moved with the music while playing clarinet) was visually distracting. I gathered that what various instructors really meant was that the movement was *musically* distracting. Music and movement are bound together. The third lesson came a few years into my musical training. "Hold up the triangle so the audience can see you playing it," the instructor told a percussionist situated at the back of the concert band.

[1] Martha Graham, "I Am a Dancer," in *The Routledge Dance Studies Reader,* ed. Alexandra Carter and Janet O'Shea (London: Routledge, 2010), 95.

"They're curious about what makes the sound and it's fun for them to see you playing it." In this case, musical movement was permissible and even encouraged: seeing the source of a sound and an associated movement could enhance the audience's experience. In short, fundamental aspects of music are embodied, and the moving body creates musical meaning.

Together, these lessons show two main things: 1) Western music has a complicated relationship with the body, expecting its visibility through double standards. And 2) our experience of sound and moving bodies is deeply intertwined. Film scholarship, dance scholarship, and music scholarship each reflect this fact, yet remain largely independent from one another. This dissertation contributes to the growing scholarship at the edges of these overlapping disciplines by proposing a collection of theoretical models to analyze the coalescence of sound, bodies, motion, and meaning. These models include a semiotic approach to timbre in film music, a system of music-dance analysis applied to dance-centric music videos, a model of how dancing bodies in a music video can infuse music with new political power, an embodied approach to timbre and meter in dance scenes that reference flight, and, finally, a model of dance as the structuring force in certain montage scenes, even when dance is not present as the subject of the montage. Though these models may seem many and varied, what unites them is the premise that there is a body in the sound, and in it, film, music, and dance converge.

In the remainder of this introduction, I first discuss the separation of body and mind in scholarly and popular discourse, focusing primarily on film music while making connections with dance and film more broadly. After addressing problems with this separation, I highlight scholarly work that has offered solutions to the "mind/body

problem." Finally, I overview the structure of my dissertation and describe specific contributions of this work in the context of existing scholarship.

The Mind/Body Problem

Music scholars know that music is produced by bodies and experienced through bodies, but we often pretend that music is an abstract, bodiless thing. We associate theory and composition with the mind (with thinking), with the *true* form of music. We associate performance with the body (with doing), a mere *vessel* of music. Many issues arise from this broad approach to what music "is," not the least of which is a problematic gender dynamic. Singing—doing—for example, is gendered feminine, while composing and theorizing—thinking—is gendered masculine. As Suzanne Cusick wrote in 1994:

> Surely no one needs to be reminded how the elements in the Mind/Body duality are gendered. *Metaphorically*, when music theorists and musicologists ignore the bodies whose performative acts constitute the thing called music, we ignore the feminine. *We erase her from us*.[2] (italics added)

Cusick softens the statement "we erase her from us" with the word "metaphorically," but this erasure has very real consequences. I will explore some of these consequences, first, by focusing on film composers and issues of gender, and especially the history of these issues in the Academy Awards. I will then consider how the mind/body problem and issues of gender intersect with cultural roles ascribed to film directors, to choreographers, and, finally, to film choreographers specifically.

In 2019, only 6% of composers on the top-grossing 250 films in the U.S. were women. This sadly marks a stark improvement from 1% just five years earlier. Since the

[2] Suzanne Cusick, "Feminist Theory, Music Theory, and the Mind/Body Problem," *Perspectives of New Music* 32, no. 1 (Winter 1994): 16.

founding of the Academy of Motion Picture Arts and Sciences in 1934, only three women have been awarded an Oscar for original music. The first, Rachel Portman, received her award for the 1996 film *Emma*, over half a century after the Academy was established. Both Portman and Anne Dudley (who became the second woman to receive an Oscar for original music, for the 1997 film *The Full Monty*) won in the category Original Musical or Comedy Score. At the time, this category was distinct from Original Dramatic Score, for which Gabriel Yared and James Horner took home Oscars in the 1996 and 1997 awards seasons respectively. The gender dynamics of this division are clear: "light-hearted" music was permissibly feminine—laughter, too, an act of the body—and "serious" music was coded as masculine—a product of the mind. It does not seem coincidental that the first woman ever nominated for original film music, Angela Morley, was nominated in the category Best Original Song Score for the musicals *The Little Prince* (1974) and *The Slipper and the Rose: A Story of Cinderella* (1976).

Two years after Portman's historic win, the Academy nixed the Original Musical or Comedy Score and Original Dramatic Score categories in favor of a single category: Best Original Score. Portman's 1999 and 2000 nominations in this consolidated category saw Oscars go to John Corigliano and Tan Dun, respectively. In 2000, Lisa Gerrard ought to have become the second woman nominated in the Best Original Score category. She collaborated with Hans Zimmer on the score for the film that took Best Picture, *Gladiator*. In a widely criticized move, the Academy applied a rule unique to this category, forbidding more than one composer from being nominated for a single score. Only Zimmer was nominated. Defending the Academy, spokesperson Robert Rehme allegedly said, "Contributors and arrangers are not eligible for Oscars. If [Zimmer] wins

he can thank her."[3] Gerrard estimates that she collaborated with Zimmer on 40% of the music for the film.[4] Zimmer himself described her music as "the soul of the film," arguing that of course she should be credited as co-composer.[5] Gerrard's website rightfully claims the Oscar nomination for *Gladiator*.[6]

Beyond the Oscar nomination debacle, at least two other aspects of the Gerrard-Zimmer collaboration are important to consider in the context of the gendered mind/body problem. First, it is notable that Gerrard not only composed music for *Gladiator* but also performed it. It is *her voice*, the labor of *her body*, that powerfully connects Maximus (Russel Crowe) with his deceased family in the most moving moments of the award-winning film. Second, where Zimmer composed for moments of triumph (associated with a living body), Gerrard largely wrote music for death, for the slaying of bodies. Gerrard described the division of labor in their collaboration this way:

> I did all the little pieces, all the emotional pieces. He did all the great big blockbustery—you know—the Coliseum, all those pieces, the anthems and that sort of thing, and I did the wheat and the deaths and the crucifixions. I did Carthage; he didn't want to do that one because it was a bit of a bloodbath, and it wasn't very nice to work on. And I supported him and helped him in a very small way with his pieces, and he helped me enormously with mine. So, I really profited from that experience of working with him.[7]

[3] A post by Anthony Horan in a Google Group dated February 14, 2001 at 05:48:43 reproduces this quote from the Sydney Morning Herald published the same day. I have been unable to confirm this publication as archives from 1995 to 2006 are not presently accessible through the Sydney Morning Herald's current website. Here is the link to Anthony Horan's post: https://groups.google.com/g/aus.music/c/9Zu2ixG7p8s April 29, 2021.
[4] Felicity Wilcox, "'The Passion That We Don't Understand': An Interview with Lisa Gerrard," *Music and the Moving Image* 14, no. 1 (Spring 2021): 48.
[5] Ibid.
[6] "About Lisa," Lisa Gerrard, https://www.lisagerrard.com/about-lisa, 2017, accessed April 29, 2021.
[7] Ibid.

Though Gerrard expresses only gratitude for her experience working with Zimmer, I find it viscerally poetic that a woman whose musical creativity was deemed "the soul of the film" was slated to underscore bodily destruction.

It was not until nearly two decades later that another woman was nominated in the category Best Original Score. Mica Levi's 2016 score for *Jackie* lost to Justin Hurwitz's score for *La La Land.* Finally, in 2020, at the 92nd Academy Awards and on the edge of a global pandemic, Hildur Guðnadóttir became the first woman to win an Oscar for Best Original Score. Her music for *Joker* (2019) competed with scores by Alexandre Desplat, Randy Newman, Thomas Newman, and John Williams.[8] Like Lisa Gerrard, Guðnadóttir's own performance is central to the score. It is *her* sinewy, lingering bow strokes across the cello-like strings of a halldorophone that animate the iconic and widely imitated dances of Joker-destined Arthur Fleck (Joaquin Phonix).[9] Accepting the award, Guðnadóttir said, "To the girls, to the women, to the mothers, to the daughters, who hear the music bubbling within, please speak up. We need to hear your voices."

Though the mind/body problem and its relationship with sexism reach far beyond film music, these issues are more pronounced in film music than in most other widely recognized film-making roles. Consider Figure 1, a graph from a 2018 article by Miriam Quick who analyzed gender in winning feature films from 10 major film festivals, including the Academy Awards, from 1990 to 2017. This data shows two crucial things.

[8] Pinar Toprak, who became the first woman to score a blockbuster superhero film, *Captain Marvel* (2019), was not nominated.

[9] See Jessica Shine, "'He has music in him' – Musical Moments and Corporeality in *Joker* (2019)," paper given at Music and the Moving Image Conference, May 31, 2020; and Kristy Swift, "'Giving Voice to the Voiceless': Hildur Guðnadóttir's 'Bathroom Dance' as Sonic Trans-Diegetic Bridge in *Joker*," paper give at Music and the Moving Image Conference, NYU Steinhardt / Virtual, May 31, 2020.

One, as the representation of women decreases, the professional role becomes more associated with the creative mind and less associated with the laboring body. Editor, Production Designer, Producer, and even Writer all evoke physically apparent tasks. Meanwhile, Director, Cinematographer, and Composer are all roles that reference the mind as directing labor. It should strike us musicians that the role of "composer" was the most gender-exclusive. Why is this problem so exaggerated in film music? I argue that part of the answer lies in a broader aspect of Western music culture, what musicologist and philosopher Lydia Goehr has called "the Beethoven paradigm."

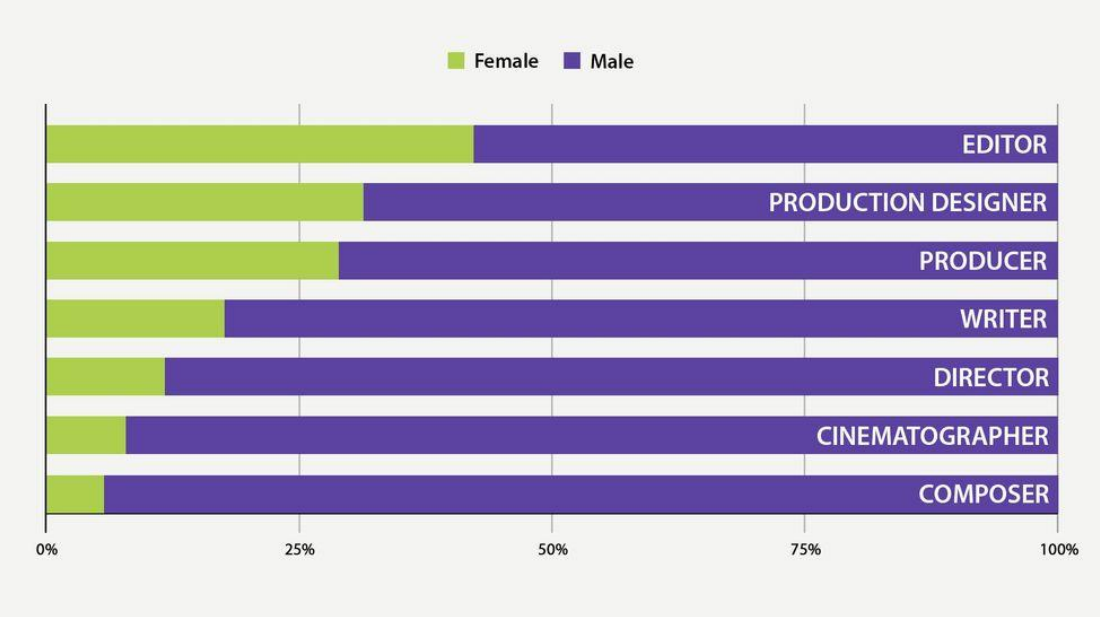

Fig. 1 Graph of gender representation in "behind-the-screen" film industry roles in top-awarded films at 10 major film festivals from 1990 to 2017.[10]

[10] Miriam Quick, "The Cannes Film Festival has been criticised for its gender imbalance—but what's the real story? Data journalist Miriam Quick takes a look at the numbers," *BBC*, May 9, 2018, https://www.bbc.com/culture/article/20180508-the-data-that-reveals-the-film-industrys-woman-problem,.

Goehr's Beethoven paradigm holds that over the course of the 1800s, a dramatic shift in perspective took place regarding the social position of composers, a shift vivid in the life and subsequent romanticization of the canonic Western composer Ludwig van Beethoven (1770-1827). The shift included these primary principles: the composer as god-like genius,[11] the originality and *untouchability* of a musical work, the authority of the composer and the score, and the subservience of performers.[12] Notice the way each of these principles subjugates bodies. The composer as god-like genius allowed *him* to transcend the worldly by virtuosic acts of the mind, conveniently leaving behind the gendered and racialized body.[13] Goehr even uses the word "untouchability" to describe the composer's original music as locked in *his* authoritative score, reflecting the isolation of "the music" from the body.[14] Performers—*doers*—became mere servants to the composer, vessels for *his* authorship. When writing to his publishers about the necessity of metronome markings, for example, Beethoven insisted that "performers must now obey the ideas of unfettered genius."[15] This follows the spirit of the legendary anecdote in which Beethoven's principle violinist complained about the unplayability of a first violin part, to which Beethoven allegedly responded, "Do you think I care about your wretched fiddle when the spirit moves me?"[16] In a way, the body was a thing that music violated, rather than what gave music life.

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[11] See Beverly Taflinger, "'What will become of my work?': Genius, Gender, and Legacy in the Life of Clara Schumann," PhD diss in progress at the University of Oregon in Spring 2022; Christine Battersby, *Gender and Genius: Towards a Feminist Aesthetics*. (Bloomington: Indiana University Press, 1990); Marcia J. Citron, *Gender and the Musical Canon*, (Cambridge: Cambridge University Press, 1993).
[12] Lydia Goehr, "After 1800: The Beethoven Paradigm," in *The Imaginary Museum of Musical Works* (Oxford: Oxford University Press, 2007) 205-229.
[13] Taflinger, "'What will become of my work?'"
[14] Goehr, "After 1800: The Beethoven Paradigm," 222.
[15] Simon Garfield, *Timekeepers: How the World Became Obsessed with Time* (Edinburgh: Canongate, 2016), 64.
[16] See Ludwig van Beethoven, "Sayings of Beethoven" *The Musical Quarterly* 13, no. 2 (April 1927): 183.

Though Goehr was not writing about film music, the principles of the Beethoven paradigm ought to sound very familiar. Popular media and scholarship alike celebrate film composers as nearly divine geniuses,[17] praising their originality, hardly ever acknowledging performers or the collaborative reality of putting musical sound in a film, and through these many principles, cut music away from the body. Consider an interview with the late film composer Ennio Morricone conducted in 2001, the same year of the Academy Awards ceremony at which Lisa Gerrard was overlooked for her work on *Gladiator:*

> I invented the formula of 'music composed, arranged, and conducted by Ennio Morricone.' Bernard Herrmann used to write all his scores by himself. So did Bach, Beethoven, and Stravinsky. I don't understand why this happens in the movie industry.[18]

Morricone elevates originality, genius, and the authority of the score, evoking Beethoven himself along the way. Morricone doesn't mention performers, and their absence is telling. It is this gendered value of sole authorship and originality, of "composer-as-thinker, performer-as-doer," of music as an abstract and intangible thing, that literally—not metaphorically—sidelined composer-performer Lisa Gerrard when Hans Zimmer was nominated for their collaboration on *Gladiator*.

[17] Amanda Hess, "How the Myth of Artistic Genius Excuses the Abuse of Women," *The New York Times: Critic's Notebook*, November 10, 2017; and Linda Shaver-Gleason, "When #TimesUp for Musical Gods: the James Levine Scandal," conference paper given at Music and Musicology in the Age of Post-Truth, University College Dublin, Dublin, Ireland, September 7-8, 2018; and Philip Ewell, "Beethoven Was An Above Average Composer—Let's Leave It At That," *Music Theory's White Racial Frame: Confronting Racism and Sexism in American Music Theory*, April 24, 2020 https://musictheoryswhiteracialframe.wordpress.com/2020/04/24/beethoven-was-an-above-average-composer-lets-leave-it-at-that/.

[18] Adam Sweeting, "Mozart of film music," *The Guardian*, February 22, 2001, https://www.theguardian.com/film/2001/feb/23/culture.features1.

Today the Academy's rules for eligibility in the Best Original Score category sport a mixture of Beethovenian relics and an attempt at reconciliation. Rule 15, Section II, F reads as follows:

> A score shall not be eligible if:
>
> 1. it has been diluted by the use of pre-existing music, or
> 2. it has been diminished in impact by the predominant use of songs or any music not composed specifically for the film by the submitting composer, or
> 3. it has been assembled from the music of more than one composer.[19]

The use of the singular "composer" echoes the value of originality in connection with a single author. "More than one composer" automatically disqualifies a film score from consideration. Song, too, a direct labor of the body, is named outright as a detriment to the abstract originality of "the score." Almost begrudgingly, the next lines of the eligibility regulations state this:

> No more than one statuette will normally be given in the Original Score category. A second statuette may be awarded when two credited composers function as equal collaborators, each contributing fully to the original dramatic underscore of the film.[20]

The regulations frame collaboration as the exception, not the norm, and hold that equal collaboration hinges on equal *original* contribution, a contribution implied to be strictly "of the mind."

The myth of film composer as mind and sole author not only has consequences for representation but is also an inaccurate view of how musical sound comes to exist in a film and, as I will argue later, misses much of what is most impactful about film music. A 2014 survey by statistician Stephen Follows found that the average size of the music

[19] "93rd Academy Awards Rule Fifteen Special Rules for the Music Awards," https://www.oscars.org/sites/oscars/files/93aa_music_rule.pdf, accessed April 4, 2021.
[20] Ibid.

department in top Hollywood films from the past three decades was 20 people.[21] Comparing film end credits with lists of musical contributors on IMDB (the International Movie Database) is an eye-opening exercise because the latter frequently lists performers where the former often does not. The year after *Gladiator*'s composer conundrum, *Harry Potter and the Sorcerer's Stone* (2001), scored by John Williams, listed 7 people with music-related tasks in the end credits while IMDB lists 34. In 2013, Ennio Morricone himself is listed as the only musician in the end credits for *The Hateful Eight* while IMDB lists a music department of 11 people. Hans Zimmer's score for *Interstellar* the following year listed 20 musicians in the end credits and IMDB lists 63. What these numbers illustrate is that culturally, the bodies performing the labor of film music are tucked invisibly behind the mind of the composer.

In addition, many film scoring practices heavily involve improvisation and experimentation in a collaborative process. Lisa Gerrard, for example, described a typical collaborative session with Hans Zimmer on the music for *Gladiator*:

> For instance, with the Crucifixion or the Family piece that we did, I was in the room with [director Ridley Scott]. Hans and I had written this piece; we'd spent five days improvising before we started writing anything with the film. I sat on a chair singing, and he sat at the keyboards, and he was fiddling around, fumbling all over the place and I was fumbling all over the place; we came up with some really stunning things, it was amazing.[22]

Numerous other film composers centralize improvisation, experimentation, and collaboration. Thomas Newman, for example, regularly improvises with a core group of musicians.[23] In many of Newman's scores, we can hear George Budd playing his Budd

[21]Stephen Follows, "How many people work on a Hollywood film?" *Stephen Follows Film and Data Educator*, February 24, 2014, https://stephenfollows.com/how-many-people-work-on-a-hollywood-film/.
[22] Wilcox, "The Passion We Don't Understand" 53.
[23] See Adam Schoenberg, "Finding Newman" PhD diss, Julliard, 2010; and Chelsea Oden, "Reflection and Introspection in the Film Scores of Thomas Newman," MA Thesis, University of Oregon, 2016.

Box, Rick Cox playing electric guitar with glass or other materials, or Chas Smith playing his Guitarzilla. Most of these performing musicians are also sound designers and instrument designers, contributing as crucially to the creative process as Newman himself. It seems no coincidence that Newman is the most nominated living film composer yet to receive an Oscar. The atmospheric, textural, and timbral scores that result from this improvisational process draw enough attention for nomination, but don't fit the bold, pitch-focused theme scoring so commonly celebrated as the result of a sole author.[24] Collaboration, improvisation, and the labor of musical bodies are messier, more dynamic, and less Beethovenian.

How music lives in a film is also the result of larger departmental collaboration. The very aesthetic that came to define the 2019 *Joker* film in popular culture was itself the result of music-dance improvisation. Dancer/actor Joaquin Phoenix improvised character Arthur Fleck's widely imitated bathroom dance to Hildur Guðnadóttir's somber, sinewy cello. Of the iconic bathroom dance scene, composer-cellist Guðnadóttir said:

> It was so magical to see that [Phoenix] was basically experiencing the same movements I had experienced when I was writing the music.[25]

Guðnadóttir does not describe composition as an act of the mind alone, but as a process that deeply involves the moving body. Film music theorist Jessica Shine has discussed the Joker's corporeality in relation to Guðnadóttir's music in detail. Shine's paper, "He

[24] In a similar way, the Academy prioritized Zimmer's bold, "blockbustery anthems" for *Gladiator* over Gerrard's "emotional" music for death. See Wilcox, "The Passion We Don't Understand."
[25] Bill Desowitz, "'Joker': How Joaquin Phoenix Found His Muse with the 'Bathroom Dance' Musical Theme," *Indie Wire*, October 4, 2019, https://www.indiewire.com/2019/10/joker-joaquin-phoenix-the-bathroom-dance-musical-theme-1202178602/.

has music in him," takes its title from director Todd Philips' description of the Joker character:

> When I first met Joaquin I told him Arthur is one of those people who has music in him. Music and dance became a theme in the film.[26]

Shine describes the film as "deeply musical" and writes:

> Its protagonist engages with both Hildur Guðnadóttir's composed score and its compilation soundtrack, giving physical from to [the Joker character's] metamorphosis.[27]

When we think of film music as an abstract product of a composer's mind, we miss this visceral richness. We miss the music in the film's body as well as our own.

Despite the prevalence of improvisation, experimentation, and collaboration in the process of film music, and the visceral nature of experiencing music in a film, film music fans, too, perpetuate the Beethoven paradigm. An illustrative 2011 review on Amazon.com of John Williams' Greatest Hits gushes:

> The music of John Williams is truly inspirational and moving. […] His music is amazing. This CD comprises his best, and in my opinion he is the best there ever is, and ever will be. As someone once said to me, 'Hans Zimmer is a musician. John Williams is a musical genius![28]

The reviewer speaks of the immortality of John Williams and his music. The reviewer also contrasts a musical genius with a musician. We are left to infer that a musical genius is more valuable, a *thinker* of music, and a musician is a mere *doer* of music. The paradigm also persists in fan dialogue about film composers today. A 2019 review of

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[26] Zack Sharf, "'Joker': Here's the Original Bathroom Scene Joaquin Phoenix Threw Out With His Improvisation," *Indie Wire*, October 10, 2019, https://www.indiewire.com/2019/10/joker-bathroom-dance-todd-phillips-cut-scene-1202180584/.

[27] Jessica Shine, "'He has music in him' – Musical Moments and Corporeality in *Joker* (2019)," abstract for paper given at Music and the Moving Image Sunday, May 31, 2020, https://steinhardt.nyu.edu/sites/default/files/2020-12/MaMI%20Abstracts%205_26_20_v5.pdf, 42-43.

[28] John, "Extraordinary!" customer review of "John Williams – Greatest Hits 1969-1999," August 15, 2011, https://www.amazon.com/gp/customerreviews/R2PYY634QUK2BD/ref=cm_cr_getr_d_rvw_ttl?ie=UTF8&ASIN=B00002MZ4V.

Hans Zimmer's soundtrack for *Interstellar* (2014) titles itself "A pipe organ in space is genius" and says the following:

> This soundtrack stands on its own as a uniquely singular contribution[.] […] Zimmer is also a master of the constant quarter-note ticking in the background, used to great effect in "Inception" and present here, too. It's genius to use that in space[.][29]

The terms "genius," "master,"[30] and "uniquely" place Zimmer and his music on an untouchable and immortal pedestal, his greatness bound up in his originality and borne of bodiless thought.

So intense and real is the gendering of the genius film composer that on the first page of Amazon reviews for Hildur Guðnadóttir's historic 2019 soundtrack for *Joker*, the word "genius" never appears. The top review, titled "Try not to compare…" doesn't even mention Guðnadóttir's name, instead referencing Batman universe predecessors:

> Danny Elfman's Batman 1989 is a classic which never fails to get me pumped and to call it iconic is an understatement. Nearly 20 years later we were given Hans Zimmer's interpretation of the Joker with the manic-pitched score for The Dark Knight 2008. Both films were tonally apples to oranges, as were their Jokers, so were their scores; as they should have been. The Joker 2019 is a film full of grit, violence, and a grey and grim story. I feel the score captures this tone perfectly. The strings are somber, the music swells to intensity when it needs to, but mostly keeps to a minimal.[31]

[29] Meg North, "A pipe organ in space is genius," customer review of "Interstellar / O.S.T." August 25, 2019, https://www.amazon.com/product-reviews/B00OTB14SI/ref=acr_dp_hist_5?ie=UTF8&filterByStar=five_star&reviewerType=all_reviews#reviews-filter-bar

[30] See Phillip Ewell's discussion of these terms in "Beethoven was an Above Average Composer—Let's Leave It At That," *Music Theory's White Racial Frame: Confronting Racism and Sexism in American Music Theory*, April 24, 2020, https://musictheoryswhiteracialframe.wordpress.com/2020/04/24/beethoven-was-an-above-average-composer-lets-leave-it-at-that/.

[31] Lauren Azurey, "Try not to compare…" customer review of "Joker (Original Motion Picture Soundtrack)" October 5, 2019, https://www.amazon.com/gp/customer-reviews/R2THJZS2F1RJLE/ref=cm_cr_dp_d_rvw_ttl?ie=UTF8&ASIN=B07YMGJL58.

In this excerpt, Guðnadóttir is erased while Danny Elfman and Hans Zimmer are immortalized. The body that moved the somber strings, that *moved* the dancing body of the culturally iconic 2019 *Joker* protagonist, has no name.

The popular press, too, refers constantly back to Beethoven as a muse in the discussion of film music. A 2002 article from *The Guardian* offers a pertinent example:

> You might expect John Williams to be a tortured soul. The world's most successful writer of film scores, he also produces occasional concert pieces. So is he a frustrated Beethoven forced to earn a living in a battery-hen world?[32]

In 2021, Classic FM's webpage on John Williams continues to uphold a popular Beethovenian perspective of the composer. Williams' "Biography" caption reads:

> John Williams (1932-present) is the most prolific and widely honoured living composer of film music and the most Oscar-nominated man alive.[33]

Beneath that, notable featured pages include "The John Williams guide to writing epic film music that will last forever," and "Star Wars 'Imperial March' in the style of Beethoven sounds momentous and sad." Especially striking is the adjacent article, "Pianist instantly transforms John William's Harry Potter theme into epic Baroque…" picturing Gabriela Montero at the keyboard (see Figure 2). Next to John Williams and Harry Potter, Montero—the *doer* of the music—goes nameless in the article's title. Notably the web address for the article itself articulates her status: Williams/harry-potter-theme-gabriela-montero.[34]

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[32] "The force is with him," *The Guardian*, February 3, 2002, https://www.theguardian.com/film/2002/feb/04/artsfeatures.
[33] "John Williams (1932-present)," *Classic FM*, https://www.classicfm.com/composers/williams/, accessed May 5, 2021.
[34] Kyle Macdonald, "Pianist instantly transforms John Williams' Harry Potter theme into epic Baroque counterpoint," *Classic FM*, April 17, 2021, https://www.classicfm.com/composers/williams/harry-potter-theme-gabriela-montero-piano-improvisation/.

Fig. **2** Screenshot of content on John Williams' Classic FM May 2021 webpage[35]

Scholarly work on film music has fared little better in escaping the Beethoven paradigm and mind/body problem. In addition to issues of representation (*whose* work do we analyze? *whose* theories do we use?), among the most prevalent results of these frameworks is pitch bias. Pitch bias is the preference to focus on pitches, themes, harmonies, melodies, more than other musical parameters such as dynamics, tone color, articulation, sociocultural context, temporal organization, etc. Pitch is a deeply meaningful musical parameter. Rich discussions about theme types,[36] leitmotifs,[37] large

[35] Image from https://www.classicfm.com/composers/williams/, May 2021.
[36] Mark Richards, "Film Music Themes: Analysis and Corpus Study," *Music Theory Online* 22, no. 1 (March 2016).
[37] See Matthew Bribitzer-Stull, *Understanding the Leitmotif: From Wagner to Hollywood Film Music* (Cambridge: Cambridge University Press, 2014); Melinda Eschenfelder, "Musical Narratives: Thematic Combination and Alignment in Fantasy and Superhero Films," MA thesis, University of Oregon, 2019; and Frank Lehman, *Complete Catalogue of the Musical Themes of Star Wars, Compiled by Frank Lehman*, (2021), https://www.academia.edu/33487589/Complete_Catalogue_of_the_Musical_Themes_of_Star_Wars_Compiled_by_Frank_Lehman.

scale tonal organization,[38] and harmonic progressions[39] all shed light on some of the coolest aspects of music in film. The role of melody in memory, too, is among the most powerful capacities of musical sound, both within film and beyond it.[40] But consider also how pitch bias isolates the body. A pitch is a set frequency, a vibration, a rate at which a body moves. *Which* body moves to produce the frequency is inconsequential. The note A 440 is an A whether I sing it, you sing it, or someone plays it on a guitar. A pitch, in other words, is a frequency whose body doesn't matter.[41] When we focus entirely on pitch, we ignore the bodies and materials that create and perceive musical sounds. We ignore what gives sound life.

Similar issues exist in other structures of the film industry as well as the dance world. Film directors—*thinkers*—are often described as bodiless visionaries who are the true mind behind a film. This is the central premise of auteur theory, which took root in the middle of the 1900s in the work of the film theorists André Bazin, Alexandre Astruc, and François Truffaut. Critics of auteur theory have argued several of the same points

[38] See Táhirih Motazedian, "To Key or Not to Key: Tonal Design in Film Music," PhD diss., Yale University, 2016; and David Neumeyer, "Tonal Design and Narrative in Film Music: Bernard Herrmann's A Portrait of Hitch and The Trouble With Harry," *Indiana Theory Review* 19 (Spring/Fall 1998), 87-123, https://www.jstor.org/stable/24044540.

[39] See Frank Lehman, *Hollywood Harmony: Musical Wonder and the Sound of Cinema* (New York: Oxford University Press, 2018) and "Hollywood Cadences," *Music Theory Online* 19, no 4 (December 2013), https://mtosmt.org/issues/mto.13.19.4/mto.13.19.4.lehman.html; and Scott Murphy "The Major Tritone Progression in Recent Hollywood Science Fiction," *Music Theory Online* 12, no. 2 (May 2006), https://mtosmt.org/issues/mto.06.12.2/mto.06.12.2.murphy.html.

[40] See Wanda T. Wallace, "Memory for music: Effect of melody on recall of text," *Journal of Experimental Psychology: Learning, Memory, and Cognition* 20, no. 6 (November 1994), 1471-1485; Judy Plantinga and Laurel J. Trainor, "Memory for melody: Infants use a relative pitch code" *Cognition* 98, no. 1 (November 2005) 1-11; Lola L. Cuddy, et al., "Memory for melodies and lyrics in Alzheimer's disease," *Music Perception* 29, no. 5 (2012), 479-491.

[41] Consider also, that separating sound from body (conceptually or actually) is something afforded from a position of privilege—sounds are not naturally separate from bodies, it takes technology and time to separate them or conceive of them as separate. Separating sound from body also allows the labor of producing the sound to be concealed from the listener, much like low class labor is annexed from the vision of high-class spaces.

raised against the Beethoven paradigm here. Film critic and theorist Pauline Kael is among many who criticized the masculine gendering of the auteur.[42] It is widely recognized that this gendering is not merely metaphorical but has material consequences. A recent study by the USC Annenberg Inclusion Initiative and the Time's Up Foundation found that 75% of narrative film directors at the top five film festivals worldwide from 2017 to 2019 were white men, outnumbering women 3:1.[43] White directors also outnumbered underrepresented directors at a nearly 2:1 ratio.[44] These ratios become more stark when focusing on the top-grossing domestic films: only 7% of directors on 2016's 250 top-grossing U.S. films were women, a ratio of more than 10:1.[45] Asserting that the collaborative nature of film is in conflict with notions of a single author, film historian Aljean Harmetz has written that such a theory "collapses against the reality of the studio system."[46] In the same words, Harmetz could just as easily have described the Beethoven paradigm's relationship to film music.

Men are also more likely to be behind the camera, framing the presentation of women's bodies. In 2020, only 6% of cinematographers on the 250 top-grossing U.S. films were women.[47] The statistic is comparable to the number of women composers on the 250 top-grossing U.S. films the same year: 5%.[48] Theorizing the masculine framing of women in film, Laura Mulvey wrote pivotally in the 1970s about "the male gaze." In

[42] See Pauline Kael, "Circles and Squares," *Film Quarterly* 16, no. 3 (Spring 1963), 13.
[43] USC Annenberg Inclusion Initiative and Time's Up Foundation, "Inclusion at Film Festivals: Examining the Gender and Race/Ethnicity of Narrative Directors from 2017-2019" (2020).
[44] Ibid.
[45] Gregg Kilday, "Study: Female Filmmakers Lost Ground in 2016," *The Hollywood Reporter*, January 12, 2017, https://www.hollywoodreporter.com/news/general-news/women-filmmakers-2016-statistics-show-female-directors-declined-number-963729/.
[46] Aljean Harmetz, *Round Up the Usual Suspects*, (Westport: Hyperion, 1992), 29.
[47] Martha M. Lauzen, "The Celluloid Ceiling: Behind-the-Scenes Employment of Women on the Top U.S. Films of 2020" *2020 Celluloid Ceiling*, (2021).
[48] Ibid.

language that parallels descriptions of performers being vessels for Beethoven's unfettered genius, Mulvey says:

> Woman then stands in patriarchal culture as a signifier for the male other, bound by a symbolic order in which man can live out his fantasies and obsessions through linguistic command by imposing them on the silent image of woman still tied to her place as bearer, not maker, of meaning.[49]

Beethoven is the mind behind the camera, and the violinist and wretched fiddle are the woman in front of it, bodies to serve his genius.

Choreographers—*thinkers*—are also disproportionately men at the highest professional levels, while the *doing* of dance is frequently feminized. This is especially apparent in ballet—a European art form embodying the values of its origins. As dance scholar Susan Manning writes, drawing on the theory of the male gaze:

> The sexual division of labor […] defined choreography as a male task and performance as a female task. […] Nineteenth-century ballet provided a textbook demonstration of the male gaze.[50]

In the 1970s, around the same time Mulvey was writing about the male gaze in cinema, a study of dance grants from the National Endowment for the Arts and the New York State Council of the Arts showed that while 55% of company members considered for grants were women, 73% of grant recipients were men.[51] Every grant of $70,000 or more went to a man. A study nearly 20 years later found that men choreographers made twice as

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[49] Laura Mulvey, "Visual Pleasure and Narrative Cinema" in *Visual and Other Pleasures. Language, Discourse, Society* (London: Palgrave Macmillan, 1989), 14-28, https://doi.org/10.1007/978-1-349-19798-9_3, 15.

[50] Susan Manning, *Ecstasy and the Demon: Feminism and Nationalism in the Dances of Mary Wigman* (Berkeley: University of California Press, 1993), 1.

[51] Wendy Perron and Stephanie Woodard, "When a Woman Dances, Nobody Cares," *Village Voice: Voice Dance* special edition (March 1, 1976), 59. See also Judith Lynne Hanna, "Patterns of Dominance: Men, Women, and Homosexuality in Dance," *The Drama Review: TDR* 31, no. 1 (Spring, 1987), 42.

much income as women choreographers.[52] In a ratio akin to the grant recipients, a recent study by the Dance Data Project that analyzes choreographer gender distribution for works programmed by the 50 largest U.S. ballet companies found that 72% of the choreographers in the 2019-2020 season were men.[53] These studies illustrate that choreographer-as-masculine-thinker and dancer-as-feminine-performer are not merely metaphorical, but active forces shaping the dance industry.

Discussing the impact of this gendered mind/body division in the UK in the early 2010's, dance critic Luke Jennings described choreographer representation:

> It's 14 years since a woman was commissioned to create a main-stage ballet at the Royal Opera House. […] At the flagship institution of British dance, the omission has escaped public notice. As it did last summer when the Royal Ballet and the National Gallery launched a collaboration named *Metamorphosis: Titian 2012*. Of the 15 artists and choreographers involved, none was a woman. An ironic decision, given that the subject was the goddess Diana, the personification of feminine power.[54]

That men were chosen exclusively as the artists and choreographers involved in the 2012 production dedicated to Diana draws an interesting parallel with the celebrated 2017 film *Wonder Woman*, whose protagonist (played by Gal Gadot) is the same goddess. The film was historic and groundbreaking both in its portrayal of a woman superhero and for the firsts director Patty Jenkins achieved for women film directors: *Wonder Woman* became the highest-grossing opening for a woman director in the U.S., and the highest-grossing live-action film directed by a woman worldwide.[55] Unfortunately, such a groundbreaking

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[52] Ellen Parker and Dick Netzer, *Dancemakers,* (Washington, DC: National Endowment for the Arts, 1993), 68.
[53] Isabelle Vail, "2019-2020 Season Overview" The Dance Data Project., 2020.
[54] Luke Jennings, "Sexism in dance: where are all the female choreographers?" *The Guardian*, https://www.theguardian.com/stage/2013/apr/28/women-choreographers-glass-ceiling, April 28, 2013.
[55] Anita Busch and Anthony d'Alessandro, "Patty Jenkins in Final Negotiations on Historic Deal to Helm 'Wonder Woman 2'" *Deadline,* August 17, 2017, https://deadline.com/2017/08/patty-jenkins-highest-payday-female-director-historic-deal-wonder-woman-2-1202151303/.

film also maintained many of the gendered divisions of labor in other film-making roles: the screenwriters, the cinematographer, and the composer were all men.

Perhaps the clearest example of the mind/body problem acting with double standards in the film industry is the case of the film choreographer. On one hand, choreography in film has long been dominated by white men who are celebrated as geniuses for shaping the bodies and movements of women dancers.[56] On the other hand, the Academy has no award category for film choreography, reflecting the association of choreographic work with the body. That the Academy Awards has given so little attention to choreographers is the subject of Claire Ross's recent honors thesis, "The Lack of Recognition for the Film Choreographer in Hollywood."[57] Though Ross doesn't draw on the mind/body problem as a source of film choreographers' invisibility, Ross's interviews with several film choreographers point to its presence. Ross notes that every participant had something to say about "helping capture the vision of the choreography through the camera."[58] Jennifer Hamilton, for example, described the film choreographer's role as highly collaborative:

> You're talking to other departments to make sure that your piece works. You're talking with costumes to make sure the movement works with the costumes. You're making sure the dancers have the right footing and the right flooring so that dancers can achieve your vision with the director's vision.[59]

[56] See Amy Weintraub, "Reel Men Do Dance: Choreography, Masculinity, and the American Film Musical," research thesis, Vassar College, 2011.
[57] June 2020, Pace University, Pforzheimer Honors College.
[58] Ibid, 22.
[59] Ibid, 24.

Kathryn Burns, likewise, mentions "speaking the counts loudly, or helping educate the camera operators on the dance."[60] Dominque Kelley echoes this, saying that "the director may not know how to shoot dance."[61] Hamilton says further:

> You are creating the camera shots with the director, if not on your own. […] You're definitely the expert in the vocabulary of movement.[62]

In short, the film choreographer often performs the same tasks as the director yet gets absorbed into the invisible body of the mind/body problem while the director's visible mind receives the Academy's most esteemed recognition.

It is further worth noting the power of the body in in film choreography to challenge the problematic mind/body framework in film, music, and dance. The moving body's material forces the acknowledgement of real, overlapping connections: the camera needs to move with the dance,[63] the dancer needs to move in a particular environment, dancer's movement and costuming need to accommodate one another, just as the music and choreography must accommodate one another. Although the Beethoven paradigm and auteur theory would have it otherwise, the overlapping artistic spaces of film, music, and dance are anything but bodiless.

In music, film, and dance, the mind/body problem contributes to issues of representation and biased theories and practices. This long and deeply entrenched history

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[60] Ibid.
[61] Ibid.
[62] Ibid; see also Margaret Gleason, "Dancing Madly, Madly: The Story of Space, Movement, and Music in Meredith Willson's *The Music Man*," paper given at Music and the Moving Image, NYU Steinhardt / Virtual, May 29, 2021.
[63] See also Sherril Dodds, *Dance on Screen: Genres and Media from Hollywood to Experimental Art* (New York: Palgrave Macmillan, 2001); Douglas Rosenberg, *Screendance: Inscribing the Ephemeral Image*, (Oxford: Oxford University Press, 2012); *The Oxford Handbook of Dance and the Popular Screen*, ed. Melissa Blanco Borelli (New York: Oxford University Press, 2014); and *The Oxford Handbook of Screendance Studies*, ed. Douglas Rosenberg (New York: Oxford University Press, 2016).

will not be undone easily, and certainly not in the pages of this dissertation. But I believe that a piece of undoing it is learning to listen to musical sound more fully, to hear it not merely as idea but also as a physically living and moving thing. To do that, we need to leave Beethoven and his paradigm behind. As music theorist Phillip Ewell recently wrote, "Beethoven was an above average composer—let's leave it at that."[64]

Solutions

Various scholarly works, movements, and impulses have offered solutions to the mind/body problem. The ones that have most shaped this dissertation are new material feminism, musical embodiment, embodiment in cinema, kinesthetic empathy, and timbre studies.

New material feminism addresses the mind/body problem by challenging not only the separation of the body from the mind, but also the dismissal of bodies and materials as passive objects. Describing foundational aspects of new material feminism, Karen Barad wrote in 2003:

> Material conditions matter, not because they "support" particular discourses that [generate] the formation of bodies but rather because *matter comes to matter* through the iterative intra-activity of the world in its becoming. […] All bodies, not merely "human" bodies, come to matter through the world's iterative intra-activity. […] This is true not only of the surface or contours of the body but also of the body in the fullness of its physicality. […] Bodies are not objects with inherent boundaries and properties; they are material-discursive phenomena. […] Matter is not a fixed essence; rather, matter is substance in its intra-active becoming—not a thing but a doing. […] We do not obtain knowledge by standing outside of the world; we know because "we" are *of* the world.[65] (italics original).

[64] Philip Ewell, "Beethoven Was an Above Average Composer."
[65] Karen Barad, "Posthumanist Performativity: Toward an Understanding of How Matter Comes to Matter," *Signs: Journal of Women in Culture and Society* 28, no. 3 (2003), 823.

Barad connects knowledge with bodily experience and describes matter and bodies as active, dynamic forces rather than passive recipients of ideas. We might imagine Barad explaining this theory to Beethoven:

> "Yes, Ludwig, the first violinist and their wretched fiddle *do matter*, very, very much. In fact, it is as much the violin and its strings and the violinist's calluses on their fingers that give your music life."

When I first came across new materialism, I was fascinated by its vivification of materials and by the desire to see dynamics and relationships in the world more than fixed objects. It deepened the way I thought about and experienced music, film, and dance. Music was not a passive sound and I was not a passive listener. Film, too, was not something I watched, but something I lived in and changed with. Dance was not merely my own motion, but the possibilities of motion at any given moment, a dialogue with other bodies and materials that was dynamic and fluid. Neither were music, film, and dance separate from one another. They elided in my own experiences of music and motion.

I would argue that some of the coolest theories of musical embodiment resonate with new materialism's assertion that materials actively and collaboratively shape our world. One such theory that struck me most is Arnie Cox's mimetic hypothesis. Of Cox's 20 principles that form the mimetic hypothesis, two especially stick with me:

> Principle 1: Sounds are produced by physical events; sounds indicate the physicality of their source.
>
> Principle 11: Any and all acoustic features can or will be mimetically represented: pitch, duration, timbre, strength (acoustic intensity, or "volume"), and location.[66]

[66] Arnie Cox, *Music and Embodied Cognition: Listening, Moving, Feeling, and Thinking* (Bloomington: Indiana University Press, 2016), 13-14.

Principle 1 could come to a full stop at the semicolon and still have a profound impact on the way I recognize my experience of musical sound. "Sounds are produced by physical events" is not merely a fact, but a relationship: sound is always attached to a doing. That "sounds indicate the physicality of their source" further underlines this doing: when we listen to musical sound, we are listening to physics, bodies, environments, and materials. Musical sound is never physically isolated, and I find that powerful and beautiful.

Principle 11 also describes the experience of musical sound as a relationship. It sticks with me because the relationship it describes involves the collision of my body and the music's body. "All acoustic features [of music] can or will be represented mimetically" means that however the music lives "outside" my body, it will also merge with my body, finding its way through mirror neurons to my calf muscles or diaphragm or spine or fingertips. The sound's body—its tone color, length, strength, loudness, and direction—has a shadow in mine. I am never physically isolated from musical sound.[67]

Like embodied theories of music, embodied theories of cinema challenge the mind/body problem by centering bodily knowledge and experience. In "What My Fingers Knew: The Cinesthetic Subject, or Vision in the Flesh," Vivian Sobchack describes cinematic embodiment in language that echoes new materialism:

> The film experience—on both sides of the screen—mobilizes, confuses, reflectively differentiates, yet experientially unites lived bodies and language, and foregrounds the reciprocity and reversibility of sensible matter and sensual meaning. Our fingers, our skin and nose and lips and tongue and stomach and all the other parts of us understand what we see in the film experience.[68]

[67] See Nicholas Cook, "Seeing Sound, Hearing the Body: Glenn Gould Plays Webern's Piano Variations," in *The Oxford Handbook of Sound and Image in Western Art*, ed. Yael Kaduri (New York: Oxford University Press, 2016), 124-137, 134.
[68] Vivian Sobchack, "What My Fingers Knew: The Cinesthetic Subject, or, Vision in the Flesh," *Carnal Thoughts, Embodiment and Moving Image Culture* (Berkeley: University of California Press, 2004), 93.

In arguing that our sensible matter actively understands film, Sobchack confronts the mind/body dualism while acknowledging the agency of materials. Over the course of the chapter, Sobchack explores visceral experience in Jane Campion's 1993 film *The Piano.* I find it exciting and fascinating that Sobchack chose such a musically rich film—both in its soundtrack and its visual depiction of musical practices—to explore the subject of "vision in the flesh." A moment Sobchack describes in *The Piano* is emblazoned in my own fingers and adrenal glands. The film's main character, Ada (Holly Hunter), is a mute pianist who often expresses herself through her instrument. In perhaps the film's most gut-wrenching scene, her husband, Stewart, chops off one of Ada's fingers. Sobchack writes:

> Watching *The Piano,* for example, because I might feel it to intensely on both my body and hers (both bodies to a degree, "mine"), I could not literally bear to see Stewart figurally chop off Ada's finger with an ax. I therefore not only cringed in my seat but also covered my eyes with fingers that again foresaw—in urgency rather than thought—the impending violation.[69]

I would add that the particular tactility of musical sound in cinema (and the piano specifically as I will argue in Chapter IV) is a crucial layer of how intensely disturbing it is to see Ada's finger severed from her hand. This moment is hard to watch, in part, because my fingers have spent a long time dancing with Ada's fingers on the keys of her piano.

Connecting Sobchack's theory of the "cinesthetic subject" with Danijela Kulezic-Wilson's theories of film musicality further explains my/Ada's sensitive musical fingers.

[69] Ibid, 59.

Combining the words "kinesthetic" and "cinematic," Sobchack defines the "cinesthetic subject" as follows:

> As cinesthetic subjects, then, we possess an embodied intelligence that opens our eyes far beyond their discrete capacity for vision, opens the film far beyond its visible containment by the screen, and opens language to a reflective knowledge of its carnal origins and limits. This is what, without a thought, my fingers know at the movies.[70]

Centering musical sound in film's visceral experience and theorizing film itself as musical (whether it contains music or not), Kulezic-Wilson writes:

> As practice always displays but theory rarely acknowledges, sound and music provide distinctive and certainly the most visceral aspects of film's kinesis, which are indispensable in film's pursuit of musicality.[71]

Kulezic-Wilson tells us that embodied musical experience brings its tactility and motion (kinesis) into the film with as much physical and musical meaning as non-musical sounds. Music theorist Juan Chattah also underlines the crucial embodied impact of musical sound in film. He writes:

> It is primarily through embodiment, a hardwired process grounded in our physiology and cognition, that music functions phenomenologically within film. Embodiment mediates signification, enabling the music to guide the audience's attention toward particular visual events, […] to trigger a myriad of bodily states.[72]

Together these theories offer that through overlapping embodied experiences of film and musical sound, my/Ada's finger is not "only" severed, but also stilled and silenced, cleaved from the tactile and kinesthetic music that I know lives in it.

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[70] Ibid.
[71] Danijela Kulezic-Wilson, "Music and Film Kinesis," *The Musicality of Narrative Film* (New York: Palgrave MacMillan, 2015), 78.
[72] Juan Chattah, "Film Music as Embodiment" in *Embodied Cognition and Cinema*, ed. Maarten Coëgnarts and Peter Kravanja, (Leuven: Leuven University Press, 2015), 81.

Kinesthetic empathy, an intersecting concept prominent in dance scholarship, echoes the theories of new materialism, musical embodiment, and embodied spectatorship discussed above. It holds that as we watch dance, we imagine *in our bodies* what it would be like to perform the dance we are watching. Kinesthetic empathy is the reason that, sitting in the audience, I catch myself tensing my calves along with the dancer on stage. It is also why, in a film, I hold my breath with characters trapped beneath water. I like dance scholar Anne Daly's take on kinesthetic empathy the best:

> Dance, although it has a visual component, is fundamentally a kinesthetic art whose apperception is grounded not just in the eye but in the entire body.[73]

It is not that Daly deemphasizes vision that draws me to this quote, but that the quote is translatable to both film and music from an embodied perspective. With Sobchack's cinesthetic subject and Kulezic-Wilson's visceral musicality of film in tow, I might alter it to say:

> "Film, although it has a visual component, is fundamentally a kinesthetic art whose apperception is grounded not just in the eye but in the entire body."

Or, through the lens of Chattah's embodied film music and Cox's mimetic hypothesis:

> "Music, although it has an aural component, is fundamentally a kinesthetic art whose apperception is grounded not just in the ear but in the entire body."[74]

That Daly's description is translatable does not mean that it is generic. Rather, to me, it shows that the dancing body is more than a metaphor for film or music because it is *in the body* that film, music, and dance overlap.

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[73] Ann Daly, "Dance History and Feminist Theory: Reconsidering Isadora Duncan and the Male Gaze" in *Gender and Performance: The Presentation of Difference in the Performing Arts*¸ ed. Laurence Senelick (Hanover: Tufts University/University Press of New England, 1992), 234.
[74] See again, Cook, "Seeing Sound, Hearing the Body," 134.

My refrain that there is a body in the sound takes its final piece from timbre studies. Musical timbre, or tone color, is often defined as the quality of a musical sound. Timbre is what makes one voice or instrument sound different from another. The sound of a kazoo, for example, has a different timbre than the sound of an accordion. Although timbre is such a fundamental characteristic of musical sound, it is famously difficult to describe. To illustrate this, imagine that you and I were to play a guessing game and you were tasked with describing the sound of an accordion to me *without* referencing its physical origins (naming the instrument, how it's played, its materials, other instruments it sounds similar to, or imitating its sound) and *without* referencing culturally influenced perceptions of the instrument (where it's played, in what styles or genres). What words would you use to describe its sound to me? Perhaps you would think of words like "hollow" or "nasally." Maybe "bright" or "sustained." But these adjectives could just as easily describe the sound of a clarinet as that of an accordion. This absence of consistent, specific language to describe sound quality is a key piece of Cornelia Fales' foundational theory, the "paradox of timbre." Fales writes:

> To the general listener, […] pitch and loudness are things a sound does, timbre is what a sound is.[75]

In other words, we tend to talk about musical sounds not on their own terms, but by referencing the bodies that produce them. The sound of a piano *is* a piano. The sound of your voice *is* your voice. I think that new material feminists would be happy with this elision of sound and material because it embraces their interconnectedness. Music theorists and cognitive linguists, however, have been less satisfied. Because we tend to

[75] Cornelia Fales, "The Paradox of Timbre," *Ethnomusicology* 46, no. 1 (2002), 58.

talk about sounds in terms of source objects, we lack the vocabulary to categorize and communicate about sound qualities with the same kind of specificity, consistency, and clarity as other musical parameters like pitch and rhythm. I do not believe this gap is deserving of connotations of emptiness. Instead, I think it reveals that Western perspectives are used to objects more than relationships, to classifiable things rather than subjective experiences, and to words more than bodies.[76]

Fales' paradox of timbre goes further, theorizing that timbre is not merely an external phenomenon of sound in the world, but also a subjective experience, filtered through our own cultural lenses. This "filtering" of sound is a process Fales calls "perceptualization." The challenge of talking about timbre, then, is partly that we naturally connect sounds with physical sources, and partly that we each perceive aspects of sound subjectively. As timbre scholars Zachary Wallmark and Roger A. Kendall write:

> Timbre exists at the confluence of the physical and the perceptual, and due to inconsistencies between these frames, it is notoriously hard to describe.[77]

Despite timbre's notorious (and politically powerful) slipperiness, its acoustical properties *can* be measured and studied in more objective ways. All sounds are created by vibrational frequencies, and various combinations of frequencies influence sound quality. We can measure these frequencies with technology like the spectrograph to produce a spectrogram that visualizes sound. Spectrograms map the distribution of frequencies on the Y axis, changes in the sound over time on the X axis, and use colors to

[76] See also Isabella van Elferen, "Drastic Allure: Timbre Between the Sublime and the Grain," *Contemporary Music Review* 36, no. 6 (2017). van Elferen describes the paradoxical im/materiality of timbre.
[77] Zachary Wallmark and Roger A. Kendall, "Describing Sound: The Cognitive Linguistics of Timbre," in *The Oxford Handbook of Timbre*, ed. Emily Dolan and Alexander Rehding (New York: Oxford University Press, 2018).

represent the intensity or volume of each frequency present in the sound (see lower panel of Figure 3).[78] Spectrographs rely on a process called Fourier analysis to break a sound into its component frequencies. This process can also be used to generate a Fourier spectrum (upper panel of Figure 3), that is, a graph of the frequencies present in a sound at a given moment rather than over time. A Fourier spectrum is useful for visualizing frequency characteristics of sustained or stable sounds, like long tones on sustaining musical instruments. It is also useful for synthesizing musical instruments convincingly. The Fourier spectrum places frequency on the X axis and loudness on the Y axis, in effect zooming in on the spectrogram's Y axis and its colors at a particular moment. We can also use Fourier analysis to calculate a sound's spectral centroid. The spectral centroid is the mathematical mean of frequency distribution within a sound and is strongly correlated with sounds' perceived brightness.[79]

These tools and analyses work well for analyzing individual musical sounds. Megan Lavengood, for instance, proposes an excellent system of acoustically-backed analysis and vocabulary to approach the timbres of sounds commonly produced with the 1980's Yamaha DX7 synthesizer.[80] But these tools are not designed to approach musical sounds in context. When listening to a recording of a live performance, for instance, our brains can identify and isolate the sounds of drums, singers, guitars, and audience noise, but a spectrograph treats them all together. Likewise, music for a film inevitably collides

[78] A wonderful, free, interactive spectrograph useful for introducing the basics of spectrograms is currently available through the Chrome Music Lab and accessible at https://musiclab.chromeexperiments.com/Spectrogram/, accessed August 5, 2020.
[79] For more on recent technological developments and associated analyses and theories of timbre, see *Timbre: Acoustics, Perception, and Cognition*, ed. Kai Siedenburg, et al. (Cham: Springer, 2019).
[80] Megan Lavengood, "A New Approach to the Analysis of Timbre," PhD diss., The City University of New York, 2017.

with sound effects and dialogue that our brains do the incredible work of disentangling. As Fales argues, we do not hear sounds "as they are," but through this process of perceptualization. Timbre, as the overlap of physical and perceptual sound, invites new material feminism, theories of musical and cinematic embodiment, and kinesthetic empathy to the fore.

Fig. 3 Fourier spectrum plot (upper panel) and spectrogram (lower panel) of a square wave.[81]

Rebecca Leydon offers a model theorizing musical timbre's meaningful connection with material bodies that echoes these values. She writes:

[81] Image from Daniel Dixon, "What is Timbre in Music? Why Is It Important?" *Izotope*, https://www.izotope.com/en/learn/what-is-timbre-and-why-is-it-important.html, October 11, 2018.

> Timbre is […] a message transmitted by tangible things. […] The perception of timbre is the perception of *resonance*: it is the result of the superimposed resonant enclosures that form a sounding thing's physical structure. The audible evidence of a sounding body [is the result of] its materials as they distribute vibrational energy. […] Through our cognitive feats of perceptualization, we deduce the physical nature of the thing emitting the sound […] even when we cannot see or feel [the thing emitting the sound].[82] (italics original)

Leydon describes timbre in terms of materials and dynamic relationships. Timbre is resonance: a physical relationship between materials. Timbre is evidence of a *doing*: materials actively distributing *their* vibrational energy. Even when we cannot see or contact the sounding material, we can know its physicality because we hear *and feel* (I would argue) its sonic signature. In Leydon's writing on timbre as evidence of a sounding body, I read the timbral experience of sound as new materialism.

Leydon's next move is very cool. She sets up a basic scale of corporeality in musical sound. First, she posits that a sine wave, which has no overtones, is the furthest removed from our sinewy bodies. Stripped of the many complex frequencies that intersect to create the sound of an object in an environment, sine waves, and similarly "clean" timbres, seem bodiless. She writes:

> An isolated harmonic becomes quite literally *disembodied*. It is a sound that no longer bears any evidence of the physicality of its origins, since that evidence—resonances, formants, impedances—is only audible as a *spectral* feature, across a span of frequencies. […] Naturally, an isolated harmonic is still propagating through a medium (air, for example), but in a quite palpable sense it breaks free of a material source. […] Isolated harmonics reach us as evidence of non-corporeality.[83]

On the opposite end of Leydon's scale, then, is corporeality. She describes it this way:

[82] Rebecca Leydon, "Clean as a Whistle: Timbral Trajectories and the Modern Musical Sublime," *Music Theory Online* 18, no. 2 (June 2012), https://mtosmt.org/issues/mto.12.18.2/mto.12.18.2.leydon.html.
[83] Ibid.

> By the same logic, a musical sound characterized by inharmonic noise—respiratory and ingestatory sounds, buzzing, tapping, hissing—is absorbed back into its corporeal essence. […] A sound becomes incorrigibly fleshy, entangled in the sheer materiality of matter. We can therefore envision a range of different timbral effects implying varying degrees of corporeal presence: at one extreme, the emancipated harmonic; at the other, the quaggy materiality of inharmonic noise.[84]

While Leydon uses this model to analyze the collision of spirituality and corporeality in canonical contemporary instrumental music, it is powerfully adaptable to embodied readings of music in film. The sine-wave-like timbre of the Theremin, for instance, has come to reference extra-terrestrial beings or supernatural creatures as a staple of classic sci-fi. James Wierzbicki has written in detail about the embodied timbral significance of the Theremin, describing it as "the diegetic 'voice' of the alien entities" in 1950s science fiction films. Paralleling Leydon's spectrum of corporeality, Wierzbicki emphasizes the extraterrestrials' lack of "noise":

> The [extraterrestrial] robot in *The Day the Earth Stood Still* (1951) makes no noise, yet quivery music from a pair of theremins seems to represent its voice.[85]

The luminous voices paired with light spells, which I discuss in Chapter III, also sit in a meaningful position on Leydon's scale of corporeality. The voices are certainly the sounds of bodies, but these bodies vibrate in an ultimately resonant state, unincumbered by noise, and approaching a kind of ethereality, or rather "ether-reality": in the wave theory of light, an ether is a medium that permeates all spaces as it transmits waves.

Kinesthetic empathy in particular helps explain why timbre's corporeality is so powerful. In his dissertation, "Appraising Timbre: Embodiment and Affect at the

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[84] Ibid.
[85] James Wierzbicki, "Weird Vibrations: How the Theremin Gave Musical Voice to Hollywood's Extraterrestrial 'Others,'" *Journal of Popular Film and Television* 30, no. 3 (2002), 126, https://core.ac.uk/reader/212687598.

Threshold of Music and Noise," Zachary Wallmark translates kinesthetic empathy to our knowledge of sound, arguing that we perceive timbre not only through our bodies, but through our bodies' knowledge of how movement and materials produce sounds. He writes:

> I claim that timbre perception is a motor mimetic process; we covertly mirror the bodily actions implied in the production of timbre when we listen.[86]

This language parallels Cox's mimetic hypothesis, which too names timbre as a parameter we engage through motor mimetic processes.[87] Because this knowledge travels through our bodies, it is crucial to emphasize that the kinesthetic connection with timbre is more than imitative: it lives in us.

Though new material feminism, musical embodiment, embodiment in film, kinesthetic empathy, and timbre studies are each distinct and worlds in their own right, they also share considerable overlap. They challenge the mind/body problem by centering bodily ways of knowing. They treat bodies and materials as active forces in dynamic relationships, rather than as vessels for the abstract results of untouchable genius. And they draw together knowledge of sound and moving bodies through a kind of empathy, asking me to step into sound and motion through my own dynamic body.

Overview and New Contributions

Drawing from these many scholarly works, movements, and impulses, this dissertation proposes a collection of frameworks based on a central premise: there is a body in the sound, and in it, dance, music, and film overlap. Chapter II outlines a

[86] Zachary Wallmark, "Appraising Timbre: Embodiment and Affect at the Threshold of Music and Noise," PhD diss, University of California, Los Angeles, 2014.
[87] Cox, 13-14.

semiotic approach to the analysis of musical timbre in film scores. To my knowledge, no such theoretical framework is currently applied in film music theory. The chapter connects Peircean semiotics with foundational film theory concepts such as diegesis, Mickey-Mousing, and leittimbre, and offers a four-step analytical process adaptable for pedagogical purposes.

In Chapter III, I apply this method to the musical sounds of spell casts in the 8-film Harry Potter saga. I show that through each semiotic lens—index, icon, and symbol—musical timbre answers a question about magic-making in the Harry Potter cinematic universe. Through index, musical timbre answers the question *Where does magic come from?* Pairing this question with scholarship on diegesis shows that music and magic emanate from the same narrative *and physical* space—a space just beyond the everyday reach of the characters. Through icon, musical timbre answers the question *What does magic sound like?* Pairing this question with scholarship on embodiment and the cognitive linguistics of timbre, I analyze how music takes on the shapes of specific spells, assisting in making their impossible physics believable. Finally, through symbol, musical timbre answers the question *What does it mean to perform magic?* I discuss several layers of symbolism in spells' musical timbres, focusing primarily on how the meaning of magic changes over the course of the series. In the early films, spell sounds are sustained and musical, reflecting the awe and curiosity of wizards first learning how to perform magic. As political tensions escalate and the characters gain a more technical working knowledge of magic, the timbres of spell sounds become increasingly reflective of magic's utility.

In Chapter IV, I show how this method can intersect with the iconographic study of a single instrument, what I call the "cinematic piano." I offer evidence that the cinematic piano is a deeply tactile symbol, attracting dialogue about sensations of touch in cinema and embodied scholarship alike. I also examine how the camera tends to frame the instrument and I consider what this framing means about the ways people play a piano, and the ways people think a piano is played. Considering aspects of the cinematic piano's sociocultural meaning, I show that the instrument largely abides by nineteenth-century gender norms and is strongly associated with nineteenth-century ideals such as tragedy, transcendence, and nostalgia. In films set in the nineteenth century, such as *The Piano* (1993), *Little Women* (1994), and *Pride and Prejudice* (1940, 1995, 2003, 2005), the piano appears primarily with women pianists in domestic or social settings and secondarily with men pianists in displays of virtuosity, wealth, or power. Films set outside of the nineteenth century, such as *Groundhog Day* (1993), *The Pianist* (2002), *Road to Perdition* (2002), and *Dr. Strange* (2016), overwhelmingly present the piano in the hands of men pianists who continue to use the instrument to display achievement, virtuosity, wealth, and power. Regardless of period setting, the piano—as image and timbre—frequently accompanies scenes that feature Romantic ideals.

Chapter V outlines an approach to music-dance analysis and applies this method to two popular music-dance videos that responded to the 2016 Orlando Massacre. The Orlando Massacre claimed 49 lives at the Pulse gay bar and night club in the Orlando, Florida and is considered the deadliest hate crime against the queer community in the United States to date. In the weeks and months following the shooting, the music video for Sia's "The Greatest" (2016) topped charts internationally, and the dance video for X-

Ambassador's "Unsteady" (2016) accumulated hundreds of thousands of views on YouTube. These two case studies are noteworthy for the ways in which they unite music, dance, and film in a political critique of the violence. They are especially powerful because they reanimate the very sonic and visceral acts of living that were silenced in the shooting—people dancing to music together. In this chapter, I approach these case studies first by understanding the dancing body as a political force. I then propose a system of music-dance analysis that uses examples from "The Greatest" and "Unsteady" to explore the ways the body as a political force joins and politically amplifies music. To illustrate the significance of this amplification, I offer a thought experiment, "the three listenings," which considers how danced political messages remain vivid in music, and how this relationship can reflect back on specific events while also carrying into broader global dialogues. I close with a more focused analysis of "The Greatest" and "Unsteady" which includes YouTube viewer comments as one indicator of the videos' political impact.

Chapter VI focuses on how embodied aspects of musical timbre and meter fuse with other cinematic elements to make certain dance scenes feel flight-like. Expanding on the earlier chapters' embodied approach to timbre in film, and on the concept of music-dance centered in Chapter V, this chapter specifically develops a model of empathetic listening regarding timbral features of dance scenes. The chapter centers on the "Define Dancing" scene from *WALL-E* (2008) as a primary case study and includes briefer analyses of the planetarium scene from *La La Land* (2016), the dance between Rayla and Callum in *The Dragon Prince* (2019), and the dance between Yennefer and King Virfuril in *The Witcher* (2019). Together, these four scenes represent an important variety of contexts: live-action and animation, feature-length and episode-length, adult audiences

and child audiences, romance and politics. Two depict literal flight, and two imply flight more subtly. What links them all together is that they draw on overlapping embodied experiences of sound and motion to show characters dancing in a way that—whether the characters have literally left the ground or not—feels flight-like, weightless, and timeless.

Chapter VII, "Dance as Structure in Scenes that Move Me," then draws on the overlap of music and dance discussed in Chapter V and the musical and cinematic characteristics of dance scenes described in Chapter VI to analyze two moving scenes that are not about dance yet are undeniably dance-like. "Married Life" (by Michael Giacchino) from the beginning of *Up* (2009) and "Look What We Made" (which is underscored by The Cinematic Orchestra's "The Arrival of the Birds") from the end of *The Theory of Everything* (2014) are two powerful, minutes-long sequences that move me, not only because they tell the story of a life, but because they cast life as a dance. This chapter will explore the overlap of film, music, and dance to argue that even when dance is not present as the subject of the film, its embodied, musical, and cinematic dimensions can structure film.

CHAPTER II: A SEMIOTIC APPROACH TO TIMBRE IN FILM MUSIC

Introduction

Timbre scholars, dance scholars, and film scholars have long known that there is a body in sound. This chapter focuses on the relationship between embodiment, timbre, and film and lays out a semiotic framework for analyzing musical sound's many meanings in the context of film. Chapter III, "Fantastic Timbes and Where to Find Them," then uses this methodology to analyze spell casts in the Harry Potter film saga. It shows how musical sound crafts a magical, yet believable physics, and how musical sound reveals the changing significance of magic-making as the characters mature and face an ever-darkening world. Many of the concepts set forth in the present chapter also inform Chapter IV, "The Cinematic Piano," which focuses on the cultural meaning and audiovisual shape of the piano in popular film. Chapters V, VI, and VII then draw musical timbre and film together with music-dance studies. Chapter VI, "Dance as Flight," specifically develops a model of empathetic listening regarding timbral features of dance scenes. This model reappears in Chapter VII, "Dance as Structure in Scenes that Move Me," in the analysis of two montages that are not about dance yet are undeniably dance-like. In short, the present chapter provides an important introduction to timbre and embodied listening in film, establishing concepts and frameworks that are revisited in subsequent chapters.

What is Timbre and Why Haven't I Heard More About It?

When we, as music scholars, talk about timbre we are referring to the quality of a musical sound. Timbre is what makes an acoustic guitar sound different from a marimba, what makes your voice sound distinct from mine. *If timbre is such a foundational*

characteristic of musical sound, you might be wondering, *then why haven't I heard more about it?* Simply put, timbre is hard to talk about. Our struggle with talking about timbre is evident in the many mixed metaphors we use to describe it. The Vienna Symphonic Library's description of the sound characteristics of the Bb Clarinet provides an apt example:

> Rich, mellow, warm, gentle, melodic, vocal, round, lustrous, brilliant, bright, dark, menacing, dramatic, explosive, incisive, shrill, reedy, pale, lively[88]

Cross-modally,[89] these adjectives refer to luminance (lustrous, brilliant, bright, dark, pale), to temperature (warm), to shape (round), to movement (explosive, incisive, gentle, lively), to demeanor (mellow, menacing, dramatic), to taste (rich), and to mode of production (vocal, reedy). Only "shrill" and "melodic" sit in the modality of sound. And at that, "shrill" still draws on onomatopoeia (the use of a word that sounds like what it means), while "melodic" references, instead, notions of pitch and rhythm.

The absence of consistent language to describe timbre is the result of what musicologist Cornelia Fales has called the "paradox of timbre."[90] Fales writes: "To the general listener, […] pitch and loudness are things a sound does, timbre is what a sound is."[91] In other words, we tend to think of sounds in terms of the objects that produce

[88] "Clarinet (Bb)" *Vienna Symphonic Library*, https://www.vsl.co.at/en/Clarinet_in_Bb/Sound_Characteristics, accessed December 2020.
[89] See Wallmark and Kendall, "Describing Sound: The Cognitive Linguistics of Timbre"; and Zachary Wallmark, "A corpus analysis of timbre semantics in orchestration treatises," *Psychology of Music* 47, no. 4 (2019), 585-605.
[90] Fales, "The Paradox of Timbre."
[91] Ibid. 58.

them, rather than on their own terms. The sound of a clarinet *is* a clarinet. The sound of your voice *is* your voice.

Fales' "timbral paradox" also tell us that we do not hear sounds "as they are." She argues not only that we tend to equate sounds with objects, but also that we do so through a process called "perceptualization." Perceptualization is the way our brain tries to explain sounds to us. Unlike a spectrograph, which collects relatively unmediated sonic data, our perception of sound quality is significantly shaped by our own experiences. Perceptualization involves, to borrow from Megan Lavengood, "culture, identity, and other sociological and non-acoustic components"[92] as our brain decides which sonic information is important, what it means, and how we feel about it. In Western music scholarship, the timbral paradox—that we perceive sound as inseparable from objects, and that our perception of sound is subjective—has translated as the tendency to focus on pitch, relegating timbre to the status of a secondary parameter.[93] Despite the challenge of talking about timbre, some scholars have addressed timbre centrally in their work. For an overview of the current state of the field and its history, I recommend any of the sources footnoted here.[94]

Why is Timbre Important?

Wallmark and Kendall have argued that timbre is powerful, in part, because it has encyclopedic meaning. They write:

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[92] Lavengood, "A New Approach to the Analysis of Timbre," 4.
[93] Leonard Meyer, *Style and Music: Theory, History, and Ideology*, (Chicago: University of Chicago Press, 1989).
[94] Lavengood, "A New Approach to the Analysis of Timbre"; "Introduction—Chasing the Dragon: In Search of Tone in Popular Music," in *The Relentless Pursuit of Tone*, ed. Robert Fink, Melinda Latour, Zachary Wallmark (New York: Oxford University Press, 2018), 1-20.

> Timbre […] [provides] access to an encyclopedic range of non-timbral associations. A *warm* sound implicitly references all other kinds of experiences of *warmness*: the warm cat on your lap, the warm light seeping into your room on a spring morning, the warm laugh of your son. When we describe timbre, we're often describing other kinds of experiences that resemble in certain nonobjective ways the dynamics of what we hear. […] The notorious "problem" of talking about timbre may, in fact, be its greatest asset.[95]

In other words, timbre is full of meaning. It is literally *meaningful*. A brief—and irreverent—experiment is a useful starting point to unpack timbre's many potential meanings: "the kazoo test."[96] As an example, I'll apply the kazoo test to the "Duel of the Fates" scene from *Star Wars Episode I: The Phantom Menace* (1999).[97] Take a moment to watch or re-watch the beginning of this scene. Then, for comparison, imagine that all sound in this scene has been replaced by kazoo. Ben Plus's YouTube video, "Duel of the Fates but it's a bad kazoo cover," does exactly this.[98] The difference between these two versions of the scene reveals much about the ways sound quality is meaningful. In the original version, I feel that I am sitting in the middle an orchestra and surrounded by a large choir. To my left and right, bright, energetic light sabers crash in an epic, dynamic duel. I hear the combatants' effortful breaths, their shoes scuffing the smooth floor as they woosh through dramatic choreography. In the kazoo clip, on the other hand, I find myself sitting next to someone playing a kazoo invasively close to my face. The awesome choreography feels somehow silent, as though I am listening to someone who is watching the scene, rather than watching the scene myself. I can hear the kazooist's

[95] Wallmark and Kendall, "Describing Sound: The Cognitive Linguistics of Timbre," 25.
[96] What I call "the kazoo test" is an example of Philip Tagg's thought experiment *hypothetical substitution* (HS), in which the listener tests what is critical to a musical affect by swapping various aspects of the music with contrasting ones. See Philip Tagg, "Analyzing Popular Music: Theory, Method and Practice," *Popular Music* 2 (1982), 37-67.
[97] As of May 2021, this scene is viewable at Fulcrum Fan Edits, "Phantom Menace – Obi Wan Qui Gon vs. Darth Maul," YouTube video, January 11, 2017, https://www.youtube.com/watch?v=Qp91xlsaKSo, (4:35).
[98] January 18, 2020, https://www.youtube.com/watch?v=pGT92Sw2Shk, (3:50), accessed May 2021.

breath and feel the kazoo's buzziness in my own sinuses. Before it starts to sound annoying, it makes me laugh. Sound—including musical sound—in the original clip completely immerses me in the movements and drama of the image, whereas musical sound in the second clip makes me laugh at the image and seats me next to an invisible snarky performer. The kazoo test, in this and other scenarios, suggests three of the most important ways timbre is meaningful: (1) through its physical and material relationship with our environment, (2) that it activates multimodal perception, and (3) through cultural significance.

Timbre is deeply connected with physics, materials, and our environment. [99] Through timbre, we can tell the size of an object, its location relative to us, whether it is moving or still, the materials it is made of, and perhaps even its construction and shape (think of a round, glass marble rolling slowly across a wooden table). We can tell if we are listening in a large space or a small one, in an echoey space or a dry one, a crowded space or an empty one. We can tell if we are listening through walls, through water, through an old radio, through a megaphone, or through a mask. In film music, this aspect of timbre is crucial. Film constantly relies on sound to give us a visceral sense of the physics displayed on screen, and musical timbre can expand this physics meaningfully.

Consider, for example, how timbre manipulates the feeling of physical space in "The Steward of Gondor," a famous scene from *The Lord of the Rings: The Return of the King* (2003).[100] The hobbit Pippin (Billy Boyd) sings "Edge of Night" for Denethor (John Noble), the unsound steward of the throne of Gondor. Denethor has just ordered his own

[99] See Robert A. Butler, "The relative influence of pitch and timbre on the apparent location of sound in the median sagittal plane," *Perception and Psychoacoustics* 14, no. 2 (1973), 255-258.
[100] For a detailed thematic analysis of this scene, see Eschenfelder, "Musical Narratives," 124-139.

son, Faramir (David Wenham), into the throes of a needless and hopeless battle. The scene cuts between three basic subjects: Faramir and his small army outnumbered on the battlefield by ranks of enemy orcs, Denethor messily eating from the safety of his throne, and Pippin singing for Denethor in a kind of epic despair at the waste of violence. What is most meaningful about musical timbre in this scene is the way it gives me a sense of spaciousness that conflicts with physical reality. Pippin's voice begins intimately—it sounds as though it has been recorded in a small room with a closely placed microphone. "Home is behind," he sings. He continues, "the world ahead," and a slight resonance emerges in the quality of his voice, as though the space around him is expanding and becoming reverberant. This effect draws me into a world that I, too, feel is expanding as the camera cuts to the low rumbling horse hooves and Faramir's thinly ranked soldiers on the battlefield. Pippin continues, "and there are many paths to tread." The word "paths" now sounds as if it's being sung in a large cathedral. I am sonically transported to a space that is *not* directly represented on camera—a transcendent, perhaps omniscient space through which Pippin's song expands. I *feel* the physical opening of the world Pippin describes, as though the many "paths" swirl in the resonance around me.

The camera cuts for the first time to the waiting orc army and then back to Faramir's forces, gradually revealing their inadequate numbers. In full resonance now, Pippin's voice contrasts deeply with cuts to Denethor's violent, close-mic'ed eating. This poetically represents Denethor as the true perpetrator of violence while the battlefield is shrouded in Pippin's mournful, spacious prayer. An orc draws the battle's first arrow over dry, tensely rising strings that cannot physically emanate from the same space as Pippin's reverberant utterance: Pippin's song is from the world of hope, the orc's arrow

from a world of death. Over the rising strings, Pippin sings, “All shall fade, all shall…” The release of arrow interrupts the strings and Pippin’s voice. The camera cuts to red juices dripping down Denethor’s chin and his closely-mic’ed chewing. Pippin’s final “fade” is no longer resonant. Not only do I feel returned to the space in which Pippin is confined, but I also *feel* that a single, irreversible “path” has been chosen. In this example, the physical environment implied in the timbre of Pippin’s voice conveys a hopeful and tragic prayer against a violently doomed battle.

Timbre is also important because it activates multimodal perception. Consider the relationship between sound and vision evidenced in The Bouba-Kiki Effect, as demonstrated in Figure 4:

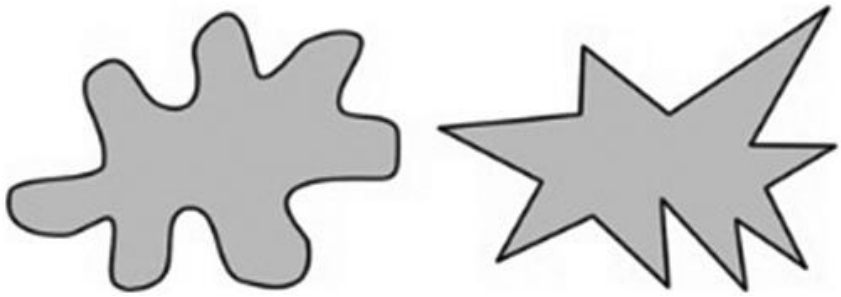

Fig. 4 Round and spiky shapes[101]

If you were asked to name one of these shapes Kiki and one of them Bouba, which would be which? Like numerous participants in related experiments, you probably chose “Kiki” as the name for the spiky shape on the right, and “Bouba” as the name for the rounder shape on the left. Through multimodal perception, your eyes tell you something your ears already know: if that spiky shape were a noise, it would be percussive and sharp, like the

[101] Mathilde Fort, Alexaner Martin, and Sharon Peperkamp, “Consonants are More Important than Vowels in the Bouba-kiki Effect,” *Language and Speech* 58, no. 2 (June 2015). https://journals.sagepub.com/doi/full/10.1177/0023830914534951?casa_token=OGWmv_LmJ0wAAAAA%3AkkvstRj_zmKntmom5WpN-b28CcJD3Fv4ZuAYnhOwbUSyq89E2IPzj4V-kO_uydcBQTiWbBWFqmu0kw.

word “Kiki;” and if the rounder shape were a sound, that sound would be longer in duration, more slowly fluctuating, softer, like the word “Bouba.” Action splats and thought bubbles in comic strips are a clear instance of this phenomenon (see Figure 5).

Fig. 5 Batman Kapow! splat (left),[102] Garfield thought bubble (right)[103]

The Bouba-Kiki effect helps illustrate that sound has a body, and that we understand this body through multiple intersecting senses in our own body.[104] In addition to knowing that a sharp, jagged shape (Kiki) matches percussive sounds and movement (the KAPOW! sound effect and Batman’s punching motion), we also know that to punch or be punched would feel abrasive, focused, and probably painful. Likewise, in addition to knowing that a rounded shape (Bouba) would match smoother and more fluid sounds, we also know that such a shape and sound would probably feel soft (like Garfield himself). This multi-modal knowledge includes a level of physical empathy. Not only do

[102] Image from https://www.pinterest.com/pin/91338698670433261/., accessed February 9, 2020.
[103] Image from https://thehundreds.com/blogs/bobby-hundreds/thought-bubble, accessed February 9, 2020.
[104] Another example of this multimodal perception is the McGurk Effect, in which the listener/viewer is tricked into thinking they’ve heard the consonant they’re observing someone articulate in a video when the audio is a different consonant. See Cari Nierenberg, “The Strange ‘McGurk’ Effect: How Your Eyes Can Affect What You Hear,” *Live Science*, https://www.livescience.com/58047-mcgurk-effect-weird-way-eyes-trick-brain.html, February 28, 2017.

we know what soft and jagged shapes might sound or feel like, but we can imagine, through our bodies, what it would feel like *to be* those sounds.[105]

Multi- or cross-modal perception is part of what makes timbre so expressive in film music. Consider an earlier scene in *The Lord of the Rings: The Return of the King* (2003) in which Gandalf (Ian McKellen) rides out to save Faramir's fleeing army from the forces of Mordor. Gandalf raises his staff, and a bright white light radiates out from it, deterring Mordor's Nazgul from continuing their pursuit. At the same time that the spell's light becomes visible, a luminous soprano voice emerges in the underscore with long, lingering, open vowels. Like the spell's light, the voice is radiating and steadfast. The moment is powerful in part because it seems reasonable that a radiant light would sound like a luminous voice, and in part because through cross-modal perception I *feel* their collision in my body as related and intersecting.

Last, but certainly not least, timbre is meaningful through its cultural context. Part of the reason the solo soprano voice is a convincing communicator of Gandalf's light spell, and part of the reason Pippin's mournful song feels like a prayer cast over the battlefield, is that resonant, solo voice bears religious or divine symbolism in Western music culture. It echoes voices in cathedrals that have been used for chants and depicted in Western art and music as angels' choruses.

Film music may be one of the most fascinating spaces to explore meanings of musical timbre because, as Danijela Kulezic-Wilson reminds us, "sound and music

[105] See Cox, *Music and Embodied Cognition*, 38. Also see Joseph U. Neisser, "The Swaying Form: Imagination, Metaphor, Embodiment" *Phenomenology and the Cognitive Sciences* 2 (March 2003), 27-53.

provide distinctive and certainly the most visceral aspects of film's kinesis."[106] Musical timbre's material ways of meaning—being "evidence" of bodies, as Rebecca Leydon put it—are on full display in film, sharing with us fantastic physics that are environmentally, cross-modally, and symbolically rich. Because timbre in film music carries these meaningful and complex associations, this chapter will outline and apply a semiotic approach to analysis.

Defining a Semiotic Approach to Timbre in Film Music

Semiotics, broadly, is the study of signs, that is, ways we communicate meaning. Following Piercean semiotics, we will consider three types of signs, or three basic ways musical timbres create meaning in film: index, icon, and symbol. An *index* is a type of sign that indicates a physical or causal connection with what is signified. A common example is recognizing smoke as an index of fire. In a film score, musical timbre is indexical of anything we perceive or imagine produces it. For example, the timbre of Pippin's voice in "Edge of Night" is an index of Pippin, and its reverberance is an index of a large, echoey space.

An *icon* is a type of sign that resembles what it signifies. For example, a road sign that warns drivers to watch for deer might use the silhouette of a deer to represent the animal. The two-dimensional silhouette isn't intended to be an exact replica of a real deer (in fact, on many road signs, the antlers are backwards!), but instead uses the same basic shape to suggest a deer. In film music, a timbre is iconic if it resembles or mimics something. A good example is the "coyote whistle" in Ennio Morricone's famous score

[106] Kulezic-Wilson, "Music and Film Kinesis" 78.

for *The Good, The Bad, and the Ugly* (1966). Produced by flute instruments, most prominently soprano recorder and ocarina, the "coyote whistle" resembles the sound of a coyote. Although it's produced by flutes *indexically*, we also hear it as an *icon* of coyote sounds. Another example of musical timbre functioning as icon is the famous string hits composed by Bernard Herrmann for the shower murder scene in Alfred Hitchcock's *Psycho* (1960). The string hits are *not* the physical sound produced by a stabbing knife (index), but instead resemble in duration and intensity the act of stabbing (icon). A few other examples of iconic timbres are the diffuse snares and other percussive sounds that mimic ticking clocks in Hans Zimmer's "No Time for Caution" underscoring the famous docking scene in *Interstellar* (2014), cymbals estimating the crashes of giant waves at the sorcerer's bidding in "The Sorcerer's Apprentice" from *Fantasia* (1940), and the bass drum suggesting the sound of Aladdin's elephant's feet when he first bursts into the palace as Prince Ali in *Aladdin* (1992).

A *symbol* is a type of sign whose meaning is arbitrary and depends on an agreed upon cultural system. The letters you're reading now that construct these words, and the words themselves, for instance, are symbols. There is nothing about the letters "a – r – e" that causes (index) or resembles (icon) "being." An example of a film music timbre functioning as a symbol is the Essex Paragon Deluxe guitar timbre symbolizing James Bond. Bond neither creates the guitar timbre (index) nor does his slick visage physically resemble the sound's distortions or tinnyness (icon). Instead, we read this timbre as symbolic of Bond because the two were coincidentally imposed and popular culture has agreed that it is symbolic of Bond. Other examples of timbres functioning symbolically

include the harp symbolizing magic,[107] solo female voice symbolizing destiny,[108] the Theremin symbolizing the extraterrestrial,[109] the coyote whistle symbolizing the American Western film genre,[110] the piano symbolizing psychological interiority,[111] the famous horn BRAAAM symbolizing malevolent forces,[112] saxophone symbolizing sexiness,[113] or a full chorus symbolizing fate.[114]

In sum, a timbre functions as an index when it makes us think of thing that produces it; a timbre functions as an icon when it resembles, mimics, or imitates something; and a timbre functions as a symbol when its meaning relies on an agreed upon cultural system. These three definitions are summarized in Table 1.

Sign Type	**How it Signifies**	**Examples**
Index	Is caused or produced by something	The "coyote whistle" is produced by flute instruments
Icon	Resembles, mimics, or imitates something	The "coyote whistle" resembles the sound of a coyote call
Symbol	Relies on cultural system or context	The "coyote whistle" represents the Western film genre

Table 1 Semiotic lenses for analyzing timbre in film music

[107] Gwenth Evans, "Harps and Harpers in Contemporary Fantasy," *The Lion and the Unicorn* 16, no. 2 (1992), 199-209.
[108] Jesse Kinne, "The Solo Female Voice as Destiny Topos in Fantasy Media," paper given at Music and the Moving Image, NYU Steinhardt, June 1, 2019.
[109] Wierzbicki, "Weird Vibrations"
[110] Rose Friedman, "Ennio Morricone, The Sound of the American West, Dies at 91" *NPR*, July 6, 2020, https://www.tpr.org/2020-07-06/ennio-morricone-the-sound-of-the-american-west-dies-at-91.
[111] Chelsea Oden, "The Nineteenth-Century Piano in the Twenty-First Century Film," paper given at Music and the Moving Image, NYU Steinhardt, May 26, 2018.
[112] Seth Abramovitch, "'Braaams' for Beginners: How a Horn Sound Ate Hollywood," *The Hollywood Reporter*, May 5, 2015, https://www.hollywoodreporter.com/news/braaams-beginners-how-a-horn-793220.
[113] Kenneth LaFave, *Experiencing Film Music: A Listener's Companion*, E-book, (New York: Rowman & Littlefield Publishers, 2017), 167.
[114] Consider John Williams' well-known "Duel of the Fates" underscoring the epic, fight-to-the-death lightsaber battle between Darth Maul, Obi Wan Kenobi, and Qui Gon Jinn in *Star Wars Episode I: The Phantom Menace* (1999).

Since an index signifies based on its source, indexical film music timbres are important to consider from two perspectives: the diegetic boundary, and embodiment. Diegetic is a word used in film music scholarship to describe music that occurs within the story world. Diegetic music can be heard by the characters. It has also been called source music because it typically has an implied source on screen. A good example of diegetic music is the song "Sunflower" by Post Malone and Swae Lee featured in *Spider-Man: Into the Spider-Verse* (2018). The main character, Miles (Shameik Moore), sits in his room before school, listening to "Sunflower" on his headphones (Figure 6).

Fig. 6 *Diegetic music*: Miles Morales listening to "Sunflower" in *Spiderman: Into the Spider-verse* (2018)[115]

Because this music can be heard by Miles, it is diegetic. Non-diegetic music, in contrast, cannot be heard by the characters. It exists outside of the story world and is used to enhance the drama of events or to help create an atmosphere. Also called underscore, non-diegetic music is what we typically think of when we think of a film score. A good example of non-diegetic music is Blackway and Black Caviar's song "What's Up

[115] Screenshot from "Miles sings Post Malone Scene - SPIDER-MAN: INTO THE SPIDER-VERSE (2018) Movie Clip," YouTube video, 4:23, posted by Entertainment Access, December 3, 2018, 0:12, https://www.youtube.com/watch?v=E_Ct2cKQnkE.

Danger," featured later in *Spider-Man: Into the Spider-Verse* (2018) during the sequence in which Miles embraces his heroic identity (see Figure 7). This music underscores Miles' pivotal leap of faith: clad in his spider suit, hoodie, and sneakers, he releases his supernatural grip from the side of a skyscraper. As he falls, and in the montage that follows, Miles cannot hear "What's Up Danger"—he is without his headphones and the music has no source on screen. But we, the audience, can hear it. This non-diegetic music highlights the dramatic significance of Miles becoming Spiderman.

Fig. 7 *Non-diegetic music*: Miles embraces Spiderman identity, underscored by "What's Up Danger"[116]

The diegetic boundary, then, is the line between diegetic and non-diegetic music. Because the diegetic boundary places some musical sounds *in* the story world and some musical sounds *outside* of the story world, it has physical implications. Considering the diegetic boundary and indexical meaning together allows us to understand more clearly how the physical qualities and locations of musical sounds impact our cinematic

[116] Screenshot from "Spider-Man: Into The Spider Verse – 'Leap of Faith' Movie Clip [HD]," YouTube video, 2:07, posted by NowCentric, December 10, 2018, 0:52, https://www.youtube.com/watch?v=yoS74R-qKIY.

experience. The use of harmonica in *The Shawshank Redemption* (1994) is a good example. The harmonica first sounds diegetically. The character Red (Morgan Freeman) received the instrument from his fellow inmate Andy (Tim Robbins) as a parole rejection gift. One evening just after lights-out, Red plays a single chord on the harmonica. The sound of the harmonica is close-mic'd, dry, and intimate, as though I am sitting next to Red in his cell. The harmonica, convincingly visible and audible on screen, is in the story world (Figure 8). It sounds slowly, in the quiet rhythm of Red's contemplative breath.

Fig. 8 Diegetic harmonica in *The Shawshank Redemption* (1994).[117]

The harmonica last sounds non-diegetically, when Red—finally paroled—discovers the tree marking buried treasure Andy has left for him to find (Figure 9). The harmonica enters as Red takes his first steps toward the tree. The timbre is still close-mic'd but

[117] Screenshot from "Red Plays Harmonica for the First Time in 30 Years - The Shawshank Redemption - Movie Clip HD Scene," YouTube video, 1:31, posted by Legendary Movie Scenes, April 2, 2020, 1:15, https://www.youtube.com/watch?v=MlwUgpBu1_M.

elevated in pitch and volume, extended in duration, and it blends with underlying string harmonics. It sounds at once like the same harmonica Red played earlier in the film, yet also larger, brighter, and triumphant. Because the harmonica has no convincing physical source on screen, it *feels* as though Red's harmonica, alongside Red, has transcended earthly bounds, leaving Shawshank Prison and all that it stood for behind. This powerful moment is made possible, in part, because the harmonica timbre is an index not only of Red's harmonica, but of a physical space—the nondiegetic realm—beyond Red's world.

Fig. 9 Non-diegetic harmonica underscores Red discovering Andy's hidden treasure.[118]

Because indexical meaning has physical implications, it is also important to ponder from the perspective of embodiment. Embodiment considers how our bodies are

[118] Screenshot from "Hope is a good thing.....The Shawshank Redemption," YouTube video, 4:56, posted by Ramprasad Bonam, February 26, 2014, 1:39, https://www.youtube.com/watch?v=DAYXlC59yWs.

involved in perceiving and experiencing the world we live in. Regarding embodiment in film music, Juan Chattah has written:

> Embodiment mediates signification, enabling the music to guide the audience's attention toward particular visual events, […] to trigger a myriad of bodily states, and ultimately to present a unique perspective on the discourse of characters and cinematic narrative.[119]

Although Chattah does not name timbre directly in this quote, his visceral reading of film music invites timbre to center stage. Film relies heavily on sound quality (including musical timbre) to create immersive cinematic worlds. Arnie Cox's mimetic hypothesis, which addresses embodiment in music more broadly, can also be adapted to focus specifically on timbre in film music.[120]

As musical timbre comes from within the story world or from somewhere beyond it, it suggests the physical natures of diegetic and nondiegetic creatures, and we empathize with these sounds through bodily knowledge. In the example from *The Shawshank Redemption*, Red's diegetic harmonica was smaller, briefer, wispier than the nondiegetic one near the end of the film whose timbre was slightly bolder, brighter, and larger. I *feel* this difference in my body because musical timbre—as an index of a *thing*—allows me to empathize with the living shapes of *that thing* that produces (or seems to produce) the timbre.

Embodiment is also important when we think about how timbres function as *icons* in film music. For example, the famous string hits imitating stabbing in the shower scene from *Psycho* (1960) are viscerally relatable even though they are *not* the indexical sound of a stabbing (see Figure 10). The string timbre feels sinewy—it is the sound of tense

[119] Chattah, "Film Music as Embodiment," 81.
[120] Cox, *Music and Embodied Cognition*.

strings struck into vibration, mimicking an intensity with which my own stringy muscles might contract. The timbre is bright, focused, incessant, shrill, imitating the sharp energy I might physically experience in a stabbing. It is useful here to remember the concept of "vitality contour".[121] Vitality contours are concerned primarily with the shapes of movement and the shapes of experiences based on movement. Even if I never experienced the *Psycho* string hits and stabbing image synchronously, they share a vitality contour that is fast, piercing, and forced—that is, they *resemble one another*. The muscular shrillness of the string hits has iconic meaning.

Fig. 10 Shower murder scene from *Psycho* (1960), underscored by stabbing string hits[122]

An excellent example of musical timbre behaving as icon is the phenomenon of "Mickey-Mousing." Mickey-Mousing is also called "synchronized" or "parallel" scoring and it occurs when music synchronizes with and imitates an on-screen action. Often this

[121] See Daniel Stern, *Forms of Vitality* (Oxford: Oxford University Press, 2010).
[122] Image credit Sunset Boulevard/Corbis/Getty Images. From: https://www.history.com/news/psycho-shower-scene-hitchcock-tricks-fooled-censors.

is for comedic effect, like a slide whistle imitating the trajectory of a character slipping on a banana peel, or an oom-pa tuba bass line imitating the steps of a disgruntled antagonist. Mickey-Mousing is timbrally specific—a tuba bass line does not easily resemble a small fluttering bird any more than a melodic flute might sound like enormous footsteps. Our embodied knowledge of what big and small things sound like, and how various kinds of objects and substances move (vitality contours) play into what kinds of musical timbres can have meaning through resemblance or imitation.

A few examples of timbres commonly used for Mickey-Mousing in recent film are bass drops, brass hits, and fluttering flute. Bass drops are often used in conjunction with slow-motion or sustained, airborne movement in fight or chase sequences, intensifying and resembling a moment's large-scale impact. In *Spiderman: Into the Spider-verse* (2018), for example, a bass drop functions as an icon when Miles performs his first successful web-swing during a key chase scene.[123] During the battle in Veld Village in *Wonder Woman* (2017), a bass drop is iconic of Diana's slow-motion leap to deflect ammunition fired from a tank.[124] Bass drops viscerally blur the line between music and sound effect, but act as timbral icons in the way they mimic or resemble the image's momentum.

[123] Viewable at "SPIDER-MAN: INTO THE SPIDER-VERSE clip – Another, Another Dimension (In Theaters December 14)," Sony Pictures Entertainment, November 28, 2018, https://www.youtube.com/watch?v=TiDQiIfQOSg (01:02-01:05).
[124] Viewable at "Battle In the Village of Veld | Wonder Woman [+Subtitles]" Flashback FM, October 2017, https://www.youtube.com/watch?v=BWuafJtMrBE (01:44-01:47).

Fig. 11 Miles' first successful use of spider web in a chase scene, underscored by a bass drop.

Fig. 12 Diana in slow-motion leap, preparing to deflect ammunition from tank, underscored by bass drop.

Brass hits, similarly, are a popular go-to for Mickey-Mousing during fight sequences. Their focused intensity resembles and amplifies punches and jabs with weapons. When Ares captures Diana by bending metal in the final fight sequence of *Wonder Woman* (2017), brass hits in the underscore are iconic of his jagged, effortful movements.[125] In the famous sword duel between Inigo Montoya (Mandy Patinkin) and

[125] Viewable at "Wonder woman Final Fight Scene (9/10) Last fight Scene/ Best Scene /Spider Movieclips 2017," Spider Movieclips, https://www.youtube.com/watch?v=bjh4IwCx6Io July 2018, (01:10-01:17).

the Man in Black (Cary Elwes) in *The Princess Bride* (1987), synthesized brass performs the same role when the swordsmen's clash ascends the stairs and Inigo momentarily knocks the Man in Black to the ground.[126] The widely mocked fight scene between Kirk (William Shatner) and Gorn (Bobby Clark) in *Star Trek: The Original Series* (1967)[127] offers another clear example: Kirk's first punch lands squarely on Gorn's back, supported in intensity (if not believability) by harshly accented brass.[128]

Fig. 13 Synthesized brass hits underscore Inigo Montoya's advance in *The Princess Bride* (1987)

Flutes have long been used to imitate birds,[129] and this continues to be true in film music. Flute timbres are especially common in slap-stick moments that use Mickey-Mousing to underscore a bird's demise. The "Happy Working Song" from in *Enchanted* (2007), for example, features a fluttering flute timbre underscoring the flight of a pigeon

[126] Viewable at "The Princess Bride (3/12) Movie CLIP – I Am Not Left-Handed (1987) HD," Movieclips, https://www.youtube.com/watch?v=rUczpTPATyU February 2015, (01:23-01:26).
[127] "Arena" *Star Trek: The Original Series*, January 1967.
[128] Viewable at "Star Trek – Kirk vs. Gorn" CBS, July 2009, https://www.youtube.com/watch?v=4SK0cUNMnMM (0:18-0:20).
[129] Margaret Stevens, "A bird's life: the flutist's legacy of bird calls," *Flutist Quarterly* 26, no. 3 (2001).

up until it crashes into Giselle's (Amy Adams) partially open window.[130] Another example comes from *Harry Potter and the Prisoner of Azkaban* (2004), when flute timbre underscores a bluebird flitting across the screen, fated to meet its end in the branches of the Whomping Willow.[131] A final example is the Pixar short "Piper" (2016), in which a baby sandpiper is learning how to navigate ocean waves as it tries to find food on the beach. Although the termination of the flute timbre doesn't coincide with an abrupt demise of the baby sandpiper, the short as a whole moves from underscoring the inexperienced little bird with flute to embracing the bird's newfound technique with jubilant guitar. Over the course of the journey, ominous ocean waves, underscored by cymbals and low, agitato strings, interject, scaring the sandpiper—and its flute timbre—away intermittently.[132]

In popular culture, the word "iconic" can also mean "widely recognized and well-established."[133] The "coyote whistle" from *The Good, The Bad, and the Ugly*, for example, can be considered iconic in the popular sense: it is so well-known that it's been parodied in television shows (such as *The Simpsons*) as well as feature-length film (*The Grumpy Cat Christmas Movie*). The use of Theremin in 1950s sci-fi film[134] also became popularly iconic and has been troped in as distantly related media as *Avatar the Last Airbender* (2005-2008).[135] The widely termed "horn BRAAAM" that became most

[130] Viewable at "Enchanted – Happy Working Song (full clip)," Fiona, March 2008, https://www.youtube.com/watch?v=TAsG__XjU8Q (01:05-01:07).
[131] Alfonso Cuarón, *Harry Potter and the Prisoner of Azkaban* (Los Angeles, CA: Warner Bros. Pictures), DVD, (28:51-29:08).
[132] See *Piper* (2016), dir. Alan Barillaro, (Emeryville: Pixar Animation Studios).
[133] "iconic" Merriam-Webseter.com, accessed June 26, 2020.
[134] Wierzbicki, "Weird Vibrations"
[135] See Lauren MacMullan, "The Storm," *Avatar the Last Airbender* (Nickelodeon Studios, June 3, 2005), viewable at Avatar: The Last Airbender, "Sokka's Most GOOFY Moments | Avatar," YouTube video, 5:09, https://www.youtube.com/watch?v=9EXdomrJLcE, (0:05-0:12).

famous in a series of trailers for the film *Inception* (2009) likewise made it into a South Park parody of the film.[136] On one hand, a pop icon represents cultural value and therefore can also be considered a semiotic icon because it's seen to be a concentrated imitation of culture. On the other hand, when we describe something as "iconic" in the popular sense, we typically don't mean that it represents culture but rather that it stands out to us. For present purposes, I will reserve the term "iconic" to describe a musical timbre that imitates, mimics, or resembles something. To avoid confusion, I will call timbres that are iconic in the popular sense "timbral emblems." Timbral emblems, rather than being semiotic icons or indices, are an example of the last type of sign: a *symbol*.

Timbral emblems are one of two types of symbols I will discuss in film music. Timbral emblems function as symbols because they rely on cultural context for meaning. The Bond guitar timbre is a timbral emblem, for example, because understanding its association with the Bond franchise relies on cultural knowledge of the Bond films. Similarly, the Theremin is emblematic of classic sci-fi film and especially supernatural or extraterrestrial presence largely because of its cultural usage. The horn BRAAAM is emblematic of *Inception*, too, through Hollywood film trailer culture. The coyote whistle, while indexical of flutes and iconic of coyote howls, is emblematic of the Western film genre and particularly showdowns.

The second kind of timbral symbol I will discuss is the *leittimbre* (also printed as leit-timbre).[137] A *leittimbre* is a musical timbre that represents a particular place,

[136] See Abramovitch, "'Braaams'"; and Trey Parker, "Insheeption," *South Park*, October 20, 2010.
[137] This term has been used in Russian music scholarship for quite some time. See Joan Titus *The Early Film Music of Shostakovich* (New York: Oxford University Press, 2016), 61; and Olena Ushchapivska, "The Representation of Female Characters in the Music of Russian Ballet," *International Review of the Aesthetics and Sociology of Music* 48, no. 1 (June 2017), 57-69.

character, or idea throughout a film, and which may change as a character or place changes. A leittimbre is similar to the better-known *leitmotif*—a musical theme that, as Frank Lehman describes, is a "distinctive, recurring musical [idea] prone to development, creating meaning, and absorbing symbolism."[138] A famous example of a *leitmotif* is Darth Vader's theme, also called the "Imperial March," in the Star Wars film franchise. Where Darth Vader's theme relies on a melody to signify Vader (James Earl Jones), a *leittimbre* uses timbre to signify an idea or character. A good example of a leittimbre is the talking drums used to signify the fictional African nation of Wakanda and its king T'Challa (Chadwick Boseman) in *Black Panther* (2018). The timbre of the talking drums acts as a symbol, in part, because its use is arbitrary: it is by juxtaposition with images of Wakanda that the timbre specifically signifies Wakanda. But the talking drum timbre is also symbolic because it has cultural meaning in real world West African drumming practices. It can symbolize a fictional African nation because it references real cultural systems. As a leittimbre, the talking drums signify Wakanda not only in *Black Panther* but also in *Avengers: Infinity War* (2018) that followed it. Other examples of leittimbres include the use of the harmonica to signify hope in *The Shawkshank Redemption* (1994), the piano symbolizing Beth (Claire Danes) in *Little Women* (1994) or Ada in *The Piano* (1993), the soprano voice siren call symbolizing Elsa's awakening in *Frozen II* (2019), Lisa Gerrard's voice signifying Maximus Aurelius's departed family in *Gladiator* (2000), and Hildur Guðnadóttir's electric cello signifying Joker's inner world in *Joker* (2019).

Timbre is also an under-considered facet of leitmotifs. Matthew Bribitzer-Stull, for example, describes ten manipulations of the leitmotif common in Hollywood film

[138] See Frank Lehman's Complete Catalogue of John Williams' Star Wars Leitmotifs.

music.[139] Every technique, except one, relates to pitch. The exception, "Change of Texture,"[140] is worth special consideration. Using Darth Vader's death scene in *Return of the Jedi* (1983), Bribitzer-Stull writes that "a plaintive, monophonic version of the 'Imperial March' accompanies Darth Vader's repentant death." Here, Bribitzer-Stll cites Kalinak 1992: 198 who describes the "rescored theme" as "'[activating] celestial associations' that prompt the audience to forgive Vader." What both Bribitzer-Stull and Kalinak miss about this moment is that it is *timbre* that ferries Vader from the living to the dead. It is *timbre* that redeems him. In this scene, which was orchestrated by Thomas Newman, it is the harp timbre that "activates celestial associations," that viscerally casts Vader into a sinewy and quickly dissipating embodied state. It is the harp timbre's perceived softness and delicacy that lets us see Vader in this vulnerable and empathetic light. Returning to the kazoo test, we can agree that a kazoo would have ruined this moment.[141] A trumpet would have given a militaristic farewell. A piano would have left some coldness. An electric guitar might have introduced a punk rock Luke Skywalker enraged at his father's death. A Theremin would have made Vader seem eerie and the consequences of his death mysterious. Timbre, in short, can make or break the meaning of a leitmotif.

A Four-step Process for Analyzing Timbre in Film Music

As a teacher, I have shared these three semiotic lenses with my students to find that sometimes they are unsure how to use them. These lenses are tools, but analysis is a

[139] Bribitzer-Stull, *Understanding the Leitmotif*.
[140] Ibid, 293.
[141] Consider, for comparison, this kazoo cover of "Duel of the Fates," which my students find as annoying as I do: Ben Plus, "Duel of the Fates but it's a bad kazoo cover," January 18, 2020, YouTube video, 3:50, https://www.youtube.com/watch?v=pGT92Sw2Shk.

process. When using these tools for analysis, I find myself roughly following this four-step process: *react, experiment, categorize,* and *synthesize*. To explore each of these steps more deeply, I will focus on a scene from *Black Panther* (2018) in which T'Challa, who is the Black Panther and Wakanda's true king, returns to claim the throne from his nemesis Killmonger (Michael B. Jordan) (1:41:14 – 1:44:32). The scene is popularly referred to as the "I am not dead" scene.[142] In the description of each step, I use the same language I would use to introduce this process to my students.

Step 1: React

When you first watch the scene, think about how it makes you feel. What was its general impact? What specific moments stood out to you? List as many words as you can to describe your reaction to the scene. After reflecting on your holistic reaction to the scene, consider which musical sounds stood out to you the most. List and describe them.

As a whole, the "I am not dead" scene makes me want to cheer for King T'Challa, the Dora Milaje (his loyal bodyguards) (featuring actors Lupita Nyong'o, Danai Gurira, and Florence Kasumba), and for the destiny of Wakanda. It draws me into an epic exchange of forces that I would expect from any climactic battle. Several moments that stand out to me are the stillness before T'Challa's shuttle crash lands, the awe as he rises from the flame of the wreckage, the pause before Killmonger's allies run into battle, the battle formation struck by the Dora Milaje after Killmonger's robes transform into his stolen high-tech suit, and the liquid suspension of T'Challa's incredible leap over his enemies' shields. Words that come to mind as I watch this scene include brooding,

[142] See Marvel Universe Entertainment, "Black Panther (2018) – 'I'm Not Dead' | Movie Clip HD," June 20, 2019, YouTube video, 2:36, https://www.youtube.com/watch?v=k6Sa5BVMLcQ.

powerful, invigorating, triumphant, fateful, epic, open, hopeful, uniting, resilient, suspenseful, and boss battle.

A handful of musical sounds in this scene remain vivid after the first watch. In no particular order: the booming bass and skittery cymbals accompanying the villainous Killmonger, the trumpets with underlying brass and talking drum when the Black Panther's mask recedes to reveal the face of T'Challa, the choir as T'Challa steps out of the flaming wreckage, the percussion that underscores the Dora Milaje attacking Killmonger, and the breathy echo that reverberates as T'Challa leaps over the wall of shields.

Step 2: Experiment

Earlier in this chapter, I used the "kazoo test" to reflect on how specific musical timbres could express different affects and associations. Apply this thought experiment to the scene in question: watch it again, imagining an underscore rendered entirely through a timbre of your own choosing: kazoo, trumpet, or guitar, for example. How would the scene feel differently with different musical timbres? What does this tell you about the significance of musical timbres that *are* present in the scene?

For example, I watched the "I am not dead" scene imagining first a kazoo underscore and then a piano underscore. Kazoo drastically undermines T'Challa's triumphant return. The kazoo's comedic irreverence highlights how, in contrast, brass, talking drum, and choir propel the scene with a regal, epic, awesome, and fateful energy. Likewise, imagining T'Challa emerging from the flames to the sound of a piano casts the moment in a more cold, still, and isolated tone. Piano would have made this moment

seem distant, as though I were watching the hero in a trailer montage advertising for the film. In contrast, the choir and brass are viscerally warmer and richer. The choir is human, and its many different fleshy voices are the sound of community. The sound of several individuals singing simultaneously also invites me to picture the largeness of the choir and perhaps the largeness of the space in which they are present. This moment feels big because it is filled with the sounds of masses. Neither a kazoo nor piano could achieve this specific effect. Moreover, the voices sing in the Xhosa language, "kun kani, kun kani waytu," ("our king").[143] This is also something that a piano (or a kazoo, for that matter) cannot do. In addition, there is a well-established tradition in film music of using choir to mark something as fateful. A characteristic example is John Williams' "Duel of the Fates" which underscores a lightsaber battle with full choir. Choir in the "I am not dead" scene evokes fate through these musical codes constructed in film culture. The brass carries an association with royalty—both in Western militaristic traditions as well as in the many film scenes informed by these traditions.[144] The brass is sustained, bright, pointed, and powerful in a way that the more diffuse buzziness of a kazoo or the translucence of a piano cannot be. And T'Challa's signature talking drums, if they were even mildly imitable by kazoo or piano, would completely lose their power. It is those specific sounds that tell us this moment is T'Challa's and Wakanda's. In short, the brass, the choir, and the talking drums all carry rich associations that lead me not to passively read this moment as fateful, energizing, and epic, but to actively *feel* its impact.

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[143] Jade Leamcharaskul, "Notes on the Black Panther Movie Soundtrack," *Medium*, October 25, 2018, https://medium.com/@JDWasabi/notes-on-the-black-panther-movie-soundtrack-9b3126d61f9d.
[144] Consider Princess Buttercup's "regal" entrance in *The Princessbride* (1987) as one example, which in using brass synth, comments on a cultural trope. Viewable at citizenanna, "The Princess Bride! Queen of Garbage!," August 20, 2007, YouTube video, 2:37, https://www.youtube.com/watch?v=wWqU1ynYSrM, (1:17-1:35).

Step 3: Categorize

Each timbre I visited in Step 2 had a vast array of associations. The choir, for example, was associated not only with fateful moments in movies, but also with South Africa through the Xhosa language, with T'Challa's right to the throne through the sung text, with a large community of individuals through simultaneously sounding voices, and with the largeness of a space in which those many voices exist. Because the sound of the choir has many meanings (is encyclopedic, as discussed earlier in this chapter), Step 3 uses the three previously described semiotic lenses (index, icon, and symbol) to sort through and connect these meanings.

In Step 2, I focused on the timbres of three sounds: brass, talking drum, and choir. I'll discuss categorizing these through each sign type, starting with index. Before I continue, it is important to note that my reading of brass, talking drum, and choir, through all three semiotic lenses is culturally contextualized and reflects the bias of my own perspective and experience. Through my Western music education, I have become intimately more familiar with culture, techniques, and practices associated with brass and choir than talking drum. Someone who knows talking drum practices deeply would have an important perspective to bring to this analysis. In short, I recognize that this analysis is incomplete, representing only a piece of a more nuanced and richer social and political world in which the music for *Black Panther* (2018) makes meaning.

Indexically, I hear in the brass sound the metal of brass instruments, as well as their sheen. I imagine lips buzzing to produce the sound and diaphragms contracting to drive out a steady stream of air through pursed lips and into a smooth metallic mouthpiece. I *feel* this muscle engagement in my own body. I hear multiple performers,

and the space that must be large enough to accommodate them. Their volume combined with audible physical space makes them feel large. I sense that their sound emanates from a distance at which I might observe them all simultaneously. In the talking drum I hear the clear sound of a single performer—the soloist Massamba Diop. The clarity of the solo talking drum timbre also makes it feel large, as though this one performer is as physically substantial as the brass and the choir. I hear arm and hand muscles moving with brisk variety to enact heavy and light articulations through the clustered, repeating rhythm. I imagine the repetition of this motion as a kind of dance. I hear the hard yet flexible surface of the drumhead. I hear the drum's hollowness and resonance. I hear the openness of the space through which the sound of the drum travels. In the timbres of the choir, I hear several performers singing in a space large enough to hold them. I hear distance in the sound. As with the brass and talking drum, the choir does not sound in arms' reach, but far enough away from me that I might see them all at the same time. The brass, talking drum, and choir are all non-diegetic, but their presence feels almost spectral, as if they are physically yet invisibly behind T'Challah as he emerges from the flames.

Through the lens of icon, these timbres each mimic the shapes and qualities of other embodied experiences. The sound of the brass is song-like in its sustain. Yet the timbre's focus and volume also evoke shouting. The unity and synchronicity of the sound, combined with its volume and tessitura push the song-like and shouting qualities together, mimicking triumphant proclamation. The talking drum's sound, unsurprisingly, is speech-like. Its brisk articulations in rising contour suggest hopefulness. Its repetition feels step-like, which in combination with anchored pitch, evokes imagery of ground engagement. The timbre's buoyance further suggests a large stride—one that has some

give in it for the effort it takes. The choir, too, executes a rising contour that is hopeful, made even more so through empathetic knowledge of the human voice. Its sustain mimics the shape of a soaring flight path or an extended, cheerful shout. The choir is especially notable because it participates in Mickey-Mousing: as T'Challah stands majestically on top of the burning wreckage, the choir marks his final triumphant steps.

Through the symbolic lens, the brass timbres draw associations with military (consider bugle calls and marching bands), with victory and triumph (consider fanfares), and with regality (consider the historical use of brass to introduce royalty as well as representations in popular media). The talking drum, too, carries layers of symbolism. The instrument itself is so named not only because it was designed to imitate speech, but because it is used to evoke culturally contextualized speech patterns. Its voice-like quality symbolizes drumming practices and languages specific to West Africa. It is this timbre that reads Wakanda as a fictional Africa. The timbre's consistent association with Wakanda across the film further allows it to function as a leittimbre. Poetically, it appears not only with images of Wakanda but also with T'Challah on his journey to reclaim his rightful place as Wakanda's true king. The timbre subtly draws my attention to the destiny T'Challah and Wakanda share, which is then overtly articulated in the "I am not dead" scene. The timbre of the choir also contributes to the feeling of destiny in this moment, drawing meaning from numerous instances in sci-fi, fantasy, and superhero films in which it has symbolized fate. Like the talking drum, the choir also symbolizes a fictional Africa. The choir uses the Xhosa language, an official language of South Africa. They sing, "kun kani, kun kani waytu," ("our king"),[145] further symbolizing T'Challah as

[145] Leamcharaskul, "Notes on the Black Panther Movie Soundtrack."

Wakanda's true king. The unity of their co-articulating voices simultaneously symbolizes the unity of Wakanda.

	Brass	Talking Drum	Choir
Index	- Metal - Sheen - Lips buzzing - Breath, diaphragm - Several performers - Large distance - Big space - Loud/large mass	- Arm/hand muscles - Varied movement - Hard surface - Hollow/resonant - One performer (Massamba Diop) - Loud, clear ("big") - Open space	- Vocal cords - Air/breath - Diaphragm - Face muscles - Many people - Different people - Big space
Icon	- Song-like - Shouting - Proclamation	- Speech-like - Rising (hopefulness) - Ground engagement - Buoyant, large steps	- T'Challah's steps - Rising (hopefulness) - Soaring
Symbol	- Militaristic - Victorious - Triumphant - Regal	- Voice/speech - Wakanda - T'Challah - The true king - West Africa	- Fate - Xhosa language - South Africa - Unity of Wakanda

Table 2 Summary of Step 3: Cateogrize

Step 4: Synthesize

Together, these timbres and ways of meaning tell a story of triumph, fate, hope, resilience, and unity in a fictional Africa. The moment when T'Challah emerges from the flames is powerful because it is visceral: musical timbre brings audible masses, open space, contracting muscles, and propelled air into T'Challah's rise. It is powerful because its musical timbres evoke proclamation, upwardness, and the triumphant steps of T'Challah himself. It is powerful because it symbolizes T'Challah's destiny and the hope and unity of Wakanda. In dialogue with the brass, typical of Hollywood film scoring for

superhero films starring white male protagonists, the meaningful sounds of Massamba Diop's talking drum and the choir singing in Xhosa also symbolize an attempt in the superhero genre to decenter the white racial frame.

Outline of Analytical Process

Because there are numerous paths through any analysis using this semiotic framework, I have found it useful to distill the analytical process described above into a fluid and adaptable outline:

Step 1: React
- What is the overall impact of the scene?
- How did you feel different parts of the scene in your body?
- How did you breathe through the scene?
- Which moments stood out to you?
- Make a list of words describing your reactions and experience.
- What specific sounds stood out to you? List them.

Step 2: Experiment
- Perform the kazoo test: imagine the scene replaced with a single, strikingly different timbre (such as kazoo or piano)
- How does the imagined timbre change the scene?
- How does the scene feel differently in your body?
- What does this tell you about the work the real timbres are doing in the scene?
- Describe the impact of the scene's real timbres.

Step 3: Categorize
- Drawing on your descriptions of timbre's impact from Step 2, think about how each timbre functions semiotically.
- Make a chart, list, or other visual aid that describes indexical, iconic, and symbolic meaning for each timbre that interests you.
    - For indexical meaning, consider the diegetic boundary and embodiment.
    - For iconic meaning, consider embodiment and the role of Mickey-Mousing.
    - For symbolic meaning, consider timbral emblems, leittimbres, cultural context, and other narrative symbolism.

Step 4: Synthesize
- Reflecting on your initial reactions to the scene (Step 1), and drawing on the results of your analytical process (Steps 2-3), how does musical timbre shape your experience of the scene?

- Construct one or more arguments. For example:
    - What story does the scene tell? How do musical timbres combine to tell this story?
    - Isolate a single musical sound and show how its timbre shapes the scene.
    - Choose one standout moment and show how timbre contributes to the moment's impact.
    - Focus on how indexical, iconic, or symbolic aspects of timbre structure the scene. What does this tell you about the scene as a whole?
    - What is a unique or interesting thing musical timbre does in this scene? How does it do this and what is its effect?

Conclusion

Music theory, and the world more broadly, is shining a socially critical light on itself more than ever before. We are questioning representation in the music we talk about as well as the ways we talk about music. Because timbre is hard to talk about, I would argue that it presents an opportunity to challenge institutionalized ways of thinking and talking about music. If we open ourselves to its many meanings and its many ways of meaning, timbre offers us the practice of connecting more deeply with our world and each other.

CHAPTER III: FANTASTIC TIMBRES AND WHERE TO FIND THEM

Ah, music, a magic beyond all we do here.
-Professor Dumbledore[146]

Introduction

"*Piertotum Locomotor!*" incants Professor McGonagall (Maggie Smith), waving her wand at the stone soldiers in the walls of Hogwarts castle. The soldiers crash to the ground, rise, and march forward to defend Hogwarts in its final battle. McGonagall's spell has summoned more than living stone: it has also summoned an orchestra. Warm, midrange strings propel the soldiers forward. The strings infuse this moment with a beautifully empathetic sense of the epic—the strings are sinewy, communal, and steadfast, the sounds of muscle, togetherness, and a singular purpose. Even with the same poetic melody—a downward stepwise falter that recovers then lunges in an upward leap—other tone colors would have changed the heart of this moment. Were the strings replaced with piano, McGonagall's spell and the fate of Hogwarts would have felt colder, distant, and perhaps tragic. A brass choir might have rendered a more militaristic reading, drawing attention to the ritual of the battle more than the creatures in it. A kazoo would have broken the film's fabric entirely.[147] This chapter demonstrates the analytical method outlined in Chapter II by examining how musical tone color, or *timbre,* creates meaning in spell casts in the Harry Potter film saga.

Spell casts in the Harry Potter film series present a useful opportunity to analyze musical timbre for several reasons. First, because timbre is deeply connected with

[146] J.K. Rowling, *Harry Potter and the Sorcerer's Stone*, 1997, 95. For the many creative, imaginative, and empathetic messages I find in this series, it surprises and saddens me that Rowling has approached trans activism so narrowly. See https://www.glamour.com/story/a-complete-breakdown-of-the-jk-rowling-transgender-comments-controversy for a summary of some of these exchanges.
[147] See Philip Tagg's concept of *hypothetical substitution* (HS) in "Analyzing Popular Music."

physical experience and magic is concerned with warping physics, the musical timbres of spells can teach us about embodiment and imagination, about physically believable renderings of the physically impossible. Additionally, as an integral part of the Harry Potter universe, the musical timbre of spells can reveal the mechanics of magic itself (*Where does magic come from? What does magic do?*) as well as what it means to perform magic (*Is magic a curious, awe-inspiring thing? Is it a tool? A weapon? Does it have consequences?*).

More broadly, the music of the Harry Potter film series is attractive because of its historical and cultural context. It traversed the decade from 2001 to 2011 that saw an increase in atmospheric and minimalist film scores and culminated in completely digital film sound. En route, it amassed $7.7 billion in box offices worldwide with its final film, *Harry Potter and the Deathly Hallows – Part 2* (2011) becoming the third-highest-grossing film in the world at the time.[148] The franchise includes the voices of several composers,[149] sound designers,[150] and directors,[151] all of whom negotiated what the sound world had been and what it could be. In a way, spell casts in the Harry Potter films represent a multifaceted, decade-long conversation about musical meaning.

To begin, I will review the semiotic approach outlined in the previous chapter. Following Peircean semiotics, I will consider three types of signs, or three basic ways musical timbres create meaning in film: index, icon, and symbol. An *index* is a type of

[148] "Worldwide Grosses," Box Office Mojo, October 31, 2011, https://web.archive.org/web/20111031012438/http://www.boxofficemojo.com/alltime/world/, accessed December 2020.
[149] John Williams, Patrick Doyle, Nicholas Hooper, and Alexandre Desplat
[150] Eddy Joseph, Dennis Leonard, Richard Beggs, David Evans, and James Mather
[151] Chris Columbus, Alfonso Cuarón, Mike Newell, and David Yates

sign that indicates a cause-effect relationship. For example, in *Harry Potter and the Sorcerer's Stone* (2001), Harry (Daniel Radcliffe), Ron (Rupert Grint), and Hermione (Emma Watson) confront Hagrid (Robbie Coltrane) playing "Hedwig's Theme" on a recorder from the steps of his hut.[152] The recorder's timbre is indexical of Hagrid playing the recorder. An *icon* is a type of sign that resembles what it signifies. During a transition scene in *Harry Potter and the Prisoner of Azkaban* (2004), for example, we hear fluttering flute underscore the flight of a bluebird that meets its end in the branches of the Whomping Willow. The flute timbre is iconic of the fluttering bird. A *symbol* is a type of sign whose meaning is arbitrary and relies on predefined cultural context. In *Harry Potter and the Sorcerer's Stone* (2001) when Harry's wand first chooses him, for instance, choral voices enter the underscore symbolizing fate. The choral timbre draws its fateful meaning from numerous other instances in fantasy media where it is used in conjunction with fateful plot points. These three semiotic lenses are summarized in Table 3.

Sign Type	**How it Signifies**	**Examples**
Index	Is caused or produced by something	Recorder timbre is produced by Hagrid playing recorder
Icon	Resembles, mimics, or imitates something	Flute timbres mimic bluebird flying into Whomping Willow
Symbol	Relies on cultural system or context	Choral voices symbolize fate when Harry gets his wand

Table 3 Summary of semiotic lenses for analyzing musical timbre in *Harry Potter* films

[152] Chris Columbus, *Harry Potter and the Sorcerer's Stone* (Los Angeles, CA: Warner Bros. Pictures, 2001), DVD, (1:50:29-1:50:55).

Each of these sign types connects with a concept in film music theory *and* with a question about magic in the Harry Potter universe. First, musical timbre and indexical meaning relate to the film theory concept of diegesis. This connects with the question *What are the physical origins of magic?* Second, musical timbre and iconic meaning relate to Mickey-Mousing and embodiment. These connect with the question *What are the physical qualities of magic?* Finally, musical timbre and symbol relate to theories of leittimbre and broader narrative symbolism, connecting with the question *What does it mean to perform magic?*

The Physical Origins of Magic: Index and the Diegetic Boundary

Magic is arguably about breaking physics. It finds shortcuts through our reality to produce events that are physically impossible. The diegetic boundary suggests a fundamental physics of sound space in film. *Diegetic* sounds occur within the story world and are real to the characters. When Professor Lupin (David Thewlis) puts on music for his students to confront the boggart in *Harry Potter and the Prisoner of Azkaban* (2004), for example, the characters can hear this music. It is physically real in their world. For this reason, diegetic music is often called source music because it has an implied source on screen (such as Professor Lupin's gramophone). *Non-diegetic* sounds, on the other hand, occur outside of the story world and cannot be heard by the characters. In a well-known scene from *Harry Potter and the Sorcerer's Stone* (2001) Harry walks through a snowy Hogwarts courtyard with Hedwig on his arm. The lyrical music that accompanies their walk isn't audible in their world. We, the audience, can hear it, but Harry and Hedwig cannot. For this reason, non-diegetic music is often called underscore: it tells us *about* the story world rather than emanating from it. In the case of the wintry courtyard

scene, the non-diegetic music tells us about the contentment Harry feels at Hogwarts as he walks with Hedwig. And while Harry's contentment is real to him, the non-diegetic underscore is imperceptible.

Because the diegetic boundary marks which musical sounds are physically real to characters, and because magic plays with physical reality, the question of music's role in magical physics is especially curious. Timbre, the single-most indicator of sound's physicality, then, is central. Together, musical timbre, the diegetic boundary, and index offer answers to the questions *What does magic sound like?* and *Where does magic come from?*

In the case of spell casts, musical timbre often breaks the diegetic boundary to serve as the sound of magic. For example, consider the spell *Immobulus*, cast by Hermione in *Harry Potter and the Chamber of Secrets* (2002) to sedate a fiendish hoard of pixies wreaking havoc in the Defense Against the Dark Arts classroom. When Hermione yells "*Immobulus*!" and her wand ignites with an explosive sound effect, the music sounds in the non-diegetic realm, inaudible to the characters. But the spell's magical effect that follows—a sudden, somewhat icy stillness—materializes as musical sound. Hermione summons harp glissandi, sustained upper register strings, and softly shimmering windchimes to her world to freeze the pixies. In crossing the diegetic boundary into the perceptible realm of the characters, musical timbre acts as an index of magic. Because musical sounds break into the characters' world *to be the sound of magic*, we can theorize that music and magic emanate from the same narrative *and physical* space—a space just beyond the everyday reach of the characters.

The physically transformative impact of music as the sound of magic resonates with Robynn Stilwell's theorization of the diegetic boundary as a fantastical gap. She writes:

> The border crossing is not so much an event as a process, not simply a crossing, or even passing through distinct intermediary states, but a trajectory, a vector, a gesture. It unfolds through time, like film, like music. [153]

Musical spell sounds in the Harry Potter films are the embodiment of the fantastic physics Stilwell describes. Musical spell sounds' "crossing" of the diegetic boundary is the gesture of the magic, a gesture in which film and music are inextricably linked.

There are numerous examples of non-diegetic music breaking into the diegesis to be the sound of magic. Consider a famous scene from *Harry Potter and the Sorcerer's Stone* (2001) when Hermione casts *Wingardium Leviosa* in Charms class. To Ron's chagrin, Hermione correctly incants the spell and we hear the diegetic swish and flick of her wand. The spell then lifts Hermione's feather aloft with soft, fluid, airy musical tones. The rising orchestral timbres enter—and transform—Hermione's world as the sound of magic, indexical of the spell's impossible physics.

Another important example from the first film is the scene in which Harry gets his wand. Upon walking into Ollivander's wand shop, Harry tries two wands before he finds the wand that best connects him to magical energy. Notably, on Harry's first two attempts at channeling magic with a wand, there is no music. Harry breaks a glass and sends wand

[153] Robynn J. Stilwell, "The Fantastical Gap between Diegetic and Nondiegetic," *Beyond the Soundtrack: Representing Music in Cinema*, eds. Daniel Goldmark, Lawrence Kramer, and Richard Leppert (Berkeley: University of California Press, 2007), 184-185. See also choreographer Paul Harris's discussion of the *gesture* of spell casts in the final four films: Alyssa Tieman, "Exclusive Interview: Paul Harris Shares His Journey to Creating the Wand Choreography of 'Harry Potter,'" *Fan Fest*, https://fanfest.com/exclusive-interview-paul-harris-wand-choreographer/, July 2019.

boxes flying off the shelves in a music-less chaos. Despite many destructive diegetic sounds, the absence of musical timbre leaves these first attempts feeling rather silent. Only on Harry's successful and final attempt does music emerge, and it does so in a spine-tingling way.

Ollivander (John Hurt) takes the third wand box off the shelf and holds it contemplatively. He raises an eyebrow as he looks at it and we hear the soft, sparkling tones of a celeste alongside smoothly trilling strings, breaking the silence of the underscore. "I wonder…" Ollivander says, with knowledge of this wand's ominous history. At this moment, it feels as though music and magic have awoken in the previously silent non-diegetic realm, as though they are watching the diegesis, waiting for the proper to moment to cross into it. That moment arrives when Harry finally holds the destined wand.

As Ollivander hands Harry the wand, a harp articulates five descending pitches. Through the harp's timbre, music and magic cross into the diegetic world. The timbre transitions from the previously luminous celeste and trilling strings to something more corporeal and tactile: a harp's sound is indexical of fingertips plucking strings. As Harry holds the wand, this timbre tells me that magic is becoming corporeal, entering the tactile and real space of the diegetic realm. Its five descending pitches match not only the contour of a body travelling downward, but also indexically reference each fingertip on a human hand. In the harp's timbre, I hear magic as an invisible hand materializing around Harry's connection with the wand.

As Harry holds the wand in awe, music and magic materialize fully. The lighting illuminates Harry at the center of the frame and the timbre of a choir sweeps through the

scene alongside energized lyrical strings and deeper harp arpeggios. Through the timbre of the choir, magic's invisible body speaks in a host of voices. The strings—cascading smoothly through their warm middle range and then rising—might very well be the invisible physical source of the impossible breeze that gusts through Ollivander's shop, tussles Harry's hair, and causes the lights to flicker. The timbre of the harp's deep arpeggios is even more rounded and resonant than when the harp breached the diegetic boundary. Its breadth is the sound of a thing fully formed. Standing in front of Harry, Ollivander looks around his shop, taking in the impact of the magical event. "Curious," he says, "very curious." Confirming Harry's magical connection with the wand, Ollivander explains: "It is curious that you should be destined for this wand when its brother gave you that scar."

This imagination of non-diegetic music as a supernatural force peering into the diegesis is similar to theories discussed by Kevin Donnelly who writes:

> […] This notion of the paranormal is particularly suited to describing and conceptualizing non-diegetic music in film, which has an origin outside the diegetic world of the film it inhabits[.][154]
>
> Underscores exist within films as a spectral presence, a celestial voice of God, seemingly appearing from nowhere, almost as if from heaven itself.[155]

Magic, and its musical sound, do indeed "seemingly [appear] from nowhere." Donnelly goes on to argue that non-diegetic music can further be conceptualized as a demon that possesses and controls both the characters and the audience. I would argue that the physics of musical magic in the Harry Potter films does something slightly different. Because musical magic is often summoned and controlled by the characters, it is less like

[154] Keven Donnelly, *The Spectre of Sound: Music in Film and Television* (London: British Film Institute, 2005), 19.
[155] Ibid. 41.

a possessing demon and more like a conscious well of energy that the characters channel through a fantastical physics. Though non-diegetic music and magic certainly may arrest characters, they only do so if asked.

Qualities of Spells: Icon and Embodiment

Musical timbre offers a believable rendering of the sounds of magic, in part, because it also functions as an icon, *resembling* the physical characteristics we expect from specific spells. Before continuing, it is important to acknowledge that magic by its very nature blurs the boundary between index and icon. Oxford Languages defines magic as, "the power of apparently influencing the course of events by using mysterious or supernatural forces." Magic, in other words, involves mystery. It invites us to use imagination to fill in physically impossible gaps. Timbre scholar Isabella van Elferen describes the relationship between music and magic in popular media this way:

> Fantasy is a curiously musical genre. […] Music suggests the possibility of another reality: a world or universe more beautiful, more harmonic, more brilliant than ours. The simple fact of its sound makes music lift the veil of the supernatural, […] making audible a fragment of that other world by traversing the timespace from then and there to here and now. It is because of its otherworldly origins that music is often described in fantasy literature as sounding like "nothing ever heard before."[156]

As Zachary Wallmark put it in a conversation with me about musical magic in the Harry Potter films, no one knows what magic sounds like. Because magical sound is, in part, an act of imagination, we can believe that musical sound *is* the sound of magic (index) and at the same time recognize that musical sound *resembles* magic (icon), acting as a best guess at magic's mystery.

[156] Isabella van Elferen. "Fantasy Music: Epic Soundtracks, Magical Instruments, Musical Metaphysics," *Journal of the Fantastic Art* 24, no. 2 (2013), 4.

I will explore the way music resembles the physical qualities of magic through two kinds of spells: freezing spells that counter motion, and *Expecto Patronum*, a spell that repels darkness and despair. Freezing spells are an attractive case study because they occur in several films and share a core sonic shape that varies according to each spell's context. *Expecto Patronum* is not only one of the films' most famous spells but is also among the films' most obviously musical spells. It appears in multiple films and occurs at crucial plot points in two films.

Because freezing spells counter motion, they share a general sonic profile. Whether incanted or not, they all include some kind of electrical woosh[157] followed by sustained motionlessness. Within this shape, musical timbres believably resemble each spell's specific context. Perhaps the three most well-known freezing spells in the Harry Potter series are *Petrificus Totalis*, cast against Neville (Matthew Lewis) by Hermione in the first film, *Immobulus*, cast by Hermione over the hoard of pixies in the second film, and a wordless freezing spell cast by Kingsley (George Harris) against the Death Eater Fenrir Greyback (Dave Legeno) during the Battle of Hogwarts in the final film.

The sound of each spell reflects its circumstances. *Petrificus Totalis* is also known as the Body Binding spell. Hermione casts it against Neville when he tries to prevent her, Ron, and Harry from sneaking out of the Gryffindor common room. At the beginning of the spell, the light that issues from Hermione's wand is stringy, a physical property resembled and made visceral through an electrical sound effect that recalls a sprinkler as it first shoots out jets of water. As an eerie, stone-like visual effect discolors Neville's

[157] The term "electrical-woosh" is used by The Nerdwriter (Evan Puschak) in the video essay "Harry Potter: What Magic Sounds Like" to describe a sound effect characteristic of spells in *Harry Potter and the Chamber of Secrets* (2002). https://www.youtube.com/watch?v=bJvOqXdsEp8.

stiffening body, uneasy midrange strings enter into the spell's motionlessness. The tone of their middle range is empathetically accessible. The strings resemble and feel physically like a sinewy, mid-sized body suddenly stuck and vibrating against restraints. Because Neville is standing when the spell strikes him, he slowly loses his balance and falls as a frozen plank, striking the floor. When Neville hits the floor, the echoey low range resonance of struck strings is slightly more eerie than comedic Mickey-Mousing. It sounds, and *feels*, as though Neville has landed on the low end of a mysteriously large and invisible piano. "Scary" is the word Ron uses in response to Hermione's spell immediately after its completion. Though the spell holds to the generic profile of an explosive woosh followed by motionless sustain, its timbres believably resemble *this* spell's specific circumstances: the spell is cast on a midsized body that then eerily stiffens and falls with dramatic impact.

Immobulus, like *Petrificus Totalis*, begins with Hermione's incantation and involves an explosive woosh followed by sustained stillness. Yet, *Immobulus* contrasts with *Petrificus Totalis* in many ways. One, I would argue, is that the spell halts greater chaos. The pixies it freezes are not merely blocking Hermione, Ron, and Harry's exit, but actively dismantling an entire classroom—shredding papers, dislodging a many-boned skeleton from the ceiling, and ultimately dragging Neville into the air to hook his robes over a chandelier, leaving him dangling several feet above the debris-strewn classroom floor. The explosive woosh for this spell is more dramatic, as if a full crack of lightning is required to neutralize the pixie's devilry. Another important difference between *Immobulus and Petrificus Totalis* is that *Immobulus* is cast on several small bodies rather than one midsized body. Furthermore, the spell freezes these bodies in a weightless,

floating state rather than binding them in a stone-like mass that succumbs to gravity. Fittingly, the musical timbres that emerge in the spell's sustain are shimmery and atmospheric. The high range sustained strings and sparkling, somewhat muffled windchimes resemble the physicality of the pixie's small bodies, glazed eyes, and delicate wings. The timbres, like the pixies, seem to float, rearticulating in upward sweeping gestures as pixies drift past the camera at various angles.

The camera angle works in concert with musical timbre to emphasize *Immobulus*'s uniquely atmospheric quality. Before Hermione casts the spell, the camera frames Hermione, Ron, and Harry horizontally at eye level, placing the audience where it, too, is being rained upon by shards of destroyed textbooks. But when Hermione casts the spell, the camera immediately switches to an incline, looking at Hermione from above as she shouts, "*Immobulus!*" The second the electrical sound effect resolves, the camera cuts to a countershot, looking upward from behind the protagonist trio at the suddenly stalled chaos. That the camera "looks up" at the same moment that the pixies are frozen in suspension and sparkling high register musical sounds emerge in the spells' timbre, adds to the feeling that musically twinkling magic is floating alongside the Pixies and Neville. In comparison, to follow the trajectory of *Petrificus Totalis,* the camera stays entirely horizontal, moving closer to the floor on the final countershot to hold Neville's impact at center frame.

Like *Petrificus Totalis* and *Immobulus*, the wordless freezing spell cast by Kingsley during The Battle of Hogwarts begins with an explosive sound effect and is followed by a sustain. But it also has many characteristics that set it apart. Kingsley uses the spell against an attacking Death Eater, Fenrir Greyback, who breaks through a

window en route to Kingsley. The spell halts Greyback's attack, holding him briefly in a motionless state before flinging him back through the window through which he entered. If *Petrificus Totalis* bound and tipped a body that refused to move, and *Immobulus* froze and suspended bodies that refused to be still, the wordless freezing spell halts *and reverses* the motion of a single body. In addition to its unique physical trajectory, the spell is distinct because it involves continued effort from Kingsley throughout its duration. Hermione's *Petrificus Totalis* and *Immobulus* functioned somewhat like light switches: the spells' effects, once "switched on" didn't require anything more from Hermione. As Kingsley casts the wordless freezing spell, he maintains focus, motioning with his wand continuously to hold Greyback in place.

Finally, this spell is distinct because it occurs during a fight sequence. Its musical timbres reflect the physical shape of the spell while also performing conventions of fight scene underscore. The wordless spell cast is *not* as premeditated as *Petrificus Totalis* or as atmospherically diffuse as *Immobulus*. Instead, its shape is reactive and direct, fitting the dynamics of forces exchanged in combat. At the onset of the spell, piccolo and high register symphonic timbres ignite both the explosive sound effect and the flash of light emitted by Kingsley's wand. These timbres open up an abrasive and sharp soundspace that characterizes the spell's sustain. As Greyback is locked in his airborne leap, we hear glass shards from the broken window behind him suspended over tensely sustained high register strings. Kingsley continues a circular motion with his wand—as though he is spinning a centripetal force that keeps Greyback at bay. Commanding music and magic at once, Kingsley launches the Death Eater back through the window, the music's motionless strings giving way to crescendoing brass. While the brass at first mimic the

intensity and focus of the launch, the timbre quickly becomes recognizable as typical underscore for a fight sequence.[158] By the end of the reverse-launch-crescendo, it feels as though musical timbre has simultaneously served as the sound of magic, expressing *this* spell's shape, while also resembling the gestures of the fight in underscore.

In contrast to freezing spells, which body-lock their targets with seemingly invisible force, *Expecto Patronum* has no target. Instead, it creates a brightly visible white shield that protects its caster and those in the proximity of the spell. Also called the Patronus Charm, *Expecto Patronum* is advanced magic, usually requiring years of training to produce. It relies on the caster's ability to focus on a deeply happy memory. The spell is specifically used to repel soul-sucking creatures called Dementors that feed on despair. In its most advanced and effective form, the spell produces a corporeal Patronus, that is, a guardian figure made of white light that takes the shape of an animal significant to the wizard who casts it. Professor McGonagall's Patronus, for example, is a cat—the animal into which McGonagall transforms as an Animagus (and consequently, the form in which we first meet her in the books and films).

Expecto Patronum involves a warm, pulsating sound effect, but it is widely defined by its musical sound. The video essayist and multimedia editor Evan Puschak, who uses the handle Nerdwriter, describes the Patronus Charm this way:

> The Patornus is built out of voices, a chorus of angels that fits with that heavenly projection of your soul without fear.[159]

In other words, the spell is not only made of vocal sounds, but the vocal sounds resemble the peacefulness we expect from the spell. Indexically, I know that to produce a

[158] For more on brass hits, see Chapter II of this dissertation (58-60).
[159] Nerdwriter1, "Harry Potter: What Magic Sounds Like," YouTube video, November 15, 2018 (4:24-4:32).

controlled, sustained, and resonant vocal tone (like the ones I hear in the spell), my body must be in a safe and stable place. This timbre is the sound of the ability to take a breath and to support that breath uninterrupted by violence. Resembling the spell's peaceful and powerful impact, the timbre functions as an icon, deepened through bodily knowledge.

The hovering, luminous soprano voices likewise function as an icon of the luminance of the spell's white shield. Several scholars have written about the relationship between sound quality and metaphors of luminance. Zachary Wallmark and Roger Kendall, for instance, have discussed the prevalence of the SOUND IS LIGHT conceptual metaphor in psychological timbre research of the past four decades.[160] Wallmark and Kendall show that luminance is among the most commonly shared categories of timbre description across multiple languages.[161] Interestingly, timbral brightness is often discussed specifically in the context of the voice: certain vowel sounds are considered to be brighter than others. I would argue, though, that the luminance of the voices in *Expecto Patronum* is different from many of the ways scholars tend to talk about timbral brightness. The voices are not piercing, nasal, shrill, narrow, or abrasive, as many descriptions of "bright" timbres suggest. Instead, they are clear, open, and resonant, expanding into their environment just like the light of the spell's white shield. The word "luminous" itself is rounder, softer, less abrasive and more mysterious-sounding than the relatively percussive, single-voweled word "bright."

[160] Wallmark and Kendall, "Describing Sound"
[161] Ibid. See also Asterios Zacharakis, et al, "An Interlanguage Study of Musical Timbre Semantic Dimensions and Their Acoustic Correlates," *Music Perception: An Interdisciplinary Journal* 31 (2014), 339-358; Lindsey Reymore, "Empirical approaches to timbre semantics as foundation for musical analysis" PhD diss., Ohio State University, 2020.

This same resonant and expanding luminance occurs in *The Lord of the Rings: The Return of the King* (2003) as the wizard Gandalf rides out to protect Faramir's fleeing army. Gandalf raises his staff and wordlessly produces a white light accompanied by a vibrant soprano voice. The spell's light and sound reach across the battlefield to repel the pursuing Nazgul. Like Dementors, the Nazgul (Ringwraiths) walk an eerie space between the living and the dead. Mounted on dragon-like fell beasts, in this scene, the Nazgul attack from the air, much as Dementors in the Harry Potter universe float above and overwhelm their victims. The impact of Gandalf's luminous spell is as powerfully hopeful, steadfast, and resonant as *Expecto Patronum*.[162]

The first time we experience the Patronus Charm in the Harry Potter films, it is cast wordlessly by an expert, Professor Lupin. He drives away a Dementor whose presence is most unwelcome in the train cabin he shares with Hermione, Ron, and Harry. As the white shield emanates from Lupin's wand, the luminous soprano voices are joined

[162] The similarities between *Expecto Patronum* and Gandalf's protective light spell, in combination with the relatively close release dates of both films, prompts questions about how each spell was designed and if they share other significant connections. No overlap of department leadership (supervisors, composers, etc.) or other creator/editor roles (sound designers, additional music composers, orchestrators, sound editors, etc.) occurs between the sound and music departments for these films. Only one sound department member is credited as working on both films: the re-recording mixer Michael Semanick, whose role would not likely involve choosing the spells' musical sounds. Several musicians, however, did serve in both music departments, most notably the following singers and choirs: Jacqueline Barron, Heather Cairncross, Rob Fardell, Andew Hewitt, The London Oratory School Boys Choir, London Voices, and Gaby Santinelli. However these specific spells came to be designed in these specific films, their impact is stunning. The mystery of their production and the relative invisibility of their shared performers are both evidence of the need for more transparency in the production of musical sound in film. A similar musical luminance also occurs in *Star Dust* (2007) when Yvaine (Claire Danes), the fallen North Star in human form, shines brightly to repel (and ultimately dematerialize) a murderous witch. In this instance, luminous soprano voices are a prominent piece of the musical sound effect at its onset, but are quicky overtaken by the rest of the orchestra as it underscores the film's climax with a dramatic cadence. Another subtle example occurs in Rayla and Callum's dance scene from Season 3: Episode 3 of *The Dragon Prince* (2019), discussed in Chapters VI and VII of this dissertation. Choral voices accompany the translucent white dome that envelops Rayla and Callum when they clasp hands at the center of the dance spell performed to access Rayla's magically concealed home. The translucent white dome is less vibrant than Gandalf's light spell, the Patronus Charm, or Yvaine's shining. The white dome's relative subtlety is mirrored in its more subtle use of choral sound.

by a low, warm pulsating sound effect. The sound effect is grounding, linear, and smooth, in spite of its fluctuations. In combination with the luminous voices and the spell's white shield, it truly feels as though I am pushing something—an impending darkness—gradually and gracefully away from me.

When Harry first successfully casts the spell (against a Boggart in Lupin's office), there is a pause between his incantation and the emergence of the white shield, illustrating the effort involved in channeling the spell. The moment the shield appears, the luminous voices and warm sound effect also materialize. In this particular cast, we can also hear lower voices occasionally enunciating percussive consonants and midrange strings arching back and forth between two pitches. The lower, mysterious voices, because they take on apparent speech and not merely vowel tones, give an eerie effect. If Harry has opened a portal to the magical non-diegetic realm, a sentient piece of it is chanting at him. On the one hand, the consonants in the chanting low voices resemble disruptions to the spell's peaceful aura, which seems reasonable given that Harry is producing this incredibly advanced spell for the first time. The low chanting voices also resemble numerous instances in film when a character hears several whispering voices in their mind. It is possible to read the low, background voices as the result of musical magic intersecting with Harry's attempt to control his thoughts. The midrange oscillating strings feel like a body trying to hold two places at once, mirroring Harry's effort to sustain the spell and repel the Boggart.

The final time Harry casts *Expecto Patroum* in the third film is the most musically lush. He casts the spell at a climactic moment to repel an onslaught of Dementors threatening to suck out his godfather's soul. Immediately following Harry's dramatic

incantation, the luminous soprano voices enter the soundscape. Before the emergence of the white shield and warm sound effect, we hear only the soprano voices and Harry's breath. For this second and a half, the world feels like all it contains is light and breath, despite the absence of the white light on screen. When the low, warm sound effect and bright white shield emanate from Harry's wand, the spell feels all the fuller and more vibrant, as though the opening soprano voices had smiled knowing their full—and now apparent—power. The white shield continues to expand, repelling dementors, and taking the corporeal from of Harry's Patronus: a stag (the same as his late father's). As the spell expands, a warm and lyrical French horn joins the spells' sounds and glides through a simple, sustained melody. In contrast to the low, chanting voices audible in the background of Harry's first Patronus Charm, the additional musical timbres in this climactic cast are as sustained and hopeful as the luminous soprano voices that consistently define the spell.

In sum, both freezing spells and *Expecto Patronum* draw on embodied knowledge through timbres that resemble the qualities and circumstances of each spell. Another reason these timbres are expressive of magic relates to the final semiotic lens: the symbol, discussed in the next section.

What it Means to Perform Magic: Symbolizing Awe, Utility, and Consequences

In the spells above, I have variously alluded to musical timbre acting as symbol. The choral voices behind both *Expecto Patronum* and Harry's first channeling of magic with a wand, for instance, imbue those moments with culturally reliant symbolism of fate, the divine, or the celestial. Likewise, the timbres that assisted Hermione in freezing the

pixies read easily as magical timbres in part because harp-like timbres have a long history of symbolizing magic. Tinkling timbres, in particular, have been associated with fairy creatures.[163] The timbral shifts in each cast of *Expecto Patronum* also invite leittimbre as an analytical lens. While choral voice is a defining feature of the spell, its specific sonic inflections vary slightly with the spell's context, similar to the way a melodic theme might undergo various thematic techniques to reflect the developing narrative.

The case of Hedwig's Theme, whose incipit inflects the title sequence at the beginning of each film, is an excellent example of the meaningful connection between leitmotif, timbre, and topic theory.[164] Though the theme has come to be understood broadly as a symbol of the Harry Potter franchise—and takes on symbolism worthy of its own book over the course of the series—in name it is the theme for Harry's owl, Hedwig. Hedwig has widely been discussed as a symbol of Harry's childhood. As many heartbroken fans know, Hedwig's life comes to an end in the seventh film, *Harry Potter and the Deathly Hallows, Part I* (2010), when Harry is leaving the Dursleys for the last time. Timbre in Hedwig's Theme during the title sequence for each film reflects this broad narrative arch, first, by connecting with what music theorist Janet Bourne has recently called the childhood topic. Bourne names high instrumentation, such as piano or celeste, as a key feature of the topic as well as associations with wonder and playfulness.[165] In the first film's title sequence, Hedwig's Theme is fully orchestrated, its fullness retrospectively sounding Hedwig in full corporeal presence. In the second and

[163] Consider the fairy Tinker Bell in stage plays of the *Peter Pan* story, for instance, who was projected on stage using mirrors and bells, casting her as a dancing spot of light with a musical.
[164] For an overview of topic theory, see *The Oxford Handbook of Topic Theory*, ed. Danuta Mirka (New York: Oxford University Press, 2014).
[165] Janet Bourne, "The Childhood Topic and Coming of Age in 1994 and 2019 *Little Women*," paper given at Music and the Moving Image, NYU Steinhardt / Virtual, May 28, 2021.

third films, the theme is heard in its famous celeste timbres, drawing references to magic and childhood together.

The fourth film as a whole, which is far more starkly gendered than the book, begins to focus on sexuality and marks a distinct sonic shift in the title sequence. It opens with brass and strings, and Hedwig's Theme emerges late in the sequence in string timbres with light windchimes playing a diffuse, atmospheric role. The sounds seem to symbolize childhood receding to the background as a new body is formed. Perhaps affirming this new body, the fifth film begins with whispers, then casts Hedwig's Theme in brass, flute, and strings.

The sixth and seventh films each begin atmospherically, like the fifth, but restore the celeste timbre to Hedwig's Theme. In the sixth film, especially, the timbre sounds smoother, cleaner, less sparkling and more luminous in comparison to its sound in the second and third films. To me, this symbolizes nostalgia for childhood—the celeste timbre's smoothness is like a softly blurred image, as if remembering childhood from a distance. It even evokes the way light blends and fluctuates when vision is blurred by tears. *Remember?* the returning celeste seems to ask, in the face of increasingly frequent tragedy. The seventh film is the last to use celeste for Hedwig's Theme in the opening credits, as well as the last opening credits to use the theme at all. A narrative motivation for this could be that Hedwig (and by extension Harry's childhood) dies at the beginning of this film. The eighth and final title sequence is the only title sequence that does not use Hedwig's Theme. In her absence, the lyrical, sinewy strings and solo soprano voice are at once softly and sweetly elegiac, and thrillingly fateful.

At a broader narrative level, musical timbres' symbolism influences the feeling of time in Hogwarts castle. Part of what makes Hogwarts feel old is the use of historical English instrumentation. In the famous "Double Trouble" choral performance from *Harry Potter and the Prisoner of Azkaban* (2004), for instance, the combination of riffing bassoon, basso continuo style harpsichord, and commentating recorder all point to Baroque era stylistic traits. Maddy Shaw Roberts, writing for *Classic FM*, described the musical aesthetic as "straight out of an early Purcell opera."[166] Jamie Lynn Webster discusses a parallel timbral reference when headless horsemen ghosts crash through Hogwarts' ornate windows to the sound of English Renaissance crumhorns. She writes:

> [T]he viewer hears an ensemble of reeds, horns, and percussion instruments playing a tune akin to Renaissance dance music which refers to the notion of medieval pageantry at Hogwarts. […] This example seems more like source music than the Renaissance tune used for Nearly-Headless Nick in the second film because the specialized instruments stand apart more from the conventional orchestral timbres.[167]

These culturally, historically, and stylistically situated timbres, in other words, help us to hear and feel Hogwarts as a centuries-old, European castle. In addition, they tell us that magical practice itself has long-reaching traditions and history.

In what I think is one the most impactful transformations over the course of the series, musical sound—or its absence—symbolizes the changing significance of magic-making. A fourth instance of Harry casting *Expecto Patronum* illustrates this change. At the beginning of the fifth film, Harry and his non-magical cousin Dudley (Harry Melling)

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[166] Maddy Shaw Roberts, "Harry Potter soundtrack: 'Hedwig's Theme' and everything you need to know about the film franchise's magical score," *Classic FM*, September 8, 2020, https://www.classicfm.com/discover-music/periods-genres/film-tv/harry-potter-soundtrack-hedwig-theme-john-williams/.

[167] Jamie Lynn Webster, "The Music of Harry Potter: Continuity and Change in the First Five Films," PhD diss., University of Oregon, 2009, 208.

find themselves as the targets of two Dementors that have strayed far from their usual range. In stark contrast to the musically lush and extensive Patronus Charm Harry Performs near the end of the third film, this Patronus Charm is brisk, reactive, and relatively short-lived. Its brevity reflects its use as a tool, rather than its magical wonder. Further, Harry directs the spell with the control of an expert. He casts it toward one Dementor, then launches the spell at the other in the opposite direction. Unlike the one-size-fits-all, wide shield of the third film's final Patronus Charm, this spell cast shows that Harry now possesses the expertise to direct and redirect the spell at specific targets.

This trend is true of the films more broadly. In in the early films, the timbres of spells are much more sustained and prominently musical. They symbolize the curiosity and awe of first learning magic. As political tensions escalate, and the characters gain a more technical knowledge of magic—and learn more about its consequences—spell timbres become increasingly reflective of magic's utility and its larger impact.

Consider, for example, how spells lose their musical sounds in the Room of Requirement montage from the fifth film. During this montage, Dumbledore's Army (a secret student group that meets to teach themselves magic in the face of the Ministry's increasingly restrictive interference at Hogwarts) gathers in the Room of Requirement and under Harry's direction practices a variety of defensive spells. None of the spell sounds use musical timbres. Part of the reason for the absence of musical spell sounds is the circumstance of the montage. The montage cuts between the students' practice and the efforts of Dolores Umbridge and Filch to disband Dumbledor's Army, all the while supported by comedic orchestral underscore. To have included musical sounds for the spells over this underscore might have posed an unnecessary challenge for the composers

and sound designers. But the omission of musical spell sounds at such a critical moment in the students' educational journey also has the effect of making magic seem less about awe and more about its usefulness. As Harry says during the montage to encourage his peers' practice:

> Think of it this way, every great wizard in history has started out as nothing more than what we are now: students.[168]

Harry names a new goal of magic—not awe or curiosity, but great technical prowess. The increasing number of fight sequences as the plot culminates have similar sonic restrictions and convey similar messages about using magic—that it is a tool or a weapon more than a fantastical mystery.

As characters are exposed to more complicated magic with more serious consequences, musical timbre speaks less to the physical qualities of spells and more to their symbolic impact. Consider in the sixth film when Harry casts *Sectum Sempra* against Malfoy (Tom Felton), without knowing the spell's gruesome effect. As Harry yells *Sectum Sempra!*, an electrical sound effect issues from his wand. We hear Malfoy yell and his body thud to the floor of the flooded bathroom. To this point, the spell has conjured no musical sounds. Harry's breath, leaking water, and Malfoy's labored whimpers are the most prominent sounds as Harry walks slowly towards the point where Malfoy fell out of the frame. Notably absent are Harry's footsteps. The sound design seems to reflect Harry's fear of approaching Malfoy to see the damage he has done. As Malfoy's body becomes visible, a soft, high string harmonic evokes physiological

[168] *Harry Potter and the Goblet of Fire* (Los Angeles, CA: Warner Bros. Pictures), DVD, (1:02:25-1:02:40).

shock.[169] A low rumbling bass enters like dread boiling in the pit of my stomach. As Harry gets closer to Malfoy's body, mournful midrange strings join him, moving slowly, as though attentive to the severity of harm Harry has caused Malfoy. In part because the strings are sinewy—like a muscly body—and in part because they are in a range comfortably accessible to the human voice, the mournful midrange strings sound strikingly empathetic. In this musical sound, I hear the consequences of Harry's spell: a jeopardized, uncertain, and physically present body.

My favorite example of musical timbre symbolizing what it means to perform magic is the scene described at the opening of this chapter when Professor Minerva McGonagall casts *Piertotum Locomotor* in preparation for the Battle of Hogwarts. As McGonagall walks to the castle's entrance alongside Molly Weasley (Julie Walters) and Professor Filius Flitwick (Warwick Davis), we hear gradually descending midrange strings supporting a fateful chime. The chime is iconic of large cathedral bells marking the hour and here symbolizes "the final hour." Pausing midway down the stairs to Hogwarts' doors, Flitwick confirms the hour's fateful significance. "You do realize we can't keep out You-Know-Who indefinitely," he says. The camera cuts to frame the three wizards from the doors of Hogwarts, looking out to the bridge by which the dark wizard Voldemort (Ralph Fiennes) will presumably approach. McGonagall responds, "That doesn't mean we can't delay him." The camera cuts back to face the three wizards with McGonagall at center. A sustaining, warm, midrange solo trumpet enters as the chime ceases and McGonagall continues, "And his name is *Voldemort*, Filius. You might as well use it. He's going to try to kill you either way." The trumpet timbre symbolizes

[169] Danijela Kulezic-Wilson, "The Music of Film Silence" *Music and the Moving Image* 2, no. 3 (Fall 2009), 1-10.

military musical practices to foreshadow the impending battle. It is *not* the "Taps" bugle call performed by solo trumpeters at military funerals, but in referencing this somber ritual, it predicts death.

The single trumpet lingers as the camera cuts back to framing the three wizards from behind, looking out from the steps of Hogwarts at the path of their impending doom. A harshly articulated, low, militaristic drum rings out as McGonagall turns sharply towards Hogwarts to face the camera with her wand extended. The lone trumpet and the dissipating rumble of the low drum seem to hold their breath as McGonagall incants, "*Piertotum Locomotor!*" As the first stone soldier crashes to the ground, we hear the onset of a simple, full-bodied melody in midrange strings. The strings are sinewy and corporeal, sounding the statues' new life. Their comfortable frequency range feels empathetic and grounded, as though my very body *could be* those strings, marching with and among the many stone soldiers. The melody falters poetically down and then rises, continuing under the sounds of wizards casting protective enchantments over Hogwarts. They know, as my body knows, that their fate lies wrapped up in the imminent and ultimate deadly battle. That this music begins with McGonagall's animation of the first stone soldier—as though *she* were bringing the empathetic strings to life—tells me that her spell is more than a weapon of defense. It symbolizes, viscerally, a uniting act of faith and courage against forces far greater than any one of the characters alone.

Conclusion

By considering musical timbre as indexical, we have seen that music can cross the diegetic boundary to be the sound of magic, and that music and magic emanate from the same physical space. We have seen that despite how physically impossible acts of magic

may seem, musical timbre can resemble acts of magic with specificity and offer a physically believable rendering of a spell's quality. And by thinking of how musical timbre is symbolic, we have seen that while magic-making in the early films is more musical, projecting a sense of awe and curiosity about magic, in the later films, music removes itself from spell sounds to show the utility of magic, and sometimes it lingers just on the other side of the diegetic boundary with a message about the consequences of magic or the higher fate magic confronts. The takeaway for us muggle filmgoers who are still waiting for our Hogwarts acceptance letters is an exciting one: if music and magic are bound so intricately together, then perhaps, as Dumbledore mused, the music in our muggle world is more magical than any wizard or muggle ever dreamed.

CHAPTER IV: THE CINEMATIC PIANO

Introduction

Picture a piano. What are you picturing? A grand piano on a classical stage? Or an upright at the back of a bar? Who is playing the piano? And for whom are they playing? The piano is arguably *the* instrument of the Western musical world.[170] It is central in Western music education, analysis, and composition, and it should come as no surprise that it has made many famous appearances on the big screen. What ideals and social constructs are associated with such a culturally significant instrument? Answering this question is meaningful for music scholars, iconologists, film scholars, and filmgoers alike. To understand the significance of an image—or a complex social object like the piano—is to understand part of a cultural vocabulary, which in turn is to understand a small piece of the world and the way we live in it. Expanding upon the semiotic framework presented in Chapter II, this chapter focuses on a particularly powerful sign in cinema—the piano—using it as a case study to explore timbre as a multi-modal experience.

There are several ways we might consider the piano. Thematically, the piano might symbolize civilization (*The Piano,* 1993), truth (*Shine,* 1996), or transcendence (*The Pianist,* 2002). In the case of the player piano, especially, it may be used to question boundaries between human and machine[171] or evoke technological nostalgia.[172] Socially, the piano might be associated with "the woman" (*Pride and Prejudice,* 2005), spectacle

[170] See Arthur Loesser, *Men, Women and Pianos: A Social History*, (Mineloa: Dover Publications, Inc., 1954).
[171] Catrin Watts, "'The piano doesn't murder the player if it doesn't like the music': Women and Music in *Westworld*" paper presented at Music and the Moving Image, NYU Steinhardt, June 1, 2019.
[172] Allison Wente, "A Comeback Role: Nostalgia and the Player Piano in TV and Film," paper presented at AMS-SMT, November 2, 2018.

(*Big*, 1988), or wealth (*Iron Man*, 2008). Functionally, the piano might serve as a narrative agent (*Dan in Real Life*, 2007; *The Hangover*, 2009), as a character's voice (*The Piano*, 1993), or as a portal to another world (*Batman Begins*, 2005; *The Lady in the Van*, 2015). The piano may also appear in association with certain affects, such as nostalgia (*Little Women*, 1994) or tragedy (*Dr. Strange*, 2016). While many such considerations are fruitful, it is necessary to limit the scope of the current study.

For this study, I have gathered a database of 60+ films that feature the piano significantly (recorded in the appendix). I focus on narrative films released in the United States in the past three decades, with some exceptions for films with several remakes (such as the 1940's *Pride and Prejudice* and subsequent films based on the Jane Austen novel of the same name). I draw on musicological lenses (Cox, Davison, Leppert, Thomas) and film theory (Eisenstein, Chion, Sobchack, Cook, Ireland) to analyze and describe the piano as a multi-dimensional object bearing iconographic significance, narrative context and function, an audiovisual blueprint, and iconological meaning.

This study offers evidence that the cinematic piano largely abides by nineteenth-century gender norms and is strongly associated with nineteenth-century ideals such as tragedy, transcendence, and nostalgia. We will see that in films set in the nineteenth century, such as *The Piano* (1993), *Little Women* (1994), and *Pride and Prejudice* (1940, 1995, 2003, 2005), the piano appears primarily with *female characters* in domestic or social settings and secondarily with *male characters* in displays of virtuosity, wealth, or power. Films set outside of the nineteenth century, such as *Groundhog Day* (1993), *The Pianist* (2002), *Road to Perdition* (2002), and *Dr. Strange* (2016), overwhelmingly present the piano in the hands of *male characters* who continue to use the instrument to

display achievement, virtuosity, wealth, and power. Regardless of period setting, the piano—as image and timbre—frequently accompanies scenes that feature Romantic ideals.

In addition to tethering the piano to Romantic era gender norms and ideals, recent film tends to place the piano in the hands of certain types of characters. While character tropes merit their own discussion entirely, one example is that of the male entertainer. Although he is positioned publicly and performs with virtuosity, his primary role as entertainer can be read as a service, placing him in a power dynamic beholden to his audience. Ryan Gosling's character Sebastian in the 2016 film *La La Land* illustrates this trope. In several instances, he is forced to play music he finds demoralizing and he is valued primarily for his ability to please others. The virtuosic pianist and the male entertainer intersect through gender and the public sphere, but the power dynamics associated with the male entertainer are more nuanced.

Methodology

To frame the cinematic piano, I will turn first to musicologist Alan Davison and his three lenses for studying iconographic representations of music.[173] These lenses include visualizing performers, visualizing contexts and listeners, and interpreting music as practice and idea. Davison's approach is tailored to painting or other still visual art forms, but we can nonetheless draw parallels for representations of music in film. These are some of the ways in which we will consider the piano: 1) visualizing characters – *who plays the piano?* 2) associated dramatic contexts – *when do we see or hear the piano?* 3) "audiovisualizing" music (or musical instrument) – *how do we see and hear the piano?* 4)

[173] Alan Davison, "Representing Music-Making," in *The Routledge Companion to Music and Visual Culture,* eds. Tim Shephard and Anne Leonard (Abingdon: Routledge, 2013).

music (or musical instrument) as idea – *what affects, concepts, or ideals do we associate with the piano?* The remainder of this paper will answer the fourth question by first taking up the way the piano is framed as a cinematic image ("audiovisualizing"), then by examining associated dramatic contexts, and finally by considering issues of gender in *who* plays the piano.

Audiovisual Blueprint

"Audiovisualizing" music or musical instrument asks that we turn to film theory to investigate the sonic and visual aspects of the piano as a multimedia object. Early film theorists framed music-image relationships using the musical term "counterpoint."[174] More recently, the film scholar Michel Chion has proposed methods of audiovisual analysis that involve "masking" a scene's image or sound to determine the function or contribution of the other. Most notably, Chion identifies an audiovisual context—*anempathatic* audiovisual organization—in which we might expect to *hear* the piano:

> The *anempathetic* impulse in cinema produces those countless musical bits from player **pianos**, celestas, music boxes, and dance bands, whose studied frivolity and naiveté reinforce the individual emotion of the character and of the spectator, even as the music pretends not to notice them.[175] (emphases mine)

In contrast to empathetic audiovisual organization (which may involve a degree of mickey-mousing as it participates in the "rhythm, tone, and phrasing"[176] of the image), Chion's anempathetic audiovisual organization contains a "backdrop […] of cosmic indifference"[177] against which violence and tragedy rupture and nostalgia and

[174] For example, see Sergei Eisenstein, *Film Form: Essays in Film Theory*, translated by Jay Leyda (New York: Harcourt, Inc. 1949); Pia Tikka *Enactive Cinema: Simulatorium Eisensteinense* (Saarbrücken: Lambert Academic Publishing, 2010); and Kulezic-Wilson, *The Musicality of Narrative Film*.
[175] Michel Chion, *Audio-Vision: Sound on Screen*, translated by Claudia Gorbman (New York: Columbia University Press, 1994), 8.
[176] Ibid.
[177] Ibid.

transcendence emerge. The film *American Beauty* (1999) offers pertinent examples of this aesthetic. Thomas Newman's piano cue for the famous plastic bag scene appears in the film's crucial moments of violence, tragedy, nostalgia, and transcendence with hollow, holy-minimalistic stillness.

David Ireland speaks similar concepts in music theory and music psychology respectively. Ireland unifies conceptions of audiovisual counterpoint in film theory with empirical research from cognitive science and borrows the terms *congruity* and *incongruity* from the latter.[178] Specifically, Ireland proposes the *incongruent perspective*, or the "mismatching" of music and image as a psycho-semiotic context understood by film-viewers. Ireland's incongruent perspective suggests, for example, that in watching a violent or chaotic scene underscored by a contrastingly distilled piano line, we cognitively understand the music to voice a *congruent* emotional response. The piano sounds our shock, our disbelief, our longing for a space that escapes the tragedy (through nostalgia—that is, returning to an earlier safe space—or through transcendence—that is, rising beyond the present).

Though music theorist Raymond Monelle does not write about film music, and therefore doesn't reference Chion's or Ireland's work, his theorization of progressive and lyric time intersects with their models.[179] Lyric musical time is defined by music that is distilled, regulated, unchromatic, and unadorned, much like music that characterizes the incongruent perspective and anempathetic audiovisual organization. Progressive musical time, in contrast, is tempestuous, dynamic, jilting, much like the horrific events with

[178] David Ireland, "A Psycho-semiotic Approach toward Difference in the Film-Music Relationship," *Music and the Moving Image* 8, no. 2 (Summer 2015), 48-57

[179] Raymond Monelle, "Musical uniqueness as function of the text." *Applied Semiotics* 2, no. 4 (1997), 49-67.

which music contrasts in anempathetic audiovisual organization and the incongruent perspective. It is, in part, because the music evokes the inner spinning of lyric time and the image evokes the outer chaos of progressive time that the incongruent perspective and anempathetic audiovisual organization match the experience of internal shock in the face of trauma.

Chion's and Ireland's models work well when the piano is *heard but not seen.* A musical instrument being played on screen, however, poses a unique challenge for these audiovisual theories in that, for Chion, it often functions both empathetically (we see the fingers producing the notes) and anempathetically (we may not always see the kinesthetic correlation as the camera often pans elsewhere or the music transitions to or from diegesis). And though Ireland gives us a way to define Chion's anempathetic audiovisual structures as psycho-cultural objects, it is not clear if scenes of music performance fall under incongruent perspective or another psycho-semiotic form. But in examining these theoretical frameworks, we have unraveled the existing audiovisual possibilities of the piano (and musical performance) in film already and discovered a narrative implication behind its audiovisual liminality. That is, in directly correlating with the image and at the same time underscoring it, the piano acts as a portal between diegetic and non-diegetic musical perspectives, between this world and the next. At our fingertips, it dances between two worlds at once.

None of these theoretical approaches, however, have helped us to *see* the piano through the camera's eye. I propose that the piano tends to be framed to showcase the performer's hands, facial expression, profile, and the piano's keys. Examples of each common perspective are detailed in Figures 14-21.

Fig. 14 The performer's hands on the keyboard from above the keyboard (*The Pianist*, 2002)

Fig. 15 The performer's facial expression from the far side of the piano (*The Grand Piano*, 2013)

Fig. 16 Elevated side-view of the performer's profile, facial expression, head movement, and hand movement (*The Grand Piano*, 2013)

Fig. 17 Side-view "on the keys" of the performer's profile, facial expression, head movement, and hand movement (*Sing*, 2016)

Fig. 18 From stage-level, looking slightly upward to the performer, framing the performer's profile, facial expression, head movement, and occasional hand movement (*Sing*, 2016)

Fig. 19 The performer from behind—hands may or may not be visible (*Becoming Jane*, 2007)

Fig. 20 The piano's open lid (*Twilight*, 2008)

Fig. 21 The piano's keys—exposed (upper) or covered (lower) (*Little Women*, 1994)

Rarely does the camera look to the piano's pedals or to the audience from the other side of the performer,[180] and we almost never see the piano from beneath.[181] This visual bias points to what we already know about the piano: that we engage with it by playing it, that playing it is a form of expression, and that this form of expression is often looked at—either on the stage or from an intimate or domestic viewpoint.

The piano's audiovisual blueprint works significantly with a third sensorial component—the tactile. It is no small point that the recent trend toward embodiment in film and music scholarship frequently turns to cinematic representations of the piano. Vivian Sobchack, Arnie Cox, and Nicholas Cook offer pertinent perspectives. In "What My Fingers Knew: The Cinesthetic Subject, or Vision in the Flesh," film theorist Vivian Sobchack gives a tactile reading of the film *The Piano* (1993) (set in the nineteenth century). She describes her experience watching the film from the perspective of a "cinesthetic subject":

> Watching *The Piano*, for example, because I might feel it too intensely on both my body and hers (both bodies, to a degree, "mine"), I could not literally bear to see Stewart figurally chop off Ada's finger with an ax. I therefore not only cringed in my seat but also covered by eyes with fingers that again foresaw—in urgency rather than thought—the impending violation.[182]

Sobchack's cinesthetic subject is a visceral participant in the cinematic experience, one that acutely and representatively relates the sensation of touch with the hands.

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[180] Looking from the other side of the performer to the audience does happen somewhat more frequently in *The Grand Piano* (2013). This may be due to the film's exaggerated critique of performance anxiety. In conveying the pianist's psychological state, the image of the audience from the stage is illustrative.
[181] The HBO series *Westworld* (2016-present), which has a uniquely intrusive camera relationship to the player piano offers one exception, as was brought to my attention during Catrin Watts' previously cited paper presentation "'The piano doesn't murder the player'". The camera in this series often takes the view deep into the technology of the instrument, viewing it from all angles.
[182] Sobchack, "What My Fingers Knew" 71.

Music theorist Arnie Cox offers a related paradigm of musical experience. In a 2011 article, Cox proposed the mimetic hypothesis.[183] The mimetic hypothesis holds that "Part of how we understand music is by imagining performing the observed sound-producing actions [and/or] analogous sound-producing actions [and/or] other analogous exertions."[184] In other words, when watching someone play the piano, we might be imagining what it would feel like to play the piano (even more so if we've had the experience of playing the piano ourselves)[185]—as well as what it would feel like to physically express the qualities of the music ("skippingly" jubilant, "sedentarily" sad, "teeth-grindingly" agitated), that is, *to be* the sounding piano.

Musicologist Nicholas Cook corroborates Cox's mimetic hypothesis and Sobchack's embodied response to the sense of touch in *The Piano* (1993). In "Seeing Sound, Hearing the Body: Glenn Gould Plays Webern's Piano Variations,"[186] Cook argues that "corporeality is inherent in musical sound, and we map the 'virtual body' of the sound onto our own bodies, feel its actions as our actions."[187] In other words, the concert hall is interesting not because there is sound in it, but because there is a body in the sound.

That the piano figures significantly in Cook's, Cox's, and Sobchack's discussions of embodiment points to a hunch about the tactile significance of the piano[188] in modern

[183] Arnie Cox, "Embodying Music: Principles of the Mimetic Hypothesis." *Music Theory Online* 17, no. 2 (July 2011) https://mtosmt.org/issues/mto.11.17.2/mto.11.17.2.cox.html.
[184] Ibid.
[185] Jens Haueisen and Thomas R. Knösche, "Involuntary Motor Activity in Pianists Evoked by Music Perception." *Journal of Cognitive Neuroscience* 13, no. 6 (2001), 786–92.
[186] Cook, "Seeing Sound, Hearing the Body".
[187] Ibid, 134.
[188] See Ivan Raykoff, *Dreams of Love: Playing the Romantic Pianist* (New York: Oxford University Press, 2013); and "Music and touch in *Call Me By Your Name*," OUPblog: Oxford University Press's Academic Insights for the Thinking World, https://blog.oup.com/2018/01/music-touch-call-me-by-your-name/, January 23, 2018.

film and music culture: perhaps playing the piano is the most widely relatable *tactile* musical experience for modern film viewers. This suspicion is certainly supported by the plethora of YouTube piano tutorials on popular film scores. A Google search for "how to play *Up* on the piano," for instance, returns nearly 12 million results detailing various adaptations of Michael Giacchino's "Married Life" for the famous opening scene of the 2009 film. Also telling are the search results for the *Road to Perdition* (2002) piano duet (written by John M. Williams). On the first page, Google returns nearly as many piano tutorials as videos of the scene or soundtrack, suggesting that film fans are as interested in the direct kinesthetic experience of the piano as they are in seeing it and listening to it. While this glimpse is by no means an exhaustive, data-driven account, the prevalence and probable cultural significance of film score piano tutorials and their relationship to tactile engagement with music is evident.

Romantic Ideals

Turning now to the second lens of iconographic inquiry (associated dramatic contexts—*when do we see or hear the piano?*), I argue that the piano as a kinesthetic cultural object in film is commonly associated with the Romantic ideal of nostalgia. Though an in-depth study of the musical backgrounds and experiences of modern film viewers is beyond the scope of this chapter, I believe it is feasible that a sizable portion of adult filmgoers at some point played a piano in their childhood. Whether they informally plunked the keys in a school band room, at a church, at a friend's house, or studied piano more formally, it seems likely that the modern filmgoer might associate the sensation, image, and timbre of the piano with a childhood experience. It is also worth noting that when the timbre of the piano is used in nostalgic moments, it is often voiced as a single

melodic line,[189] not unlike a child's early tinkering at the keyboard. In other words, the piano may be a particularly powerful vehicle for nostalgia because it recalls the sounds of childhood indexically. A brief case study of the piano in the film *Dr. Strange* (2016) will illustrate a further connection between nostalgia and tragedy and the way the audiovisual, kinesthetic blueprint of the cinematic piano amplifies both.

In some ways *Dr. Strange* is a unique case in that we see a piano that is never played (although trailers for the film do show someone playing piano).[190] The piano sits in the apartment of the esteemed and well-to-do surgeon, Dr. Stephen Strange, as a symbol of his wealth and dexterity. We first see it silhouetted on the left at the apartment's rear glass wall at full stick with keys exposed (Figure 22). The film's complicating action[191] arrives in the form of a tragic, life-altering car accident that destroys the surgeon's hands, and by extension, his career.

In the post-accident hospital scene, Dr. Strange realizes his altered fate as the camera frames his own perspective of his maimed hands (Figure 23). Though we have seen the piano in the film, crucially, we have not yet heard it. Only when the camera cuts from the hospital room to the x-rays of the Doctor's hands, do we hear precisely that musical timbre which his hands will never again produce. As we listen to the musical soundtrack's shocked piano arpeggios, the x-rays reveal skeletal fingers in proper playing

[189] Notable examples include the discovery of the old visitor's center in *Jurassic World* (2016), the end of *Inception* (2010), the recollection of bidding Richard Parker farewell in *The Life of Pi* (2012), Forrest visiting Jenny's grave in *Forrest Gump* (1994), the "deathbed" conversation between Spock and Captain Kirk in *Star Trek Into Darkness* (2013), and Saroo's reunion with his mother in *Lion* (2016), among others.
[190] See Marvel Entertainment, "Doctor Strange Official Trailer 2," YouTube video, July 23, 2016, https://www.youtube.com/watch?v=HSzx-zryEgM, (2:21).
[191] Kristin Thompson, *Storytelling in the New Hollywood: Analyzing Classical Narrative Technique* (Cambridge: Harvard University Press, 1999); and *Storytelling in Film and Television* (Cambridge: Harvard University Press, 2003).

position (Figure 24). No other musical sound could so eerily and viscerally communicate the tragic tactility of this moment.[192]

Because we have seen this perspective of hands on piano keys both on screen and perhaps in our own experiences (our own hands), we might imagine a keyboard beneath the muscle-less bones. We might feel our own ghostly muscles articulating the diegetically impossible timbre we hear. The impact is kinesthetic, tragic, and nostalgic—physically racking and impossibly preserved in a time *before*. When we next (and last) see Dr. Strange's piano, we catch only the far side of its body, enough to see that the lid is closed.

The Romantic ideals of nostalgia, tragedy, and transcendence are often interwoven. As my colleague, Emily Loeffler, put it during a seminar discussion, there is a fundamental loneliness at the heart of all three. In the face of tragedy, we find ourselves in isolation from that which has been lost. We grasp for the moments *before*: nostalgia as a cure this loneliness. In the face of tragedy, transcendence, too, serves as a cure because it unites us with something beyond the present and worldly isolation. In my database, approximately 75% of the films feature one or more of these three ideals in association with the piano.[193] Of those films, nearly 75% feature two or more.

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[192] See also Signe Jensen, "Musicalized Characters: A study of music, multimodality, and the empiric child perspective on mainstream animation," PhD diss., Linnaeus University, 2021. Jensen's research includes interviews with children who associate the piano's sound in film with feelings of sadness.

[193] To mention a few: *Big* (1988) showcases Tom Hanks as a child stuck in an adult body, dancing to "Heart and Soul" over a giant foot piano at a mall. *The Snowman* (1982) sounds the piano as the little boy and his snowman transcendently fly across the world *and* as the boy discovers his snowman has melted. The piano mourns the loss of the character Beth in *Little Women* (1994), joined by the timbres of her sisters' child voices in a deeply nostalgic recollection of a younger Beth playing the piano at family gatherings. In *Lady in the Van* (2015), the piano serves as a nostalgic and transcendent portal to Miss Shepherd's youth near the end of her life as she recalls her once successful performing career, *before* the accident.

Fig. 22 The unplayed piano in *Dr. Strange* (2016)

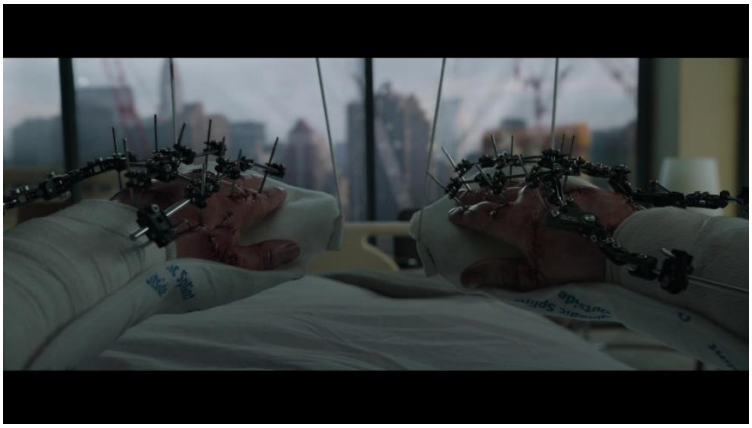

Fig. 23 Irreparable hands *Dr. Strange* (2016)

Fig. 24 X-rays of Dr. Strange's hands in *Dr. Strange* (2016)

Nineteenth-Century Gender Norms

Finally, I will turn to the remaining iconographic lens: visualizing characters (*who plays the piano?*). Here we find a divide between films set in the nineteenth century and films set outside of the nineteenth century, as well as between women pianist characters and men pianist characters. I will first consider films set in the nineteenth century. My database contains 16 films set in the Romantic period. Of these, ten associate the piano strictly with women, three associate the piano with both women and men, and two associate the piano strictly with men.[194] In cinematic representations of the nineteenth century, women play the piano in social and domestic settings, reflecting gender norms surrounding the instrument in the 1800s.[195] Among these norms is the woman keyboard player in the male gaze.

Though the theory of the male gaze is relatively recent,[196] it is relevant to a long history in Western musical iconography of women depicted at keyboard instruments in the presence, or implied presence, of a male superior. A staple example (and one of the earliest) is the Dutch painter Johannes Vermeer's "The Music Lesson" (1662-1664). In this famous painting, a woman is depicted at a keyboard with her back to us. That we cannot see her face suggests that her identity is not important. This is not a painting about her. This is a painting about the man who stands to her right, his hand on the instrument, his posture opening to the light that falls on her body in his gaze. Her body is directed by the keyboard in front of her: her head tilts slightly downward, her arms remain close to

[194] The remaining film, *Black Beauty* (1994), features only the timbre of the piano, since the protagonist is a horse.
[195] See Ruth A. Solie, "'Girling' at the Parlor Piano," *Music in Other Words: Victorian Conversations* (Berkeley: University of California Press, 2005), 85-117.
[196] Laura Mulvey, "Visual Pleasure and Narrative Cinema".

her sides and bend at the elbow, leaving us to know that her hands rest in an unobtrusive position directly in front of her on the keyboard. Her momentum is inward, reserved, small. His is outward, confident, expanding. The power dynamics of this image are so prevalent in other imagery of women at keyboard instruments, that I will refer to any scene in film that reenacts these dynamics around a keyboard instrument as "the music lesson."

Fig. 25 "The Music Lesson" by Johannes Vermeer, 1662-1664, oil on canvas

The sexual power dynamics surrounding women at keyboard instruments in images like Vermeer's "The Music Lesson" and the musical culture that inspires such images have been thoroughly discussed by the musicologist and art historian Richard Leppert.[197] Describing the social and sexual significance of the piano in the Victorian

[197] Richard Leppert, "The Piano, Misogyny, and 'The Kreutzer Sonata,'" in *The Sight of Sound: Music, Representation, and the History of the Body* (Berkeley: University of California Press, 1993), 153-187.

Era, Leppert articulates the very relationship we see between women, men, and the piano in films set in the nineteenth century:

> **The piano** served as a sign by which men defined and empowered themselves; it was a code for "woman," by which was really meant "not man." **The piano** as a sign of woman was also a cipher for the domestic erotic economy […] and therein lay the problem. […] Woman, as wife, should contain within her the passive sexuality that can be taken as raw material and molded into the pleasure of its owner, without her enjoying it (that was crucial).[198] (emphasis mine)

In no film is "the music lesson" more explicit than director Jane Campion's *The Piano* (1993). Over the course of the film, the nineteenth-century, female protagonist, Ada, performs a sexual favor for each black key on her piano to earn it back from a man who recovered it in her absence (Figure 26). When Ada's husband discovers the affair, he amputates one of Ada's fingers. The violent act is not only an assertion of physical and domestic dominance, but a destruction of her identity: Ada is a mute. The piano is *her* voice. She belongs in every way to her piano and to the men who control it. In my database, tellingly, every film set in the nineteenth century that associates the piano strictly with women contains a scene equivalent to "the music lesson."

Fig. 26 Ada and her lover in *The Piano* (1993)

[198] Ibid, 182-183.

Unfortunately, the piano as a symbol of woman (and object for the pleasure of man) is not strictly an artifact of films set in the nineteenth century attempting historical accuracy. The piano-as-woman symbol also carries into films set outside of the nineteenth century. This fact is strangely evident in the titles of two of the most famous films to feature the piano: *The Piano* (1993)—discussed above—whose protagonist-pianist is a woman, and *The Pianist* (2002)—a World War II film—whose protagonist-pianist is a man. Symbolically, these titles express woman-as-piano/object, and man-as-pianist/agent, holding representations of nineteenth-century gender dynamics into the twentieth and twenty-first centuries.

Modern films set outside the nineteenth century that contain both the image and timbre of the piano, also show a shift in the identity of the piano player (see Figure 27). Of 21 films in my database, 15 associate the piano strictly with men, three associate the piano with both men and women, and three associate the piano strictly with women. The shift from woman pianist in films set in the nineteenth century to man pianist in films set outside the nineteenth century inscribes nineteenth-century gender norms further. In films set in the nineteenth century, men played the piano in association with achievement, virtuosity, wealth, and power.[199] These same associations carry to 9 of the 15 male characters who play the piano in films set outside of the nineteenth century.[200]

[199] Emily Masincup's recent analysis of the golden-age Mexican horror film *El hombre y el monstruo/The Man and the Monster* (1958) offers a related example of using the piano to represent and destabilize *machismo* masculinity. See "Musical Monstrosity in *El hombre y el monstruo* (1958)," paper given at Music and the Moving Image 2021, NYU Steinhardt / Virtual, May 30, 2021.

[200] And to two female characters—Miss Shepherd in *The Lady in the Van* (2015), whose virtuosity is undermined by her two character tropes: crone and damsel in distress; and Maria Yudina in *The Death of Stalin* (2017), whose virtuosity is undermined by her femme fatale character trope.

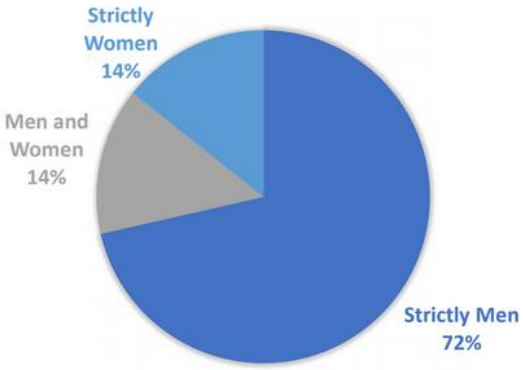

Fig. 27 Gender association in films set outside nineteenth century

The greatest difference between these two categories of films occurs in representations of "the music lesson." Of six films that contain an intimate scene at the piano, two associate the piano with both men and women, two associate the piano with men in gender reversal,[201] one associates the piano with masculine homosexuality,[202] and only one associates the piano strictly with women in the nineteenth-century sense. A more thorough study is needed to make a claim about this diversification in "the music lesson" as evidence or symptom of increasing acceptance of gender fluidity in modern mainstream American culture. Nevertheless, it seems plausible that an instrument so historically central to intimacy in visual media might serve as a sexual-cultural "litmus test." The recent work of at least one film music scholar supports this hypothesis. In the chapter "Men at the Keyboard: Liminal Spaces and the Heterotopian Function of

[201] *Penelope* (2006) contains a more complete gender reversal of "the music lesson" than *Twilight* (2008). The former is pictured in Figure 28. The latter still represents a masculine position of power (as my colleague Beverly Taflinger suggested during a seminar discussion): even though Edward is playing for Bella, he is also demonstrating hundreds of years of superior musical knowledge he has gained in his immortal disposition as a vampire.

[202] See Philip Brett, "Piano Four-Hands: Schubert and the Performance of Gay Male Desire," *19th-Century Music* 21, no. 2, Franz Schubert: Bicentenary Essays (Autumn, 1997), 146-176.

Music,"[203] Gary C. Thomas chooses the site of the piano to explore the politics of queerness in film.

Fig. 28 Gender reversal in "the music lesson" in *Penelope* (2006)

Thomas's chapter supports two other hunches I have gathered in my own study and which I will address by way of conclusion. One, mentioned previously, is that the piano seems connected to moments of solitude by virtue of its soloistic and musically self-sustaining nature. On this point, Thomas writes:

> First, playing the piano […] is an inherently singular […] experience. Pianos may be played against an orchestra, but they don't normally become part of one. The piano […] thus participates in the bourgeois ideology of the individual and *his* home or "castle." […] Second, the piano offers a seemingly self-contained plenitude of sounds; […] in short, a world.[204] (emphasis mine)

Thomas clearly articulates the compatibility of the piano with Romantic social dynamics and its special capacity for articulating Romantic ideals of the other-worldly (nostalgia and transcendence).

[203] Gary C. Thomas, "Men at the Keyboard: Liminal Spaces and the Heterotopian Function of Music," in *Beyond the Soundtrack: Representing Music in Cinema*. eds. Daniel Goldmark, Lawrence Kramer, and Richard Leppert (Berkeley: University of California Press, 2007), 277-291.
[204] Ibid, 278.

The other hunch I mention for the first time here. I suspect that the average modern filmgoer is not actively conscious of the masculine bias over the piano in commercial cinema. Thomas speaks to this point unwittingly:

> My interest here is twofold: first, in a perhaps *unlikely* conjunction of images, sounds, and narrative found on the commercial screen—storylines featuring men playing music on a keyboard.[205] (emphasis mine)

In my database, prior to 2007 (when Thomas described men at the keyboard as "unlikely") and regardless of period setting, 14 films feature women playing the piano and 14 films feature men playing the piano. If we consider films set in the nineteenth century to be a special case and look only to films set outside of the nineteenth century, we find ten films that feature men playing the piano prior to 2007, and only three featuring women. Even though my database will continue to expand, I think there is nothing mathematically unlikely about the "conjunction of images, sounds, and narrative" of men playing the piano "on the commercial screen." Rather, perhaps in 2007, there was something *culturally* unlikely about a man at the keyboard. Perhaps our continued blindness to men at the keyboard illuminates a cultural bias (a patriarchy), or, what Thomas called in 2007, "the current neo-con political turn in the Unites States."[206] In short, perhaps we in the twenty-first century see a nineteenth-century piano, on and off the screen.

Conclusion

What my fingers know about the cinematic piano influences and is influenced by what my eyes, ears, and heart each know about this instrument. My eyes and ears know

[205] Ibid, 277.
[206] Ibid.

that men at the piano belong there and play with virtuosity and strike large chords that my fingers can't always reach. My eyes know that my fingers are the same color as most of those men's hands. My eyes know that piano players are looked at and they tell my fingers to remember accuracy as my stomach flutters and I hold my breath. My eyes know that fingers dance when they play the piano, and they marvel with my fingers at the piano's smooth keys and rapid action. My ears and my heart know that the sound of a piano can be beautiful, nostalgic, and lonely, and they share this knowledge with my fingers: the keys on the intangible piano in my childhood living room are the warmest because I've played them the most.

CHAPTER V: AN APPROACH TO MUSIC-DANCE ANALYSIS—TWO CASE STUDIES THAT RESPONDED TO THE ORLANDO SHOOTING

A portion of this chapter was published as "Dance as Political Activism: Two Popular Choreomusical Responses to the Orlando Shooting," in *Pop – Power – Positions: Globale Beziehungen und populäre Musik*, edited by Anja Brunner and Hannes Liechti (~Vibes – Th IASPM- D-A-CH Series 1). Berlin: IASPM D-A-CH. Online at www.vibes-theseries.org/oden-dance.

Introduction

Chapters II-IV focused on the analysis of musical timbre in film with an emphasis on semiotics and embodiment. Chapters V-VII incorporate the groundwork of Chapters II-IV while centering dance. Similar to Chapter II, which outlined an approach to the analysis of timbre in film music, this chapter outlines an approach to the analysis of music and dance. It focuses on the overlap of music with the dancing body in short films and addresses the political power of such overlap. The unity of music and dance described in this chapter lays the foundation for the following two chapters of the dissertation, which analyze music, dance, and film together as a singular yet multifaceted embodied experience. Chapter VI, "Dance as Flight," develops a model of empathetic listening regarding timbral features of dance scenes. This model reappears in Chapter VII, "Dance as Structure in Scenes that Move Me," in the analysis of two montages that are not about dance yet are undeniably dance-like. The overlap of music and dance established in the present chapter is crucial for the analytical and theoretical work of the next two chapters.

As I turn to dance, it especially worth pausing to note that a published document is inherently limiting—it cannot truly show moving bodies, it cannot be conversational or self-reflexive. It cannot, in other words, substitute for interacting with human beings. For

these reasons, as I describe the physical body and more-than-two-dimensional identities, I ask you, the reader, to go beyond the page. Watch the music videos, dance to the music, take careful notice of your own body, your own identity, to whose realness this chapter cannot do justice.

Two Responses to the 2016 Orlando Massacre

On June 12, 2016, a 29-year old United States American man entered the Pulse gay bar and nightclub in Orlando, Florida. He was armed with two legally purchased firearms and took 49 lives, the majority of whom identified as queer persons of color. At the time, the Orlando massacre was the deadliest mass shooting in the United States. It remains the country's deadliest hate crime against the LGBTQIA+ community.

Among mass media responses were two popular music videos that are noteworthy for the ways in which they unite music and dance in a political critique of the violence. The music video for Sia's "The Greatest"[207] infuses its music with a queer choreographic aesthetic and uses a filming style that invites the spectator to participate in a communal response to the tragedy. I use the term "queer" to describe dance—and intersecting modes of performativity[208]—as sites of resistance and political possibility.[209] Rather than critiquing the stylistic structure of mainstream music and dance videos, the dance video

[207] Sia, Ryan Heffington, Maddie Ziegler, and David Askill, "Sia – The Greatest," September 5, 2016, YouTube video, 5:51, https://www.youtube.com/watch?v=GKSRyLdjsPA.
[208] Chiel Kattenbelt, "Intermediality in Performance and as a Mode of Performativity," in *Mapping Intermediality in Performance,* ed. Sarah Bay-Cheng, Chiel Kattenbelt, Andy Lavender, and Robin Nelson (Amsterdam: Amsterdam University Press, 2010), 29-37.
[209] See Thomas F. DeFrantz, "The Black Beat Made Visible: Body Power in Hip Hop Dance," in *Of the Presence of the Body: Essays on Dance and Performance Theory*, ed. Andre Lepecki (Middletown: Wesleyan University Press, 2004), 64-81; and Clare Croft, "Introduction" in *Queer Dance: Meanings and Makings* (New York: Oxford University Press, 2017), 1-36.

for X-Ambassador's "Unsteady"[210] reconceives the heteronormative commercial contemporary dance duet with two male dancers. The video infuses its music with a political validation of homosexuality. Through a more intimate and dynamic filming style, it asks the spectator to confront structures of marginalization empathetically. Exploring these intricately correlated musical and choreographic structures forms the basis for an argument with larger implications: that in their convergence, music and dance imbue one another with new political power. These case studies are all the more poignant because their choreomusical unity amplifies the very sonic and visceral acts of living that were silenced in the shooting, people dancing to music together.

In this chapter, I contextualize these arguments, first by understanding the dancing body as a political force. I then propose a system of music-dance analysis that uses examples from "The Greatest" and "Unsteady" to explore the ways the body as a political force joins and politically amplifies music. To illustrate the significance of this amplification, I offer a thought experiment, "the three listenings," which considers how danced political messages remain vivid in music, and how this relationship can reflect back on specific events while also carrying into broader global dialogues. I close with a more focused analysis of "The Greatest" and "Unsteady" which includes YouTube viewer comments as one indicator of the videos' political impact.

[210] Tyce Diorio, Kent Boyd, and Will Johnston, "X Ambassadors – UNSTEADY | Official Dance Video # LoveisLove," June 29, 2016, YouTube video, 3:39, https://www.youtube.com/watch?v=GsVXnCGij5o&t=2s.

The Dancing Body as Political Force

Many dance and feminist scholars have written about the body's political power. In an argument foundational to new material feminism, Karan Barad compellingly claimed that "[the body in] its very materiality plays an *active* role in the workings of power" (italics original).[211] The dancing body, which visibly animates the body's materiality, is an especially rich site to study powers negotiated in political struggle. This has been a central claim in theories of both popular and queer dance. Dance scholar Sherril Dodds has written, for instance, that "popular dance constitutes a site of social and economic power that has the capacity to destabilize and transgress cultural norms."[212] Describing the active materiality of dance, dance theorist Clare Croft also names political action as fundamental to queer dance: "Queer dance argues [...] that queerness emerged in action, in protests, on stages (as well as in writing), demanding physical history."[213]

The concept of "queer corporeal orature," coined by Thomas DeFrantz in reference to Black social dance,[214] describes the specific capacity of dance to "incite action" through "performative gestures which cite contexts beyond the dance."[215] Following these many conceptions of the dancing body as an active political force and theories of queer dance as challenging political structures, I maintain that the dancing bodies in the music videos "The Greatest" and "Unsteady" cannot be considered as

[211] Barad, "Posthumanist Performativity," 809.
[212] Sherril Dodds, *Dancing on the Canon: Embodiments of Value in Popular Dance* (New York: Palgrave Macmillan, 2011), 3.
[213] Croft, *Queer Dance*, 13.
[214] See DeFrantz, "The Black Beat Made Visible," 4; and "Bone-Breaking, Black Social Dance, and Queer Corporeal Orature," *The Black Scholar* 46, no. 1 (2016), 66-74.
[215] Ibid.

passive instruments, but must be seen as active forces engaged in the negotiation of political boundaries.

An Approach to Music-Dance Analysis

The term "choreomusical" has been embraced by a handful of scholars to describe the relationship between music and dance. Among these is Paul Hodgins whose seminal work in the early 1990s proposed a musical foundation for the analysis of choreographic structures.[216] Critiquing scholarship that frames dance as subordinate to music, other music-dance scholars, most notably Stephanie Jordan, have sought more flexibility in thinking about the possibilities co-produced by music and dance.[217] By "choreomusical," I here mean those specific ways dance and music overlap or are parallel to one another to the degree that they create the impression of being a single force. This take on choreomusicality is different from those conceptualizing dance and music as contrapuntal.[218] It aligns most closely with what Turner and Fauconnier called "blended space"[219] and what Jordan describes as "a new composite form." [220]

My approach to music-dance analysis also sits adjacent to the work of music video scholars. Carol Vernallis and Nicholas Cook, for instance, dissect music videos

[216] See Paul Hodgins, "Making Sense of the Dance-Music Partnership: A Paradigm for Choreomusical Analysis," *Journal of the International Guild of Musicians in Dance* 1 (1991), 38-40; and *Relationships between Score and Choreography in Twentieth-Century Dance: Music, Movement, and Metaphor* (Lewiston: The Edwin Mellen Press, 1992).
[217] See Stephanie Jordan, "Music Puts a Time Corset on the Dance," *Dance Chronicle* 16, no. 3 (1993), 295-321; and *Moving Music: Dialogues with Music in Twentieth-Century Ballet* (London: Dance Books, 2000).
[218] Kara Yoo Leaman, "Analyzing Music and Dance: George Balanchine's Choreography to Tchaikovsky and the Choreomusical Score," Ph.D. diss., Yale University, 2016.
[219] Mark Turner and Gilles Fauconnier,"Conceptual Integration and Formal Expression," *Journal of Metaphor and Symbolic Activity* 10 (1995), 183-203.
[220] Stephanie Jordan, "Moving 'Choreomusically': Between Theory and Practice," *Danse et musique: Dialogues en mouvement* 13, no. 1-2 (September 2012), 13.

according to parameters that are very similar to, and in some cases more extensive than mine.[221] But our aims are somewhat different. Although they each describe characteristics of synchronicity between mediums that amplify one another, they attend more to the ways individual elements interact than to their composite effect. Akin to contrapuntal understandings of music-dance relationships, Cook's conformance, complementation, and contest, for example, are based on his definition of multimedia as "the *interaction* of different media" (italics original)[222] rather than on a "composite form"[223] Vernallis, likewise, contrasts the dynamic, multimedia nature of music videos with narratively unified Hollywood film. She describes music videos as "always in flux" and "unpredictable," owing to the camera's obligation to follow the music.[224] I have not found this to be the case in "The Greatest" and "Unsteady," which differ from many mainstream music videos in that "the dance" and "the music" are equal and overlapping subjects of the film. I am interested not only in what is musical about dance or dance-like about music, but in those moments of co-articulation that erase the boundaries between them. In this erasure, dancing bodies deepen music politically.

It is perhaps fitting, then, that concepts that best describe what I mean by "choreomusical" come from outside of Western music. Regarding the inseparability of dance from music in indigenous African languages, ethnomusicologist Kofi Agawu writes:

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[221] See Carol Vernallis, *Experiencing Music Video: Aesthetics and Cultural Context* (New York: Columbia University Press, 2004); and Nicholas Cook, *Analysing Musical Multimedia* (Oxford: Clarendon Press, 1998).
[222] Cook, *Analyzing Musical Multimedia*, viii.
[223] Jordan, "Moving 'Choreomusically'", 13.
[224] Vernallis, *Experiencing Music Video*, 110.

> Understood as a patterned physical movement that is *simultaneously a response to and a generator of music*, dance assumes the role of a nexus or *ultimate anchor*. Again, no indigenous African language as far as we know lacks a word for "dance." In some, drumming and dancing are mutually implicated. Drumming can also bring on singing as an additional dimension, so that the domain of "dance" intersects with that of music-making. We might say that between song and dance, the conceptual origins of instrumental music are well accounted for.[225] (Italics added by the author)

Writing about Afro-Chilean *tumbe* performance, ethnomusicologist Juan Eduardo Wolf opts to use the hyphenated word "music-dance." He writes:

> In English, unlike other languages, no single word reflects the interdependence of these two expressive forms. I use the hyphenated term "music-dance" to reflect this quality.[226]

I prefer the term "music-dance" to "choreomusicality" because it is more transparent, direct, and inviting. But because there are not accessible adjective or adverb forms of the term "music-dance" in English, I use the terms "choreomusical" and "choreomusically" frequently.

Throughout my analyses I draw on a concept known in dance as kinesthetic empathy,[227] known in music as the mimetic hypothesis,[228] and in film as the phenomenon of the cinesthetic subject.[229] All hold that the listener-viewer makes sense of the world through their body and that bodily understanding participates in constructing aesthetic experience. I will prompt you, the reader-viewer-listener-dancer, to bring your awareness

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[225] Kofi Agawu, "Music and/in Society" *The African Imagination in Music* (New York: Oxford University Press, 2016), 30.
[226] Juan Eduardo Wolf, *Styling Blackness in Chile: Music and Dance in the African Diaspora* (Bloomington: Indiana University Press, 2019), 13.
[227] See Ann Daly, "Dance History and Feminist Theory," 234; and Matthew Reason and Dee Reynolds, "Kinesthesia, Empathy, and Related Pleasures: An Inquiry into Audience Experiences of Watching Dance," *Dance Research Journal* 42, no. 2 (2010), 49-75.
[228] Arnie Cox, "The Mimetic Hypothesis and Embodied Musical Meaning," *Musicae Scientae* 5, no. 2 (2001), 195-209.
[229] Sobchack, "What My Fingers Knew."

to your body often. Part of the political power of these short films is that their structures resonate in us.

In the context of these videos, I have found it most useful to think about the convergence between music and dance through five parameters, which I propose as the basis for my method of music-dance analysis: (1) choreomusical form, (2) choreomusical texture, (3) emphasis of pulse, (4) rhythmic amplification, and (5) choreomusical text painting. Through each parameter, music and dance meet one another in a space that is between and beyond either alone. As I introduce each parameter, I will offer an example from the case study videos.

(1) By *choreomusical form*, I mean the feeling of formal structure articulated by the music and dance together. A good example in "The Greatest" is the climactic initiation of the final chorus (3:38). At this moment, the escalated energy of the music and the choreography converge in a unified feeling of large-scale arrival. Watch and listen to the video, taking note of your own embodied response to this moment. Likewise, in the introduction of "Unsteady" (0:00–0:35), the two dancers' movements are linear and confined as they slowly address one another from across a small, square table. This is amplified musically by a smooth, percussion-less introductory vocal line. When the percussion enters, setting up the rhythmic backdrop for the first verse, the dancers' movements are simultaneously freed from the table. Their more dynamic and sporadic movement emphasizes a formal shift from the introduction to the first verse that I, the dancer-listener, experience as a united energy. Watch and listen to the beginning of this video, taking note of your own embodied response to the choreomusical shift in form.

(2) By *choreomusical texture*, I mean the combined impact of musical textural forces and dance textural forces. Musical textural forces include the number of musical lines, the quality of movement in those lines, and their relationship to one another. Dance textural forces include the number of dancers, their organization or distribution throughout the performance space, and relationships between their qualities of movement. But more than synchronizing these textural elements, choreomusical texture synthesizes them. It exists in the space that music and dance coproduce. In "The Greatest," for example, choreomusical texture offers a more specific way to talk about the escalated energy that initiates the final chorus (3:38). At this moment, the largest number and most dense concentration of dancers joins the thickest combination of musical sounds. A splash cymbal, clap with chorus effect, and fricative "F" of the word "free" join the dancers' airborne hands, actively spread fingers, flying hair, wide eyes, and open mouths in a focused buzziness. At the same time, the dancers anchor their lower bodies with widespread feet and bent knees and commit their arms to extended positions in an energy that converges with the crisp drum-kit snare and substantive bass entrance. Try imitating the dancers' movements in time with the video at (3:38). Take note of the way your body participates in this moment's sudden, bright, anchored, yet fizzy choreomusical texture.

As the high point (3:38) shows, choreomusical texture can help articulate choreomusical form. In contrast to the dense, fizzy onset of the chorus, for instance, the verses are characterized by a choreomusical narrowness that widens slightly. In the first verse, Sia's solo voice, which is lightly harmonized on the phrase "I got stamina," projects over an unadorned drum-kit bass and keyboard synth. At the same time, the

camera focuses on dancer Maddie Ziegler and a single-file line of dancers she directs down a hallway. Together, the sonic and visual organization produces a choreomusical texture that is narrow, thin, and focused. Halfway through the verse, a bass line and somewhat more active keyboard synth open the musical texture slightly. Simultaneously, the dancers arrive at a staircase and break out of their single-file line to ascend the stairs. The staircase continues the linearity of the dancers' path and widens it. Together, the thickening musical and visual features create a choreomusical texture that has been nudged opened (see 1:20 and 1:29). This same narrowness and subtle intensification also shape the second verse (see 2:14 and 2:18) where Ziegler is as texturally singular as Sia's voice and the surrounding dancers are as texturally augmenting as the accompanimental musical lines. In the verses, I, the dancer-listener, experience not the separate textural elements of music and dance, but a deeper, synthesized narrowness and widening.

The prechorus zeroes in even further. Visually, it drops to a nearly singular focus on Ziegler, completely eliminating other dancers on the second and third iterations (see 1:40, 2:33, and 3:31). With a similar level of focus, the "o" vowel sound becomes primary in the straightforward lyrics, "Don't give up, I won't give up, don't give up (no, no, no)." Sia's harmonized voice stands out easily from the drum-kit bass and the keyboard synth that support it. The visually simplified texture and diminishing musical texture intersect, giving the pre chorus a highly focused, decrescendoing choreomusical shape that is designed to be broken open by the energy of the chorus.

The chorus is the most texturally dense part of the song. Following the high point (3:38), for instance, Sia's voice harmonizes itself as background vocals sing in their own texturally distinct line. The clap with chorus effect, the drum-kit bass, and the splash

cymbal are joined by a drum-kit ratchet suspending over downbeats and three additional keyboard synth parts. Each chorus contains more dancers than the last, culminating in the massive unison articulation of the final chorus.

(3) *Emphasis of pulse* is a choreomusical parameter that connects music and dance through co-emphasis of an underlying pulse. For the sake of brevity in this article, I will focus on one particular type of pulse emphasis: emphasis of the downbeat. Musicians and dancers use downbeats to organize the pulse underlying their performance into repeating groups. For dancers performing choreography in 8-count phrase lengths, downbeats are usually felt on counts 1 and 5 (and sometimes on 1, 3, 5, and 7), resulting in pulse groups of 4 (or 2). Musicians typically count these 8 beats as two measures of four with a downbeat on each count-one: 1 2 3 4 1 2 3 4. Because downbeats are so fundamental to the temporal structure, they compositionally attract other salient features. Often, they highlight important words in the lyrics. They might take on louder dynamics, distinct articulations, or make a timbral shift for contrast. Choreographic gestures draw the body into the downbeat through physical extension or dynamic articulation. For instance, in "Unsteady," we might perceive an underlying pulse occurring at the pace of 58 beats per minute. The pulses fall easily into a repeating pattern of 4. At 2:05 on the dancers' and musicians' count-one, the dark-shirted dancer (Will Johnston), laying across the light-shirted dancer (Kent Boyd), sweeps his arm clockwise across the floor with an extended, wide-spread hand. The reaching gesture synchronizes with the vocalist's clearer timbre on the first word of the song's chorus, "Hold…" and amplifies a choreomusical downbeat. As you listen, try sweeping your arm on the word "Hold" to feel the choreomusical emphasis.

While downbeats have been my focus here, it's important to note that downbeat pulses are not the only pulses musicians and dancers regularly emphasize. In "Unsteady," for example, there are several instances of a sharp choreographic gesture joining the snare hit on musical beats 2 and 4. For instance, at around 0:47 on the musical beat 2, the light-shirted dancer (Boyd) quickly lifts the dark-shirted dancer (Johnston) and pivots him out of a dip into a standing position. At 1:44, on the musical beat 4, both dancers toss their heads back with the snare in a choreomusically percussive gesture. The regular shape of choreomusical emphasis of the pulse in "Unsteady" sets up an expectation of a choreomusical meter. As you listen to the music, see if you find yourself inclined to move in any kind of temporally regular pattern. If so, what are the tendencies of its shape?

(4) *Rhythmic amplification* connects music and dance through a co-articulated rhythm. Rhythmic amplification can be incidental, or it can occur as part of an important repeating pattern. The instrumental break in "The Greatest" offers a good example of the latter. Matching the inflection of the primary synth voice's repeated note, three dancers sharply articulate hit points on count 1, the "a" of 1, and the "&" of 2 (~3:20, 3:21, 3:23). The music and the choreography amplify one another in a punchy, sharp choreomusical rhythm. The rhythmic figure is repeated and elaborated with various choreographic gestures and slight variations in musical timbre. The repetition etches itself into my embodied, choreomusical memory. Watch and listen to the instrumental break and notice how your body engages with the sharpness of the rhythm. Do you notice, as I do in mine, that even after the instrumental break has given way to the smooth, unarticulated prechorus, the rhythm continues to echo in your body.

(5) *Choreomusical text painting* occurs when an action or characteristic described in a song's lyrics is expressed in the music and dance. While choreomusical text painting might be thought of as dance and music mimicking text, the effect is more than imitation. Instead, music and dance work together to bring about a realization of the text. Unsurprisingly, the words I have seen painted choreomusically most often are verbs. For an example, consider the word "hold" in "Unsteady." "Hold" appears three times in succession in each chorus ("Hold, hold on, hold on to me"). Musically, the first "Hold" (1:17) lingers over two beats, rising in pitch longingly from the third scale degree to the home-seeking fifth scale degree on the second beat. The following "Hold on" (1:20) places "Hold" on a single beat and reverses the previous upward pitch motion through movement from the overshot sixth scale degree back to the unsettled fifth scale degree. "Hold on to me" (1:23) then casts "Hold" into a fleeting, unstable upbeat, and continues to tether it to the unresolved fifth scale degree. In each chorus, "Hold" is painted with an energy that is increasingly destabilized and beseeching.

The music's desperate trajectory is co-opted at a larger level in the dance. Over multiple choruses, the dance, too, uses text painting to convey a sense of longing for impossible closure. In the first choreographed chorus, "Hold" is underscored by the light-shirted dancer (Kent Boyd) jumping and holding onto the back of the dark-shirted dancer (Will Johnston) (1:17). "Hold on" is accompanied by movement to a suspended, facing embrace (1:20). Through "Hold on to me," the dark-shirted dancer slowly lowers the light-shirted dancer to the floor, maintaining a close embrace (1:23). As you listen to the first chorus, try performing a motion in time with the word "hold" that you feel expresses the word's meaning. Take note of the quality of your movement and what it implies about

your connection with the space around you. In my body, “hold” becomes a choreomusically sustained motion that asks for connection.

In the next iteration of the chorus, “hold” is absent from the choreography until the lyrics’ final “Hold on to me” in which the dark-shirted dancer offers the light-shirted dancer his arms like rungs of a ladder (2:11). As you listen to this chorus, see what it feels like to wait to express “hold” in your movement until its third statement. The chorus immediately repeats and the light-shirted dancer reaches to help the dark-shirted dancer to his feet on the first “hold” (2:22). In the “hold on” that follows, the dancers undo the word: they initially connect before dark-shirted dancer pushes his partner away (2:25). The third chorus’s final “hold on to me,” falls unpainted in the distance between the dancers. See what if feels like to express “hold” in your movement on its first two iterations in this chorus. Notice the effect of leaving the third “hold” unexpressed. The fourth and last iteration of the chorus paints only its final “hold on to me” where the dark-shirted dancer hugs and lifts his partner, reversing—for the moment—his earlier physical rejection (2:44). Remind yourself of the impact of expressing only the final “hold on to me” in your movement.

Together, the four choreographed choruses use text painting to project an ABCB quatrain. The first chorus, characterized as “A,” paints “hold” choreographically in all three utterances. This consistency establishes a stability to which the following choruses will never return. The second chorus, characterized as “B,” leaves its first two “hold”s unpainted, choreographically painting only the third instance. The diffuseness of the first two “hold”s sets up the final “hold” as a glance back to the steadiness of “A.” The third chorus, characterized as “C,” picks up where B left off, continuing to paint the word

"hold" through its first two iterations. But the third iteration, whose position communicates the most resolution, is left unpainted. Without painting its final "hold," "C" ends with the greatest amount of unrest. Chorus 4, characterized again as "B," continues and escalates the silence of the third chorus's conclusion by leaving its first two "hold"s unpainted. The painting of the final "hold" carries a bittersweet weight: it brings the dancers together in a long-denied embrace, but without ever regaining the stability of "A." Below, choreographically painted lyrics are italicized and the word "rest" substitutes for unpainted text.

Chorus 1*: Hold, hold on, hold on to me*. (A)
Chorus 2: Rest, rest, *hold on to me*. (B)
Chorus 3: *Hold, hold on,* rest. (C)
Chorus 4: Rest, rest, *hold on to me*. (B)

As the music's desperation courses through each iteration of the chorus, I am left with the sense that something has transpired that cannot be undone—there is no path back to the way things were "before." The choreomusical story of the word "hold" is one that longs for impossible stability.

Choreomusical form, choreomusical texture, emphasis of pulse, rhythmic amplification, and choreomusical text painting are useful parameters when considering specific ways music and dance converge. In their convergence lies a powerful political potential. The following section explores this political potential through a thought experiment I call "the three listenings."

The Three Listenings

"The three listenings" is a hypothetical series of listening and viewing experiences that shows how political statements enter the choreomusical space in music and dance videos and remain active in music beyond the video's frame:

In the first listening, you hear the music in an everyday context. Perhaps you hear it on the radio or through a streaming service playlist. Maybe someone has recommended it and you give it a listen.

In the second listening, you watch the song's music video. As you hear the song, you watch a co-articulating dance. The music and dance converge in choreomusical textures and forms. They amplify rhythms and emphasize choreomusical downbeats. They cast the lyrics in new dimensions of sound and motion. Together, dance and music integrate politically active bodies, aesthetics, and narratives. You experience them together—the politically-situated music and dance are one choreomusical experience.

In the third listening, you hear the music again in an everyday context, but your hearing of it has been transformed. You cannot hear it as you did in the first listening. The second listening has knit into it echoes of politically-situated moving bodies. In becoming one with the dance, the music now carries the dance and its many meanings beyond the video's frame.

"The three listenings" shows that choreomusical relationships may continue to shape subsequent hearings of the music outside of the context of the video. Drawing on the choreomusical parameters outlined above and the framework of the three listenings, the next section analyzes specific political statements realized in "The Greatest" and

"Unsteady." For each case study, I will first describe the video as a whole and encourage you, the reader, to watch it all the way through. I will then make a case for political statements carried into the music through the videos' choreomusical structures.

Case Study I: "The Greatest"

Before reading this analysis, take a moment to watch "The Greatest" from start to finish. "The Greatest" begins with the white letters of the text "#WeAreYourChildren" flashing against a black background. The camera cuts to its first image—a dark hallway leading to a pile of inanimate dancers behind a barred gate. With the cut to this first image, we hear an empty sine tone, as though our ears are ringing after a gunshot.[230] The camera pans through an abandoned building, revealing 49 inanimate dancers sprawled in various locations. In front of a grey wall, dancer Maddie Ziegler runs her fingers down her cheeks, leaving the mark of teary rainbow streaks. Standing among the fallen dancers, she beckons silently and violently against the dominating sine tone for them to rise. When the music begins, the dancers follow her bidding. The music has transported us into a place where the dead are living. The first group of dancers, piled behind bars, is released by Ziegler who kicks open an interior gate. Together, they run up a flight of stairs and dance in small groups through two linear hallways. Ziegler then enters a new room and finds her way to the center of a large circle of dancers. Leaving the circle for a brief trio, and a briefer solo in front of a bloodred wall, Ziegler makes it to her last destination: a large, dimly lit room. The room is filled with more dancers than any of the spaces that have led to it. Disco balls lay on surfaces and light peers through bullet-

[230] Kulezic-Wilson, "The Music of Film Silence"

pierced walls. The music finally fades back to the eerie stillness of the sine tone and all of the dancers, including Ziegler, drop to the floor. We have returned from the life and dance of the music's world to the silence and death of the present. Opening her eyes, but seemingly defeated, Ziegler appears to be the only conscious dancer. The camera pans again through the building, this time in reverse order, showing all of the dancers returned to an inanimate state. The gate that Ziegler kicked open in the beginning is closed as though it was never opened. The camera cuts back to Ziegler, weeping in front of the red wall.

"The Greatest" imbues its music with a political message that speaks powerfully against the horror of the Orlando Shooting by elevating an empowered community of unique, expressive individuals. To do this, the video choreomusically combines dancing bodies with overt references to the shooting, physical symbols of oppression, a queer dance aesthetic, a filming style that addresses the spectator, and lyrics that celebrate love, endurance, and individuality.

A handful of overt references contextualize the video as a response to the Orlando Shooting. Perhaps the most direct references are the use of 49 dancers—in honor of the shooting's 49 victims—and the bullet-strewn walls amidst disco balls in the video's final room. Gunshots are also referenced significantly throughout the video. The opening and closing sine tones, for instance, are ear-ringing—a fitting post-gunshot timbre for entering and leaving the world of the dead. As though caught in crossfire, the dancers frequently collapse against walls (1:57, 1:58, 2:08–2:09, 3:49–3:52). The most salient gunshot collapses are choreomusical, occurring in the unison between falling bodies and dissipating splash cymbal in the first chorus (1:57, 1:58) and in the final chorus (3:49).

Gunshots even seem to ricochet through the choreomusical articulation of the opening snare hit that collides with the dancers throwing their heads back and opening their mouths percussively (1:09–1:18). In another visceral reference to the shooting, a dancer in the final room appears to be using her shoe as cell phone (4:06), alluding to those trapped in the club with the shooter who were calling for help. One viewer suggested that the pulse-like rhythm of the bass drum that enters at 1:13 was itself a reference to the Pulse night club.[231] More broadly, Ziegler paints rainbows on her cheeks that remain visible throughout the video in a nod to LGBTQ pride flags. The opening text, "#WeAreYourChildren," also attests to a larger history of queer political struggle. The phrase refers to a chant used in San Francisco's Castro District in 1977 in response to the "Save Our Children [from homosexuality]" movement initiated in Miami, Florida the same year.[232] This historical context sends the message "save us" ringing ironically through the film's 49 dancing bodies.

"The Greatest" contains many physical symbols of oppression. The setting of the abandoned building and the striking first image of the barred gate both allude to marginalization and imprisonment, paralleling queer experience in a heterosexist society.

[231] Micah Jane, comment on Sia et al. 2016, *YouTube*, September 6, 2016. Full YouTube comment: "Did anyone else notice that the entire beat of the music (especially in the beginning) sounds like a legitimate pulse? That was not on accident people. The rainbow face paint was not on accident. The 49 dancers were not on accident. The fact that the final room is equipped with disco balls and dak, colorful lighting (plus a stage) is not an accident. If you don't think this is about the Pulse shooting you are simply lying to yourself."

[232] NGTF (National Gay Task Force; today: National LGBTQ Task Force), "We Are Your Children," Press Release, June 13, 1997, in *Human Sexuality Collection*, Collection #7301, Box 11, (Ithaca, NY: Cornell University).

Commenting on this visual symbolism, one viewer described the barred gate as a "cage" symbolic of gay oppression.[233] In complete opposition to the rainbows on Ziegler's cheeks, dark grey costuming and face paint cast the dancers in the same colors as the building's walls. The dominance of dark grey on the dancers' bodies and in the space that contains them recalls heterosexist structures imposing conformity at the expense of individual expression. Moreover, the dark grey face paint is mask-like, eerily suggesting identities concealed by a death-like stillness—a stillness made yet more eerie against the living movement of the music and dance.

The video's sharp, gestural choreography is the result of Sia's long-standing collaboration with choreographer Ryan Heffington. Describing the collaborators' viral premier video, "Chandelier"[234] dance critic Gia Kourlas wrote in the New York Times:

> [It] is a far cry from the typical dance in a pop video, where militaristic arrangements of background dancers follow the beat like human metronomes or, on the opposite end, sultry, slow-motion movement borders on soft porn.[235]

What Kourlas omitted in this critique was the adjective "heterosexual." The Sia-Heffington "far cry" rejects not only "the typical dance in a pop video," but also the

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[233] Leoness, comment on Sia et al. 2016, *YouTube*, September 6, 2016. Full YouTube comment: "Just Incase you guys didn't understand or missed out some of the representations of the piece… This is dedicated to the Orlando shooting as the rainbow colours on her face represent gay pride. The cage at the beginning shows how homosexuals feel ostracized from society. Maddie telling them to get into the room is them trying to get away. Them splattering against the walls and the white paint on the wall behind Maddie shows the shooting. When Maddie is turning in the room inside the circle it represents them as ghosts haunting the room. The ending is them before being shot and they are just being crazy and having fun (like the are able to just be themselves without being judged.. You know) that's why the disco balls are rolling around the room. After they are shot down in the end you see gun shot holes through the wall as they drop down. Everyone is dead by the end of the video. Some of these ideas are from my own perspective but it's just to give u an idea"

[234] Sia, et al, "Sia – Chandelier (Official Video)," May 6, 2014, YouTube video, 3:51, https://www.youtube.com/watch?v=2vjPBrBU-TM.

[235] Gia Kourlas, "For Sia, Dance is Where the Human and the Weird Intersect," *The New York Times*, July 19, 2016, https://www.nytimes.com/2016/07/24/arts/dance/for-sia-dance-is-where-the-human-and-the-weird-intersect.html, accessed July 2017.

mainstream heterosexuality associated with it. Embracing this queer choreographic aesthetic, Sia said to the New York Times:

> I couldn't think of anything I'd want less than just another video for little girls and boys to watch that tells them: 'Look pretty! Be sexy!' I want my work to say: 'Get weird! Express yourself freely!'[236]

The prominence of the open mouth in Heffington's choreography for "The Greatest" offers a good example of how the aesthetic cuts against the normative grain. To understand the ways the widely open mouth challenges conformity, try on the movement in your body. Open your mouth widely. Notice that, if you open it wide enough, the skin on your face stretches to accommodate a movement you don't often ask your body to perform. Notice, too, that if there are other people in your vicinity, you probably feel social pressure to limit this movement in some way. Perhaps you only opened your mouth briefly, or perhaps you stopped shy of its full range of motion. What you feel in your skin and in your social awareness is a political boundary that expects the silence of bodies.

The open mouth, after all, is also something we associate with the sound of screaming. If not read as a political critique of the control of bodies, the recurring open mouth in "The Greatest" still reads as the politically powerful image of a silent scream. Amplified through choreomusical rhythms and emphasized downbeats, variations of the open mouth feature prominently throughout the film. The movement even defines the pivotal transition to the final prechorus and chorus in which dancers overtly intersperse with disco balls and are enclosed by bullet-pierced walls. In this iconic transition, the

[236] Ibid.

camera zooms all the way into Ziegler's open mouth in a fade to black and zooms back out of Ziegler's mouth again to find her in front of the red wall.

Individual variance between dancers in the choreography, too, reflects a celebration of free, unique expression. In the first hallway, each dancer performs their own set of movements (1:37); in the next hallway, Ziegler addresses each dancer, as though acknowledging their individuality (2:09); and in the final chorus, dancers break into small groups or solos with almost no two facial expressions exactly alike (3:54). This final dance section was described by one viewer as "just being crazy and having fun (like they are able to just be themselves without being judged."[237]

The political and affective power of Heffington's choreographic aesthetic was noted by viewers. One viewer compared the political effect of the dance to painting outside the lines:

> Dancing is like painting. Anyone can paint by number. Some people follow the steps perfectly and stay in the lines flawlessly. And the painting comes out just as it should. Then there are those that just free paint. Sure they may paint out of the lines or use the wrong colors, but what they end up creating is an [emotionality].[238]

Another viewer described the dance in the same way queer activists have described love:[239]

> The dancing to some may seem 'weird' or 'confusing'. The thing is you don't need to understand it…. You just need to understand the energy and emotion.[240]

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[237] Leoness, comment on Sia et al
[238] Jenny From the Flock, comment on Sia et al. 2016, *YouTube*, September 11, 2016.
[239] See "Lin-Manuel Miranda's Sonnet From the Tony Awards," *The New York Times*, June 12, 2016, https://www.nytimes.com/2016/06/13/theater/lin-manuel-mirandas-sonnet-from-the-tony-awards.html, accessed January 2, 2020.
[240] Š3th1905, comment on Sia et al. 2016, *YouTube*, January 1, 2020.

Daniel Askill, who directed "The Greatest" and other Sia-Ziegler-Heffington collaborations, framed the video simply but powerfully. Through the frame, Ziegler appears to address the spectator directly. We are eye-level to her, positioned as listeners invited to a conversation. This is not a dance about controlled patterns of bodies designed to be enjoyed from an elevated perspective. It is not a dance about intimate contact. It is a danced message from silenced voices. The frame allows Ziegler to tell us, very directly, that things cannot stay as they are, that *we* have to do something about it, together. The music becomes inseparable from that imploring feeling drawn out of the dance through the frame.

Alone, the lyrics of "The Greatest" seem simply to be those of workout or dance music ("Oh oh, I got stamina"). But when contextualized in this music video, the words take on a much greater meaning. "I got stamina" and "I won't give up" become statements echoing the endurance of the queer community. This determination and endurance are cast into the dancers' viewer-directed eye contact, clenched fists, bent knees, flexed arms, and pivoting torsos as the "the greatest" repeats through the structurally significant dance chorus (2:03).[241] "I'm free to be the greatest, I'm alive" takes on a heart-wrenching duality. In the unique inflections of each dancer, the phrase serves as an empowering celebration of individuality. In the dancers' 49 motionless bodies, it delivers a viscerally poignant critique of lives taken.

Through these many choreomusical infoldings, "The Greatest" takes on a political meaning in "the third listening." Viewer comments support the power of the third

[241] Alyssa Barna, "The Dance Chorus in Recent top-40 Music," paper presented at Music Theory Southeast Conference, University of South Carolina, Columbia, March 2-3, 2018.

listening by equating the video's message with the song's meaning. Here is what some had to say:

> When I saw this… I started crying. I'm a Florida resident, very close to Orlando. The shooting broke me. This song is amazing. No one should joke about this video.[242]

> This song has to do with the shooting. It was a gay club so she puts rainbow tears, there are 49 of them I think and at the end there is a disco and they are all dancing until they all fell, letting us see the bullet holes. […] it does give me chills at the end…[243]

> Maybe this song is about the Orlando LGBT Club Massacre.. 49 dancers representing 49 souls.. "I'm free to be the Greatest here tonight"[244]

> I felt nostalgic so I started looking through my old playlists and found this. I never knew it was about the shooting. It really hits differently now, it's very chilling and powerful.[245]

One viewer even described the film and its meaning as becoming part of the music:

> It's very Impressive that nowadays the videos or the "short films" is part of the music, they bring double meaning, double understanding[.][246]

Listen to the music again, without watching the video. In this "third listening," the music is transformed: its choreomusical structures echo the shooting's specific violence, a larger history of queer oppression, and an invitation to celebrate bodies dancing beyond convention.

[242] Nike Girl, comment on Sia, et al. 2016, *YouTube*, September 8, 2016.
[243] YikesCami, comment on Sia, et al. 2016, *YouTube*, September 6, 2016.
[244] Beefycheesysaucylazagna :3, comment on Sia, et al. 2016, *YouTube*, July 16, 2019.
[245] Ha!, comment on Sia, et al. 2016, *YouTube*, December 20, 2019.
[246] Noureddine Ziani, comment on Sia, et al. 2016, *YouTube*, September 8, 2016.

Case Study II: "Unsteady"

Before reading this analysis, watch "Unsteady" from start to finish. The video opens with white text on a black background: "Love is love is love is love is love is love is love is love is love." The first piano chord collides with the camera's cut to a man wearing a dark jacket (Will Johnston) who sits alone at a table in a well-lit public café. It appears to be daytime. The camera approaches the table and pans left to show another man in a blue overshirt (Kent Boyd) pulling the empty chair back to sit across from his pensive partner. After a hesitantly given but pointed moment of eye contact, the dancer in the dark jacket looks away. For a few seconds, they sit across from each other without making eye contact. Then, with the iconic word "unsteady," the dancer in the dark jacket slides his arms across the table to join hands with the blue-shirted dancer. They both rise, leaning forward until their foreheads touch. As a distorted, airy synthesizer and diffuse snare articulate the beginning of the first verse, the camera cuts to the two dancers standing in a new version of the café space. It has been emptied of its tables, chairs, and other people. It seems to be nighttime, and the space is more warmly lit. In the transition from the public café to this intimate dance floor, both dancers have become barefoot and shed a layer of clothing. The blue-shirted dancer now wears a white t-shirt and the dancer in the dark jacket has donned a three-quarter sleeve dark shirt. In the contemporary, lyrical dance duet that follows, the two dancers navigate a complicated tension. At times they push each other away, but their escalated energies seem always to return them to one another in intimate lifts and positions of support. Their troubled facial expressions sometimes convey longing, sometimes sadness, sometimes anger. Their final embrace on the dance floor is the most prolonged. As the music's last "unsteady" fades, the camera

cuts back to the daylit public café and the two dancers clasping hands over the table with their foreheads touching. They begin to pull back from each other. The dark-shirted dancer then tears his hands away quickly and slouches into his chair as he crosses his arms to close his jacket. The light-shirted dancer, again wearing the blue overshirt, sits down more slowly, and remains forward, at the edge of his chair with his arms on the table. Returning to white text on a black background, the video closes in silence with a list of the Orlando Shooting's 49 victims.

"Unsteady" infuses its music with an empathetic, political validation of homosexuality while contemplating the shooting's impact on survivors. The video does this through several means. Overtly, the opening and closing text reference the shooting. In a powerful political statement, the video uses two male dancers to challenge power structures in the heterosexually dominated commercial contemporary duet. Choreomusically, it casts their bodies and movements into symbols and metaphors of death, desire, and oppression. The camera frames the dance with empathy by moving intimately through the duet, blurring the spectator's position as observer or participant.

The video situates itself as a response to the shooting through its opening quote, "Love is love is love is love is love is love is love is love." These words were spoken by Broadway musical composer Lin-Manuel Miranda at the Tony awards ceremony that took place the same day of the shooting, June 12, 2016. The words are the penultimate line in a sonnet Miranda composed reacting to the tragedy, which he then read when he accepted the Tony award for best score for "Hamilton."[247] The famously long, repetitive

[247] "Lin-Manuel Miranda's Sonnet," *The New York Times*.

"love is love" line is politically rupturing in at least three ways. Most overtly, the line claims that love, regardless of gender or sexual orientation, is love. Author and journalist Charlotte Runcie has argued that the line also challenges normative structures by breaking the form of the sonnet with three extra syllables.[248] Runcie also suggests that the sonnet as a whole mimics a set of sonnets by the English poet George Meredith that reject love. Instilling a celebration of love in the same shapes of a poem that denounced love, she argues, is politically powerful. Lin-Manuel Miranda's "love is love" rings through the intimacy of the music and dance that follow it. The end of the video lists the names and ages of the 49 victims under a heading that reads, "Honoring those lost, Orlando, 6.12.2016." More than bookending the video, the names make even more real the circumstances danced into the music through the duet.

The use of two male dancers in the heteronormative commercialized dance duet is one of the video's most powerful political moves. Where "The Greatest" used choreographic aesthetic to overturn norms, "Unsteady," instead, (re)occupies a traditionally heterosexist digital space with masculine homosexual intimacy. Their gendered, embodied intimacy reverberates in the music through choreomusical emphases of the underlying pulse (2:05, ~0:47, and 1:44, for example), rhythmic amplification (1:55–1:56 in the light-shirted dancer's feet and bass drum, for instance), and poignantly through each of their embraces on the choreomusically painted word "Hold" (1:17, 1:20, 1:23, 2:11, 2:22, 2:25, 2:44). The solo masculine voice (X Ambassadors' lead singer Sam Harris) with occasional harmonization by a second masculine voice (Casey Harris)

[248] Charlotte Runcie, "The English Poet Who Inspired Lin-Manuel Miranda's Tonys Speech—And Why It's a Literary Masterstroke," *The Telegraph*, June 13, 2016, https://www.telegraph.co.uk/theatre/playwrights/the-english-poet-who-inspired-lin-manuel-mirandas-tonys-sonnet/, accessed November 17, 2019.

amplifies the gender they embody. Viewer comments confirmed the noteworthiness of the same-sex duet and its empowering, political impact. Here is what some had to say:

> I was weirded out at first…… but as I went on through the video, i recognized how much of a work of art this was. Love is love[249]

> I was wondering when we would see the LGBT community more represented in dance, where most of the time we see love stories between a boy and a girl.[250]

> Finally! Same-sex dances. I've been waiting for this my whole life. Now to find females[251]

> This is so, so beautiful! […] I'm glad that the dance community is finally doing same sex pairings[.] I hope […] one day that this will be considered normal for everyone, and I hope there will be no more shock when a same sex couple is seen.[252]

> I've always wanted to see a male same sex dance such as this. #beautiful[253]

> I'm starting to transition to being male and these are things that remind me that I don't need to be SO EXTREMELY masculine that men can dance and feel and cry and I don't need to feel self conscious about being a man AND having feelings.[254]

Tyce Diorio's choreography extends the political statement of the same-sex pairing by also challenging the power dynamics typical of heterosexual duets in this style. Male-female duets tend to place the male dancer in a position of power (who guides the poses of his partner) and the female dancer as a subject of manipulation (being lifted,

[249] Anna, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, January 17, 2018.
[250] Sassy Gee', comment on Diorio, Boyd, and Johnston 2016, *YouTube*, June 29, 2016.
[251] Carissa T, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, June 29, 2016.
[252] Tia Pavo, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, January 2019.
[253] branden maestas, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, July 11, 2016.
[254] Superfluous Greg, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, May 1, 2019.

spun, dipped, or pressed into poses that showcase her flexibility).[255] In Diorio's choreography, the two male dancers, instead, exchange control of each other's bodies almost equally. At 0:46 and 1:06, for example, the light-shirted dancer (Boyd) supports the dark-shirted dancer (Johnston) from behind to showcase the dark-shirted dancer's movement. Their roles are reversed at 0:57 and 1:34. At 0:53 and 1:58, they strike symmetrical poses that require them to share weight in order to balance one another. Viewers commented on the political significance of shared power in the same-sex duet:

> I saw the girl+boy version of it and it was mainly the girl dancing and the male trailing behind but seeing these two work together to dance is beautiful.[256]

> This is why I love two guys or two girls dancing together: there are no predetermined "roles" and both partners are equal. Come to think of it, that's also what I love about same sex relationships.[257]

In their duet, the video invites readings of death, desire, and oppression. Consider, for instance, a possible significance of Kent Boyd's white shirt: white is ghostly. Even Boyd's entrance is ghostly: the camera zooms in on Will Johnston sitting alone at the table and then rotates left to reveal Boyd, giving the impression that the camera's smooth, somewhat hovering approach to the table has been through Boyd's perspective. That Johnston often refuses eye contact with him suggests that Boyd may represent a lover lost in the shooting who is not physically present.[258] Perhaps Boyd has been called here as a figment of Johnston's memory and their dance takes place in an interior psychological space that is primarily Johnston's. The music, after all, uses a simple, intimate

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[255] Susan Foster, "The Ballerina's Phallic Pointe," in *Corporealities: Dancing Knowledge, Culture, and Power*, ed. Susan Foster (New York: Routledge, 1996), 3.
[256] Tear Drops, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, June 27, 2018.
[257] HailG3, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, March 6, 2017.
[258] The reading of the white-shirted dancer (Kent Boyd) as a lover lost in the shooting was proposed to me by my colleague Neeka Safdari in Fall 2018.

instrumentation and features primarily Sam Harris' solo masculine voice with harmonic echoes of a second masculine voice (Casey Harris). Cast through this sonic world, Johnston often has his eyes closed and eyebrows furrowed, as though he is processing something very painful. A moment at 1:53 is particularly expressive of a troubled interiority, amplified by the camera's close-up on Johnston. Although both dancers push each other away at different times, Johnston pushing Boyd away is frequently made more visible. Perhaps Johnston pushes him away as a denial of a deep loss.

An equally plausible reading—and the one most commonly mentioned by viewers—is that the two dancers represent gay lovers facing oppression in a heteronormative society. The dark-jacketed dancer (Johnston), for example, is the most hesitant to engage his partner when they are in the public café setting. Notably, the only other couple in the public café appears to be a heterosexual pairing (0:10). In this reading, their intimate duet is a conversation and a desire forbidden in the public space. The lovers' physical rejections of one another, and the dark-shirted dancer's pensively closed eyes, seem to revolve around the question of whether, despite deep desire, their relationship can survive the pressures of the outer world. This lack of stability is amplified in the title lyric "unsteady." The melody paints the word "unsteady" with a bumpy, lingering descent, in the rhythm of a weeping exhale. The rhythm rings through the dancer's bodies as they perform vulnerable inversions that in turn cast a suspended unrest into the music. Together, the music and dance reflect off the wood-paneled back wall that has the appearance of a floor rotated 90 degrees, disrupting the overall gravity of the choreomusical space. Some viewers commented that they felt a personally relatable representation of oppression in the video:

> I'm in a long distance relationship with someone. we're both trans (ftm) but he hasn't come out to his parents. He lives in a trans phobic house and everyday I'm terrified if he's ok. I just want to be there for him, and know he's ok. […] I want to be able to just care for him. But I can't, and it tears me apart. At the end of the video when they're just holding each other, I lost it. To most people it seems normal, but to me it's something I fear I may never get to experience.[259]

> Truly captures the idea of feeling but not being able to express it freely. Very beautiful[260]

> I'm bisexual, and this hit the feels on another level. […] Only a few people in my family are not borderline homophobic. One day I hope to be able to come out without being judged and feeling disowned.[261]

> It breaks my heart that humanity would rather see two men holding guns than two men holding hands. […] I cried at the end, and I can't stop thinking about how lucky I am to still be alive today. […] My name could have been on that list, just because of who I am.[262]

The lyrics resonate strongly in this reading and open its specific relationship with the Orlando Shooting. "Hold on to me, 'cuz I'm a little unsteady," and "if you love me, don't let go" are simultaneously a plea between the lovers and a cry from marginalized survivors and victims. "This house don't feel like home" describes at once oppression and grief. "Mother, I know that you're tired of being alone" is sympathetic to both the isolation felt in grief and in marginalization. "Dad, I know you're trying to fight when you feel like flying" acknowledges the specific traumatic burden on those most directly impacted by the shooting, as well as the broader queer socio-political struggle.

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[259] Loki, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, June 12, 2017.
[260] TheWasted TheWicked, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, January 2019. Sometime between February 14 and March 13, 2020, this comment appears to have been deleted from YouTube. Based on screenshots I took of the comment in early 2019, I estimate it to have been posted in late 2018 or early 2019.
[261] Gabby Edwads, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, December 29, 2019.
[262] Someone Anonymous, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, April 4, 2019.

The music and dance collide in gestures that might also read as references to the shooting's trauma. At around 0:37–0:38, for example, the light-shirted dancer (Boyd) throws his shoulders back percussively in time with the bass drum. Framed by the diffuse snare timbre, the rhythmic amplification carries tones of a visceral reaction to a gunshot. Fittingly, the dancer (Boyd) then slowly falls, catching himself on the floor-like, wood-paneled back wall. Similar choreomusical gunshots occur at around ~1:13–1:14 and at 1:34, both in connection with the white-shirted dancer. At 2:03, the dark-shirted dancer pushes the light-shirted dancer quickly flat on the floor and then dives sharply over him as though protecting him from an airborne threat. Simultaneously, the snare disappears from the choreomusical texture, creating a moment of relative silence and suspense akin to explosion or gunfire sequences in action films that use silence to express psychological and physiological shock.[263] Whether read specifically as the dark-shirted dancer mourning the light-shirted dancer as a lost lover, or as a broader reference to the shooting's violence, the choreomusical shapes of violence course through the film powerfully.

These readings, which encompass death, desire, and oppression, are simultaneously possible not because the dance and music are ambiguous or generic but because together they tell the bigger story in which all of these readings exist: we continue to live in a society that tolerates hate.

Countering hate with empathy, director David Javier frames and amplifies the video's political energy with a dynamic and intimate filming style that invites the viewer

[263] Kulezic-Wilson, "The Music of Film Silence"

into an empathetic, participatory perspective. To understand the significance of this filming style, it is useful to compare Javier's cinematography with Daniel Askill's camera movement in "The Greatest." Askill framed Maddie Ziegler almost always at eye-level in direct address of the viewer. This created the sense not only that Ziegler was inviting the viewer to a conversation, but also that the relative positions of the viewer and Ziegler were fixed. If ever we were dancing with Ziegler, it was from a distance.

In contrast, Javier's camera moves dynamically through "Unsteady." It participates in the dancers' prolonged moments of contact with close-up shots (0:47, 1:10, 1:28, 2:19, 2:48). It floats subtly toward and away from the dancers. It accelerates around their movements, as though it is an extension of their movement. The shot of the jump is a good example of the interactive relationship between the camera's movement and the movements of the dancers. At 1:44, the camera holds a medium close-up of the two dancers in an embrace. It zooms out and up slightly to catch the light-shirted dancer (Boyd) sharply extending his arm on the word "fight" (1:46). Rotating approximately 90 degrees clockwise around the dancers, the camera then zooms dramatically back alongside the dark-shirted dancer (Johnston) as both prepare to catch the light-shirted dancer's jump on the word "flying" (1:48–1:49). Several such moments of dynamic camera movement evoke an amplified empathy. Adding to the listener-viewer's visceral inner mimesis, the camera casts the dance, at moments, from the perspective of these socio-politically situated dancers in an act of political power: it asks the spectator to dance in the footsteps of the marginalized. One viewer comment, particularly, shows the impact of the video's empathetic message:

> Mercedes was my friend. We went to Pulse all the time together, since I lived a block down on Kaley. A month after everything happened, I moved out of my place. Having to drive past there everyday was too much. I love this video, and the first time I saw it and saw her name I cried for hours. I'm so glad that the message that we are people too is staying.[264]

In "the third listening," "Unsteady" becomes inseparable from the shooting's violence, but also inseparable from the empathetic, political message "love is love." Consider the following viewer comment regarding how the dance video transformed the music politically:

> I know this isn't the meaning of the song, considering it's been out for a couple years, but I can't think of anything other than Orlando when listening to this now. The fear that one day down the road I, or anyone else like me, could so easily be killed simply for loving is one of the strongest things I've felt. […] It was so easy for that man to kill all of those innocent people, and it feels like nothing is being done. Nothing has ever made me feel so unsteady.[265]

Near the anniversary of the shooting, another viewer described the continuing power of X Ambassadors' song:

> I saw XAmbassador in concert for the universal Mardigras celebration. They dedicated this song to Orlando and I couldn't hold back my tears. So many of my friends went to Pulse. One even worked there. She didn't make it out. This song sums up Orlando this time last year. We were all in so much pain the only thing we could do was hold on to each other for strength. […] We are still hurting but we still have eachother and we struggle everyday to keep dancing and spreading as much love as we can. I will never forget the blood stains on our sidewalks, […] the pain, the numbness, the anger, the fear, the screaming, the tears, but also the hugs, the flags going up, the candles being lit, the songs sung by thousands, and hands held so tight I thought they would never let go. I will never forget their names. I will never forget all of the love and I will always remember her smile. […] We will not let hate win. OrlandoUnited Loveislove[266]

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[264] Laney Labelle, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, March 2017. Sometime between February 14 and March 13, 2020, this comment appears to have been deleted from YouTube. Based on screenshots I took of the comment in late 2018, I estimate it to have been posted in late 2016 or early 2017.

[265] Cam C, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, July 7, 2016.

[266] Morbid Mizzy, comment on Diorio, Boyd, and Johnston 2016, *YouTube*, June 2017. Sometime between February 14 and March 13, 2020, this comment appears to have been deleted from YouTube. Based on screenshots I took of the comment in early 2018, and based on its reference to the shooting's one-year anniversary, I estimate it to have been posted in mid June, 2017.

Listen to the song again, without watching the video. Do you find that it is transformed? In my own listening, it reverberates with choreomusically amplified words, bodies, sounds, actions, and empathy that converge immutably in a powerful political activism.

Conclusion

On June 12, 2019, the three-year anniversary of the Orlando Shooting, churches and organizations around the world joined in a unison tolling of 49 bells to honor the shooting's victims.[267] On the same day in Ecuador, the country's highest court approved same-sex marriage.[268] Admittedly, "The Greatest" and "Unsteady" had very little to do with the court's decision or with the organized tolling of 49 bells, but activism rarely travels so narrow a path. What all of these together tell us is that the broader LGBTQIA+ rights movement, with its long and hard-fought history, is making a difference.

Quantifying the videos' political impact is potentially an impossible task, and it is certainly not as simple as translating numbers of views or categorizing viewer comments. At the same time, these massive digital platforms and their many revelatory viewer comments cannot be dismissed. In February of 2020, "Unsteady" had been viewed 3.8 million times and "The Greatest," which topped charts internationally,[269] had been viewed over 646 million times. In these millions of views, as evidenced by viewer

[267] One Orlando Alliance, post on One Orlando Alliance Facebook page, June 12, 2019, https://www.facebook.com/oneorlandoalliance/photos/p.2263235124006602/2263235124006602/?type=3&theater, accessed March 13, 2020.
[268] BBC, "Ecuador's Top Court Approves Same-Sex Marriage," *BBC News*, June 13, 2019, https://www.bbc.com/news/world-latin-america-48620744, accessed December 20, 2019.
[269] Lescharts, "Sia Feat. Kendrick Lamar – The Greatest," *Lescharts.com*, September 10, 2016, https://lescharts.com/showitem.asp?interpret=Sia+feat.+Kendrick+Lamar&titel=The+Greatest, accessed July 18, 2019.

comments, listeners and viewers engaged messages that validate queer expression immutably. For many viewers, these messages continued to resonate in the music beyond the frame in "the third listening."

Through its choreomusicality, "The Greatest" became a song about the shooting's specific violence, a larger history of queer oppression, and a celebration of bodies dancing beyond convention. Dancers opened their mouths widely and produced snare-drum gunshots. Their bodies dissipated with splash cymbals against dark, dominating walls. But their bodies also joined one another in the escalated choreomusical energy of the chorus, projecting an unquestionable unity and diversity in which the spectator viscerally participates. And although the video ends with tears, collapsed bodies, and an ear-ringing sine tone, the dance is immutable. Long after the video, the music continues to pulse with the dance's energy. "The Greatest," in other words, dances into its music a political activism.

Through its choreomusicality, "Unsteady" became an empathetic song about two male lovers facing the violent structures of a heteronormative society. The video cast the dancer's bodies into the contemporary commercial duet, a space dominated by heterosexual dance pairings. Its masculine bodies took up the tones of the music's masculine voices. The intimacy of their movements resounded in the thinly scored musical texture. The imploring phrase "hold on to me" spilled into the choreography as a broader political plea. This video, too, sent choreomusical gunshots ringing through its music and dance. And even so, its intimate message that love is love rang louder. Long after the video, the music continues to project an empathetic validation of homosexual intimacy. "Unsteady," in other words, dances into its music a political activism.

Powerfully, both “Unsteady” and “The Greatest” used the very materials silenced in the shooting—people dancing to music together—to amplify an enduring political response.

So what is to be done? You have watched the videos, danced to the music, and listened more deeply. You have engaged political power in movement and sound. You have viscerally contemplated a tragedy and imagined ways beyond it. But what is to be done?

I will close by offering a few thoughts. First, we must all listen more deeply. We must be willing to hear bodies in sounds. We must be willing to hear stories in bodies. We must be willing to hear hate in violence and empathy in love. Second, we must dance. We must dance to understand new ways of being and knowing. We must dance more loudly than our Western academic chairs and desks would have us dance. We must dance outside the lines of limited conceptions of beauty. We must dance our truths and cast them against the structures we know must change. Above all, we must dance and listen together. Our bodies and our music are powerful, and in their convergence lies the possibility of a more empathetic world.

CHAPTER VI: DANCE AS FLIGHT

Introduction

In Disney's 1997 film adaptation of Rodgers and Hammerstein's "Cinderella," the Prince (Paolo Montalban) and Cinderella (Brandy Norwood) sing about dancing as though it is flying:

> PRINCE CHRISTOPHER:
> Ten minutes ago, I saw you.
> I looked up when you came through the door.
> My head started reeling,
> You gave me the feeling
> The room had no ceiling or floor.
>
> Ten minutes ago, I met you,
> And we murmured our "How do you do's?"
> I wanted to ring out the bells
> And fling out my arms
> And to sing out the news:
> "I have found her, she's an angel
> With the dust of the stars in her eyes.
> We are dancing, we are flying
> And she's taking me back to the skies!"
>
> In the arms of my love, I'm flying
> Over mountain and meadow and glen,
> And I like it so well
> That for I can tell
> I may never come down again.
> I may never come down to earth again.
>
> CINDERELLA:
> Ten minutes ago, I met you,
> And we murmured our "How do you do's?"
> I wanted to ring out the bells
> And fling out my arms
> And to sing out the news:
>
> PRINCE CHRISTOPHER:
> I have found her!

CINDERELLA:
I have found him!

CINDERELLA AND PRINCE CHRISTOPHER:
In the arms of my love, I'm flying
Over mountain and meadow and glen,
And I like it so well
That for all I can tell
I may never come down again.
I may never come down to earth again.[270]
(emphasis added)

Although the dancing couple is clearly bound to the ground visually, I feel that they have indeed taken flight.

Fig. 29 Paolo Montalban (left) and Brandy Norwood (right) dancing during "Ten Minutes Ago I Saw You" from the 1997 film adaptation of Rodgers and Hammerstein's *Cinderella*[271]

[270] Richard Rodgers and Oscar Hammerstein, "Ten Minutes Ago I Saw You" in *Cinderella*, directed by Robert Iscove (1997; Burbank, CA:Walt Disney Studios), DVD.
[271] Screenshot from the YouTube video https://www.youtube.com/watch?app=desktop&v=Fk9uuD86ufk at (49:10), which is no longer available due to copyright claim by Disney. This shot can be found at approximately the same timestamp in the DVD: *Cinderella*, directed by Robert Iscove (1997; Burbank, CA:Walt Disney Studios), DVD.

This chapter examines how musical meter and timbre spill into the moving image to create a feeling of flight in partner dance scenes from recent film. Expanding on the first three chapters' embodied approach to timbre in film, and on the concept of music-dance centered in Chapter V, this chapter specifically develops a model of empathetic listening regarding timbral features of dance scenes. Though several musical parameters are discussed, the present chapter focuses on timbre's relationship with meter. Chapter VII, "Dance as Structure in Scenes that Move Me," expands this model to include detailed discussion of texture, melody, and cinematography in the analysis of two montages that are not about dance yet are undeniably dance-like.

For the sake of depth, the present chapter centers on the "Define Dancing" scene from *WALL-E* (2008) as a primary case study and includes secondary emphasis on the planetarium scene from *La La Land* (2016), the dance between Rayla and Callum in *The Dragon Prince* (2019), and the dance between Yennefer and King Virfuril in *The Witcher* (2019). Together, these four scenes represent an important variety of contexts. Two are live-action, two are animated. Two are from feature-length films, two are from television series. Two are targeted toward adult audiences, two are also for children. Three are romantic in nature, one is political. Two depict literal flight, and two imply flight more subtly. What links these scenes together is that all of them draw on overlapping embodied experiences of sound and motion to show characters dancing in a way that—whether the characters have literally left the ground or not—feels flight-like, weightless, and timeless. In the remainder of this chapter, I will consider embodied aspects of meter and timbre: first, how embodied aspects of musical meter can evoke weightlessness as well as timelessness, and second, how the shapes and physicality of musical timbres suggest

dancing bodies suspended in flight. Before I do that, it is crucial to address the issue of the white racial frame.

The White Racial Frame

The case studies discussed in this chapter present a useful variety of contexts demonstrating the prominence of dance rendered as flight in recent film (child and adult audiences, feature-length film and episode-length film, animated and live action). In all of these contexts, aspects of the white racial frame are at play. Sociologist Joe R. Feagin defines the white racial frame in the United States as:

> The dominant racial frame that has long legitimized, rationalized, and shaped racial oppression and inequality in [the United States]. This white racial frame is a centuries-old worldview that has constantly involved a racial construction of society reality by white Americans.

The white racial frame sees whiteness, maleness, able-bodiedness, cisgenderness, and heterosexual attraction, among other characteristics, as the social default or norm. In the case studies for this chapter, the white racial frame is especially apparent. Nearly every couple represented in these case studies is cisgender, heterosexual, able-bodied, and white. *Hang on*, you say, *what about WALL-E and EVE? They're robots. Do gender and race and ableism really apply?* Yes. And I think it is especially important to recognize how the white racial framing of race, gender, and ableism are so deeply ingrained in popular media that even when two robots pursuing romance could theoretically look and act in any way imaginable, they instead default to privileged codes. Take EVE, for example. While she is arguably a strong character with her own mission, she is white, smooth, sleek, curved, symmetrical, and blue-eyed. Meanwhile, WALL-E is a blockish, low-tech, very old trash robot. EVE could not have looked or functioned like WALL-E

because according to white Western beauty standards she wouldn't have been pretty enough or functional enough. Compare her with other recent animated or anthropomorphic female characters in recent film and note a certain sleek, light, smooth, curved, blue-eyed lack of imagination in the representation of fictional female bodies:[272]

Fig. 30 EVE in *WALL-E* (2008)[273]

Fig. 31 Arcee in *Transformers: Prime* (2010-2013)[274]

[272] See also Cinderella in *Cinderella* (1950), Princess Aurora in *Sleeping Beauty* (1959), Duchess and Marie in *AristoCats* (1970), Miss Piggy in *The Muppet Movie* (1979), Nala in *The Lion King* (1994), Lola Bunny in *Space Jam* (1996), blue-eyed and pale-skinned Princess Atta in *A Bug's Life* (1998), Daisy Duck in *Fantasia 2000* (1999), Jewel in *Rio* (2011), Rapunzel in *Tangled* (2012), Joy in *Inside Out* (2015)—especially in comparison with Sadness who is freckled and more full-bodied, Judy Hopps in *Zootopia* (2016), Sally Carrera in *Cars 3* (2017), Bo Peep in the *Toy Story* films (1995, 1999, 2010, 2019), Gwen Stacy in *Spider-Man: Into the Spider-Verse* (2018), and Elsa in *Frozen* (2013) and *Frozen II* (2019).
[273] Image from https://movies.disney.com/wall-e-gallery.
[274] Image from https://transformers.fandom.com/wiki/Arcee_TFP?file=Arcee_Prime.jpg.

Fig. 32 Gidget in *The Secret Life of Pets* (2016)[275]

Fig. 33 Shira in *Ice Age: Collision Course* (2016)[276]

[275] Image from https://thesecretlifeofpets.fandom.com/wiki/Gidget.
[276] Image from https://loveinterest.fandom.com/wiki/Shira.

Fig. 34 Light Fury in *How To Train Your Dragon 3* (2019)[277]

These images embody the white Western beauty standards at play in the waltz in American ballroom traditions. As ethnomusicologist and dance scholar Joanna Bosse writes:

> In competition, women modern dancers perform in pastel or sherbet-colored ball gowns, tight in the bodice. […] The hair is usually swept high on the head in a French twist or bun and is generally dyed to platinum blonde if possible. Makeup, like hair color, tends to gravitate towards extremes of […] powdery, porcelain white. […] Men perform in traditional black tuxedos with tails.[278]

This white racial framing of the dance duet holds in all of our case studies including *WALL-E* (2008). In *The Dragon Prince* (2019), Rayla and Callum are both white, Callum is a clumsy human, and Rayla is a graceful elf. In *La La Land* (2016), Mia and Sebastian are white, and while both are struggling artists, their duet follows gender norms casting Mia in the more decorative role. The fourth case study—the dance of Yennefer and King Virfuril—abides by the white racial frame and gendering in a more complicated way. Yennefer, played by Indian-English actress Anya Chalotra, has dark

[277] Image from https://www.reddit.com/r/httyd/comments/bafl8x/light_fury_shot_of_the_day_6/.
[278] Joanna Bosse, "Whiteness and the Performance of Race in American Ballroom Dance," *The Journal of American Folklore* 120, no. 475 (Winter 2007), 31.

hair and violet eyes and she wears a black gown. Her dance with King Virfuril marks a compromised act of self-empowerment: only moments before this dance, she has undergone a gruesome magical procedure in which she gives up her fertility to re-figure her body from its original hunch-backed form. Embracing her new symmetrical beauty, she commands the attention of the white, blue-eyed, blonde-haired King Virfuril and thereby takes his coveted open mage's position for her own. But in this act, she also steals the position from Fringilla, played by Black actress Mimi Ndiweni. It's a moment of twisted self-empowerment for Yennefer who sacrifices her body to simultaneously abide by and subvert Western beauty standards, claiming power in part by sidelining her Black colleague.

Fig. 35 Yennefer in *The Witcher* (2019)[279]

[279] Screenshot from Ravensbreath, "Yennefer dances with King Virfuril ft. Frigilla Vigo – The Witcher S01E03 Betrayer Moon," December 25, 2019, YouTube video, 2:45, https://www.youtube.com/watch?v=6JSkYN1Le3s, (0:46).

Fig. 36 Yennefer (left) drawing King Virfuril (center) away from Fringilla (right)[280]

In addition to visual representation, the white racial frame is articulated in each scene's music. Suggesting that triple meter inscribed in the waltz is afforded from a position of social power, Juan Chattah writes:

> Coincidentally (or perhaps not), music associated with activities not related to labor (dancing a waltz, singing a lullaby) is characterized by a triple metric pattern. As a result, bodily engagement with music, for work or dancing, results in a cultural construct that serves to delineate social boundaries.[281]

Consider, for instance, the Viennese waltz, which has made its way into popular media as a virtuosic centerpiece of polished ballroom dance scenes.[282] As I will describe in the

[280] Ibid, (1:29).
[281] Chattah, "Film Music as Embodiment," 103.
[282] Consider the opening waltz of the Yule Ball in *Harry Potter and the Goblet of Fire* (2005), for example, or Cinderella's dance with the prince in *Cinderella* (2015). See also: David Parkinson, "10 wonderfully cinematic waltzes on screen," BFI, April 25, 2019, https://www2.bfi.org.uk/news-opinion/news-bfi/lists/waltzes-film-madame-de.

analyses that follow, every case study scene uses waltz-able meter, engaging the white racial frame.

Bosse affirms the white racial frame's presence in the movement associated with the waltz and other ballroom dances in the modern category:

> The closed position for these dances requires an elongated spine, locked torso, and expanded frame. Assuming this position is a theatrical gesture, but is also a kind of political one, commanding space and attention as one traverses the entire floor.[283]

In a literal sense, the commanding of space and traversal of the entire floor enacts "the white space."[284] We see the postures Bosse describes particularly in the *La La Land* planetarium scene as Mia and Sebastian dance silhouetted against the stars. Rayla's movements in the dance scene she shares with Callum and Zym in *The Dragon Prince* frequently express similar elongated, elevated postures in reference to the European artform of ballet. Yennefer's dance with King Virfuril in *The Witcher*, too, involves expanded frames with their chests lifted, shoulders dropped back, and arms extended outward, increasing the space occupied by the dance. Though EVE and WALL-E don't assume strikingly distinct postures (perhaps because they are made out of inflexible metal), their dance moves with enormous freedom through space: they dance alongside the ship, away from it, past its nozzles, its windows, before landing within it. Similarly, Mia and Sebastian in *La La Land* dance freely through a planetarium and even into the stars: the entire universe is their realm.

[283] Bosse, "Whiteness and Performance of Race," 31.
[284] Elijah Anderson, "The White Space," *Sociology of Race and Ethnicity* 1, no. 1 (2015).

The white racial frame also elevates European art music as a style of music desirable for the waltz-like settings of the case studies of this chapter. Bosse describes this elevation:

> Dancers often stated that the sophisticated nature of the classical music was one of the most appealing aspects of ballroom dancing—especially the modern genres. Generally, the more indexical signifiers of European art music found in the music associated with a genre—string orchestras, symmetrical periodicity and form, melody-dominated textures, and so forth—the higher in the hierarchy the genre is placed.[285]

The timbral categories I will present later in this chapter lend themselves to this style. The category "lyrical," for instance, is often realized as sustained strings or choral voices—both of which sit comfortably in the context of Western art music.

In addition to signifying whiteness through the sounds of string orchestras, timbre can also highlight the frame by referencing the exotic. Film music scholar Andrew Sutherland describes the relationship between timbre and exoticism in film music:

> The use of non-Western instruments in inauthentic settings may add to the dystopian, homogenized globalization of culture. Conversely, it may open Western ears to new sound worlds and understanding the richness of our varied cultural contexts. The result may depend on the identity of the consumer. Either way, it is occurring with increased creativity in modern film scores. Composers have a responsibility to consider the effect of their timbral choices when writing these scores. Their use of sound palette juxtaposed with geographical setting on the screen informs our understanding of culture and this should always be treated respectfully. Those who do not will have their ignorance judged by future, more globally aware audiences just as Steiner's representation of aboriginality in *King Kong* (1933) is now.[286]

[285] Bosse, "Whiteness and Performance of Race," 31-32.
[286] Andrew Sutherland, "The Developing Timbre Palette of Film Music: The Emergence of World Instruments for Non-ethnographic Association" *The International Journal of Arts Theory and History* 13, no. 2 (June 2018), 28-29, https://doi.org/10.18848/2326-9952/CGP/v13i02/19-31.

German composer Frederik Wiedmann's discussion of his score for Season 3 of *The Dragon Prince* (2019) (in which Rayla and Callum's dance scene features) offers a relevant example. In an interview with Musique Fantastique, he says:

> A lot of the music is epic, heartbreaking, and emotional, with lots of solo instruments. I've got fiddle, cello, ethnic flutes, vocalists, choir, my Armenian *duduk* is all over the place, and we even recorded a 40-piece orchestra for some key scenes.[287]

In Rayla and Callum's dance scene, Wiedmann's Armenian *duduk* and "ethnic flutes" are particularly notable. The Armenian *duduk,* a reed instrument played with a circular breathing technique, features on the repeat of the main melody. It is timbrally very close to a viola but it fluctuates with contours more common in breath-driven sound than in bowed sounds. To a listener unfamiliar with the instrument (presumably most of *The Dragon Prince*'s audience), it sounds warm and mysterious, as if halfway between a bowed string and breath-supported reed instrument. Given that through this dance Rayla is revealing her magically concealed home world to Callum, the subtle timbral shift from violin on the first iteration of the melody to Armenian *duduk* on its repeat works poetically and viscerally: the physical world around the dancers is changing. Additionally, when Rayla realizes suddenly that she can't see the faces of anyone in her community and that she has been shunned so that no one can see or hear her or her companions, the blurriness of the timbral line between sustained string and Armenian *duduk* feels like it was foreshadowing this illusive physical fate all along.

[287] Frederick Wiedmann, "A Conversation with Frederik Wiedmann—scoring The Dragon Prince and other works," interview by Randall D. Larson, *Musique Fantastique*, 2019, https://musiquefantastique.com/further-examinations/a-conversation-with-frederik-wiedmann-scoring-the-dragon-prince-and-other-works/.

At the same time, the Armenian *duduk* comes from very specific cultural traditions. Ethnomusicologist Jonathan McCollum, in a lecture at the Armenian Library and Museum of America (ALMA) in 2010 had this to say:

> The duduk is one of the oldest aerophone instruments in the world. […] It is actually the only truly Armenian instrument that's survived through history, and as such is a symbol of Armenian national identity. […] The duduk is recognizable due to its timbre, which is unmistakable. […] The most important quality of the duduk is its ability to express the language dialectic and mood of the Armenian language, which is often the most challenging quality to a duduk player. […] The duduk is meant to invoke feeling and 'native emotional accumulation' of historical memory.[288]

Should such a timbre be used by a German composer in a Netflix series to convey illusory physics? Deeper readings of its use are possible,[289] but they are certainly not made explicit. In addition, the exotic use of the *duduk* in other Hollywood film scores such as *Gladiator* (2000), *The Lion, The Witch, and The Wardrobe* (2005), and *Avatar* (2009) have set a precedent of its use to convey more generic magical or ancient otherness. That it may be accumulating exotic codes in Hollywood doesn't disentangle it from its significance in Armenian culture and history, nor should it.

The analyses in this chapter do not escape the white racial frame, but they do attempt to challenge some of its structures. I attempt to disrupt music theory's white masculine racial frame, first, by having named it in this section. In what follows I attempt to disrupt it further by pushing at the edges where I feel its box cutting against my own

[288] Andy Turpin, "Nothing Sounds Armenian Like a Duduk: ALMA Lecture," *The Armenian Weekly*, February 12, 2010, https://armenianweekly.com/2010/02/12/nothing-sounds-armenian-like-a-duduk/.
[289] Rayla being disowned or banished could have some modest parallels with the way Soviet control of Armenia repressed regional *duduk* styles in favor of a unified state. See Anastasia Christofakis, "The Music That Shaped a Nation: The Role of Folk Music, the Duduk, and Clarinet in the Works of Contemporary Armenian Composers Aram Khachaturian and Vache Sharafyan", Ph.D. diss., Florida State University, 2015 to read more about this history. Given Wiedmann's wider use of the *duduk*, however, a reference to this historical cultural context seems unlikely.

experience. Against these edges, I center bodily ways of knowing and especially my own bodily experience. I embrace the creative analytical imagination that is part of that bodily experience. While I most certainly create boxes of my own, at times bolstered against the very walls I seek to destabilize, I hope to learn from the process of dancing with them.

Meter and the Feeling of Flight

What is the feeling flight? Some might say that flight is weightlessness, a thing that happens when the body defies gravity. Others might say that flight is about motion, a path travelled. The famous debate in *Toy Story* (1995) between Woody (Tom Hanks) and Buzz (George Clooney) comes to mind: was Buzz truly flying? Or was he merely falling with style? Whether floating in defiance of gravity or falling with style, flight involves a body leaving the ground, and this suggests a kind of weightlessness.

To understand musical meter's relationship with the feeling of flight in dance scenes, it is helpful to start with the work of scholars who have argued that musical meter's relationship with the body has the potential to express the body's momentum. Juan Chattah, for example, discusses the correlation between duple meters and music of labor vs. triple meters and music of leisure. He writes:

> Because our body is symmetrical, most movements related to physical labor will result in cycles of duple organization [...] rendered as onomatopoeic [in music]. […] Music associated with activities not related to labor (dancing a waltz [...]) is characterized by a triple metric pattern. […] The temporal structuring of the music thus triggers kinesthetic perceptions.[290]

A laboring body, in other words, alternates steps strictly. A dancing body plays with motion through a third step not accommodated by a bipedal body. This results in a swaying quality of movement, which I will refer to as "lilt." While there are other means

[290] Juan Chattah, "Film Music as Embodiment," 103.

of achieving lilt in music—for example, using short-long rhythms—all four case studies use triple or compound meter to this effect. Take a moment to watch excerpts of each case study now.[291] Do you feel the lilt in your body as I do in mine?

The lilt defies gravity, conveying a sense of weightlessness. But these scenes also feel like moments where *time* has stopped for the dance. In addition to weightlessness, meter in these scenes promotes a feeling of timelessness. Raymond Monelle proposes a dance-inspired model of musical time that is useful to characterize the feeling of timelessness in these scenes. Monelle describes two kinds of musical time: lyric time and progressive time. Monelle explains lyric time this way:

> Lyric time is characteristically articulated in regular meters, the movements of walking and dancing, with recurrent stresses that depend on weight and momentum. […] All cultures possess a variety of *metrical* time associated with the dance. Metrical time is cyclic. […] Its cyclicity permits it to serve as the foundation of nonprogressive semantic time. […] Even a progressive dance progresses nowhere; music for dance occupies a single moment that is infinitely extensible.[292]

Whether a dance progresses throughout a floorspace, like the Viennese waltz, or holds repeatedly to its own small floorspace, like the box step waltz, Monelle argues that lyric time characterizes them both. Monelle goes on to say, "Lyric time is the present, a present that is always present."[293] Film scholar Sangita Gopal offers a similar description

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[291] The hyperlinked timings used in the remainder of this chapter are from the following established YouTube videos for convenience and accessibility without a paywall: Filu005, "Wall-E: Define Dancing HQ," December 11, 2010, YouTube video, 3:22, https://www.youtube.com/watch?v=NPW3mvAN0Rc; Hup, "La La Land – 'Planetarium' scene," April 16, 2017, YouTube video, 4:17, https://www.youtube.com/watch?v=-3VMlzuvMf8; AniBox Trailer Access, "The Dragon Prince Season 3 Clip 'Rayla & Callum's Dance' Official Promo (NEW 2019) Netflix Anime HD," November 23, 2019, YouTube video, 2:28, https://www.youtube.com/watch?v=qJh2Fzrar5s; and AuraofBarry, "Yennefer Transformation (The Witcher S01E03 scene}," December 22, 2019, YouTube video, 2:42, https://www.youtube.com/watch?v=J7ehIRUrlY4.

[292] Raymond Monelle, *The Sense of Music: Semiotic Essays* (Princeton: Princeton University Press, 2001), 90-91.

[293] Ibid, 115.

of time in romantic dance scenes in Bollywood, writing, "The song-and-dance sequence is presented as an asynchronous object, whose time has already passed or is yet to come."[294]

Monelle contrasts dance's lyric time with progressive musical time, which he describes as "goal-oriented time."[295] A comparison can be drawn with Chattah's discussion of duple and triple meters: duple meter, the meter of labor, matches conceptually with progressive, goal-oriented time. Triple meter, the meter of leisure, matches conceptually with dance-inspired lyric time.

In *Decorum of the Minuet, Delirium of the Waltz: A Study in Dance-Music Relations in 3/4 Time*, Eric McKee cites Monelle's lyric time as a *particular* feature of the Viennese waltz. He writes:

> Waltz melodies exist in full bloom in the present and, as such, project suspended temporal states. […] A complete Viennese waltz may be heard as a succession of suspended temporal units or images that in and of themselves do not suggest any conventional Classical narrative order of cause and effect. This new temporality is perhaps the most revolutionary aspect of Viennese waltzes and a dominant feature of the emerging language of popular music.[296]

McKee ties the timeless experience of the waltz to its motion. Citing *The Sorrows of Young Werther* (1774) as among the earliest literary descriptions of the waltz, he quotes Goethe:

> [T]he waltz started, and the dancers whirled around each other like planets in the sky. […] Never have I moved more lightly. I felt myself more than human, holding this loveliest of creatures in my arms, flying with her like the wind, till I lost sight of everything else.[297]

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[294] Sangita Gopal, "When the Music's Over: A History of the Romantic Duet," *Conjugations: Marriage and Form in New Bollywood Cinema* (Chicago: University of Chicago Press, 2011), 58.
[295] Monelle, *The Sense of Music*, 100.
[296] Eric J. McKee, *Decorum of the Minuet, Delirium of the Waltz: A Study of Dance-Music Relations in 3/4 Time* (Bloomington: Indiana University Press, 2011), 125.
[297] Goethe 1998, 11:17; as quote by McKee in *Decorum of the Minuet*, 105.

Regarding this excerpt, McKee points to the twirling nature of the waltz as contributing to its timeless inwardness. He writes, "the extinction of the external world was due to the couple's constant rotary motions."[298] I would add that the celestial imagery and lightness referenced by Goethe are tropes maintained in our case studies and that they combine a sense of weightlessness with the sense of timelessness.[299]

The simple, regular, metric shapes of our four case studies are clear examples of lyric time. They defy time's progression through repetitive compound or triple meter. The feeling of timeless cyclicity is even suggested in the film's visuals: the characters revolve around each other impervious to any progression of the outer world. The manifestation of spheres and other elliptical patterns on screen feel celestial, as though I am no longer bound to the daily progression of life on earth. Through triple or compound meters, the body is released from gravity's weight and time's progression into a moment of flight. In this way, meter renders dancing as flying.

Timbre and the Feeling of Flight

Timbre also works to convey a sense of flight in these scenes. I will consider timbre as it relates to embodiment in two ways: the temporal shapes of sounds, and the physicality of those sounds. By temporal shape, I mean the shape of a sound as it unfolds over time. How loud is the sound at its onset? How quickly does it decay? What is the shape of its sustain? The contour of its release? In digital audio synthesis, this aspect of

[298] McKee, *Decorum of the Minuet*, 105-106.
[299] Eleanor Smith is in the process of conducting research on a kind of manic timelessness associated with waltzes and villainous doctors in film. See "Dancing with the Doctor: Characterising the 'Mad' Physician in Film through the Visual and Musical Form of the Waltz," paper presented at Music and the Moving Image conference, NYU Steinhardt / Virtual, May 29, 2021. See also Mark Knowles, *The Wicked Waltz and Other Scandalous Dances: Outrage at Couple Dancing in the 19th and Early 20th Centures* (Jefferson: McFarland & Company, Inc., 2009).

timbre has been called the "sound envelope" (see Figure 37). The sound envelope is a crucial timbral characteristic. Without a sound's attack, for instance, it is usually unidentifiable to listeners.

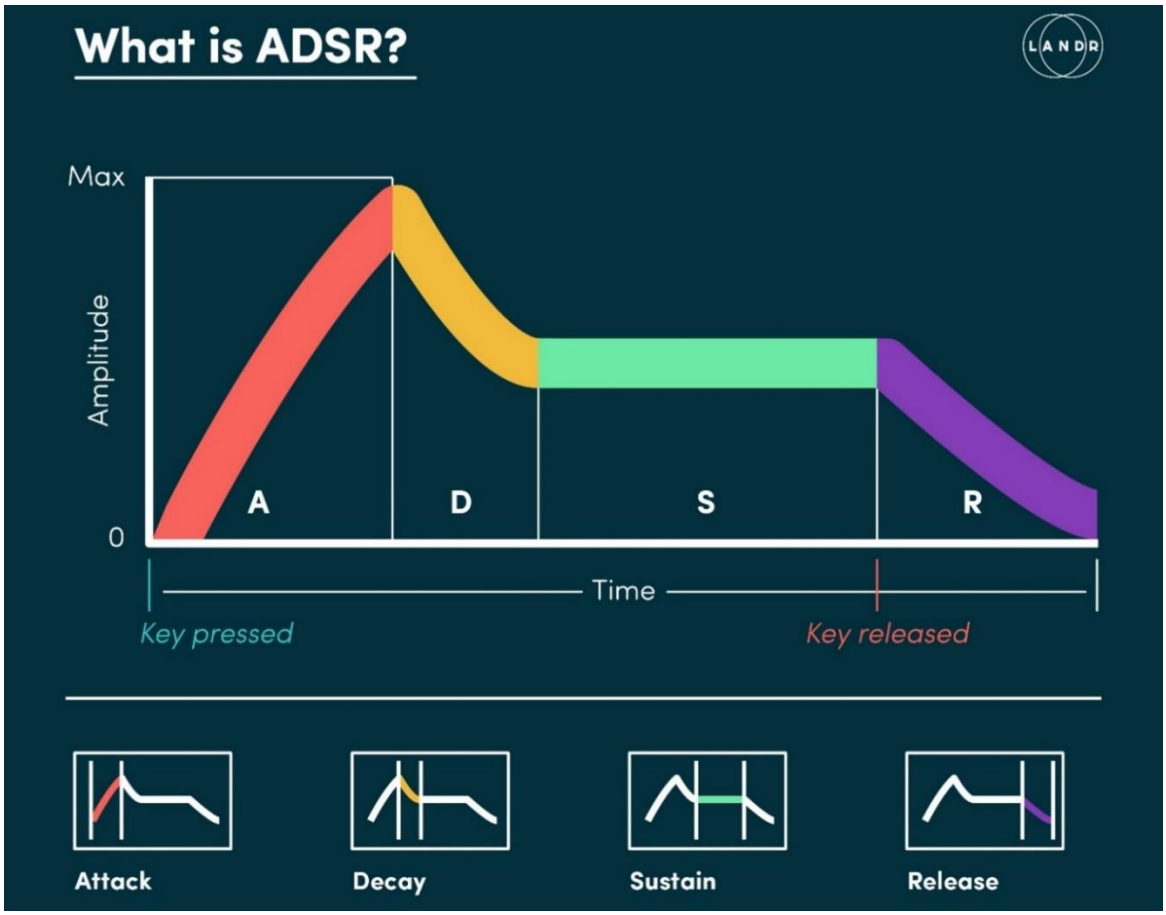

Fig. 37 Rory Seydel's diagram of a sound envelope[300]

To understand how a sound's temporal shape contributes to a feeling of flight, it is useful to review a concept from psychology known as "vitality contours."[301] Our lived experience (vitality) gives us knowledge of shape (contour) in a variety of contexts. From

[300] Rory Seydel, "ADSR Envelopes: How to Build the Perfect Sound [Infographic]" LANDR, 2021, https://blog.landr.com/adsr-envelopes-infographic/.
[301] Stern, *Forms of Vitality*.

Chapter II, you might remember the following two shapes reprinted in this chapter as Figure 38.

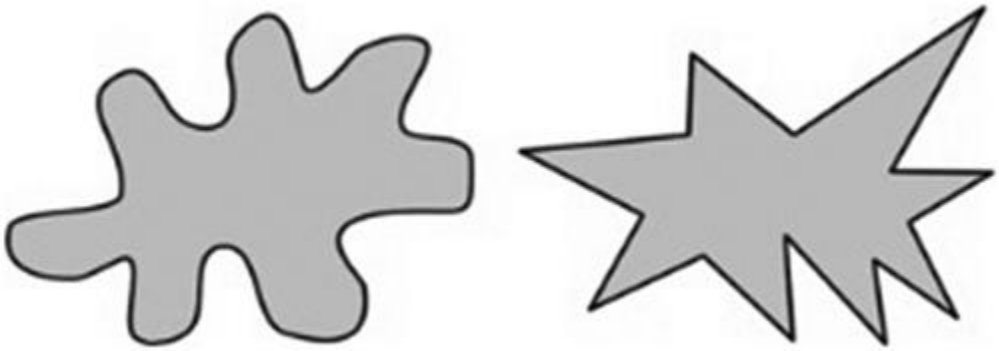

Fig. 38 Hearing round and spiky shapes[302]

Which one is Bouba and which one is Kiki? Like this famous experiment's first participants, you probably chose the more percussive name, Kiki, as matching the spikier shape on the right. And you probably chose the rounder-voweled Bouba as matching the rounder shape on the left. The Bouba-Kiki effect demonstrates a kind of mild synesthesia between sound and visual shape. The roundness of Bouba reflects the vitality contour of slow, soft movements, sounds, and images. The spikiness of Kiki reflects the vitality contour of jagged and sharp movements, sounds, and images.

I propose three categories of temporal shapes that give rise to the feeling of flight in our case study scenes: sparkling, lyrical, and buoyant. Sparkling timbres feel ephemeral, high, small. They function texturally, atmospherically. They have sharp attacks that quickly dissipate and linger (such as windchimes, music boxes, and

[302] Image reproduced from Figure 1 of Fort, et al., "Consonants are More Important than Vowels."

sometimes pianos and harps). In dance scenes, these map visually onto twinkling lights. For example, consider the piano and windchimes in *The Witcher* (1:25-1:35).

Lyrical timbres feel song-like. They function sometimes as background and sometimes more melodically. They have softer attacks, very subtle decay, and long, malleable sustains (such as descant voices or sustained strings). In dance scenes, these map onto the sustained trajectories of the dance—such as the continuous motion of the two dancers spinning around each other, their gliding path across the dance floor, or smaller sweeps of the arm. Consider the choral voices and violin in *The Dragon Prince* (0:59-1:09) as an example.

Buoyant timbres feel rounded, focused, and perhaps warm. They function often as bass notes, showing us where the metric pulse lies. They have a sharper attack than lyrical timbres, but a softer attack than sparkling timbres. Their decay is slower and more pronounced, and their sustain and release are brief (such as roundly articulated bass). Buoyant timbres in dance scenes map onto the push and pull between the dancers, their rise and fall against gravity, and the rebound of downbeats. As choreographer, dancer, and scholar Sarah Ebert pointed out to me, buoyance might illicit specifically downward pull or upward push, or the sensation of bobbing depending on the subjective experience of the dancer/listener/viewer. What these have in common is their contoured play with gravity. Consider the timpani and electric bass in *Wall-E* (1:13-1:23).

Turning to the physicality of timbres, it is helpful to review Cox's mimetic hypothesis, which states that part of the way we understand music, including its timbre,

involves imagining what it would be like to produce or move like the sounds we hear.[303] Since kinesthetic empathy also holds that we empathize with sound, part of the way we experience timbre includes imagining what it would be like to *be* the sounds we hear.[304] Cox calls this imaginative physical empathy with sound "mimetic motor imagery," or MMI. I offer three categories of MMI related to timbre's perceived physicality: tactile, sinewy, and airy. Tactile timbres are those in which our imagery of the sound involves touch, such as fingertips plucking harp strings. The pizzicato strings in *La La Land* (1:24-1:34) are an example. Sinewy timbres are those in which I imagine a sustained muscle engagement, such as a violin bow pulling across strings, including the imagery of *being* those strings. Consider the sinewy violin in *The Dragon Prince* (0:38-0:48). Airy timbres are those in which I imagine air currents producing or defining the sound, such as vocal timbres or flutes. The flutes in this excerpt from *La La Land* (1:03-1:13) are exemplary.

In dance scenes, timbres that invite tactile and sinewy imagery paint the flicker and sustain of the dancing body: sustained strings feel full-bodied, familiar, and corporeal; plucked harp feels more fleeting, playful, and buoyant. Timbres that invite airy imagery, then add to a feeling of weightlessness or floating—as though the dancing body is suspended in air or passing through air currents.

[303] Cox, *Music and Embodied Cognition.*
[304] See also Nicholas Cook, "Seeing Sound, Hearing the Body"

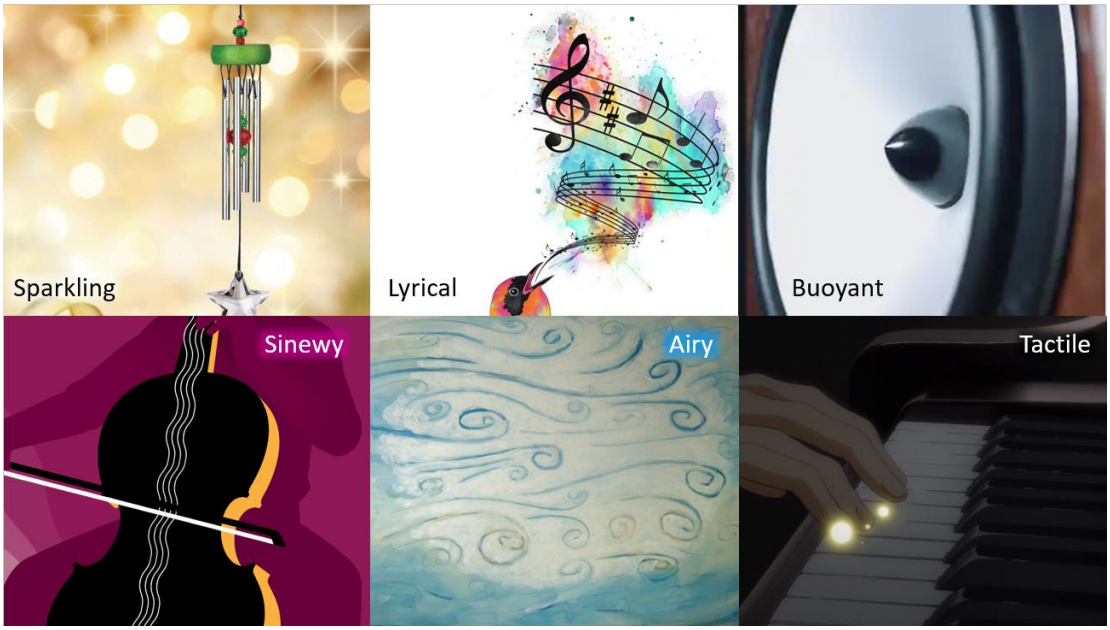

Fig. 39 Shapes of sounds (upper) and physicality of sounds (lower)

In each of the following case studies, I will give narrative context for the scene discussed, then attend to embodiment as it relates to 1) musical timbre, 2) rhythm and meter, 3) the film's visuals, and 4) the feeling of "landing" or how the scene concludes the feeling of flight. While I isolate elements—timbre, rhythm and meter, vision—I want to emphasize that I *do not* hear/see/experience these elements independently. I can look at the recipe for a cake to understand what elements are present in it, but the process of baking the cake is chemically irreversible: cake is not sugar plus eggs plus flour, etc. Cake is caramelization, sweetened and aerated dough. It is texture and moisture and scent and breath and chewing and swallowing and sticky hands or dirtied plates and silverware. Cake, like audiovisual experience, is blended space.

"Define Dancing" in *WALL-E* (2008)

Choreographers*:* None listed
Cinematographer*:* Martin Rosenberg
Director: Andrew Stanton
Composer: Thomas Newman

Narrative Context

The robot EVE has a mission: to let humans know when Earth is inhabitable again. Upon detecting plant life, EVE is programmed to preserve a sample and return it to the Axiom, the leisure spaceship hosting humans in the meantime. WALL-E is a trash-compactor robot, somehow remaining active on Earth generations after humans have abandoned the trash-ridden planet. Through a long series of twists and turns, WALL-E and EVE find themselves suspended outside the Axiom and WALL-E presents EVE with the Earth-harvested plant he has managed to save. Overjoyed, EVE takes the plant into her protective chamber, spins around WALL-E, and gives him an electric robot kiss. What ensues is a scene known by its cue name, "Define Dancing." WALL-E and EVE spin together through space, dancing around the Axiom. As they twirl, they catch the eye of two humans who bump into each other and begin a romantic relationship. Meanwhile, the ship's captain who is newly excited about the prospect of returning to Earth, is learning about various staples of human culture from before Earth was abandoned: farms, pizza, and, of course, dancing. "Computer, define dancing," says the wide-eyed captain, as WALL-E and EVE are visible twirling outside the window behind him. "Dancing –" replies the computer, "a series of movements involving two partners, where speed and rhythm match harmoniously with music."

Musical Timbre

Beyond the images of WALL-E and EVE flying through space, what makes this scene feel flight-like? First, I will consider timbral shapes (sparkling, lyrical, and buoyant). Sparkling timbres articulate throughout the sequence and alternate between a pointed sparkle (high-range harp) and diffuse, sustained shimmer (tambourine). These resonate with the starry skies through which WALL-E and EVE dance as well as with WALL-E's speckled white trail emitted from the fire extinguisher he uses to propel himself. The more pointed sparkle of the high-range harp coincides with several buoyant timbres: lower-range arpeggiated harp, warmly articulated electric bass, and jaunty and full timpani (1:10-1:27, 1:00:03-1:00:18 DVD, for example).[305] In contrast, the shimmery tambourine pairs with lyrical bowed strings (1:28-1:34, 1:00:19-1:0025 DVD, for example). The effect of the sparkle-buoyant, shimmer-lyrical alternation is one that draws my attention to a sense of play and then to a sense of awe: the sharper sparkle and buoyance feels more like individually visible stars and countable dance steps, as though I am navigating my surroundings in a playful and immediate way; whereas the shimmer feels more like spinning—when points of light become blurred, contact with the ground becomes diffuse, and, swept up in beauty, I forget to step, letting my momentum carry me. Though this alternation between sparkly, buoyant play and shimmery, lyrical awe doesn't map one-for-one onto the moving image, it invites me to attend to the dance between WALL-E and EVE as both a playful conversation and a kind of beautiful unity.

[305] I will use timestamps from an established YouTube clip for convenience of access, hyperlinked in the text, and include DVD timestamps as well. The hyperlinked YouTube video timings come from Filu005, "Wall-E: Define Dancing HQ," December 11, 2010, YouTube video, 3:22, https://www.youtube.com/watch?v=NPW3mvAN0Rc; the DVD timings come from *WALL-E*, directed by Andrew Stanton (2008; Emeryville, CA: Pixar Animation Studios), DVD.

The physicality of timbres also contributes to the feeling of flight in WALL-E and EVE's dance. The lyrical strings are sinewy: they feel not only sustained, but like the contracting muscles that hold sustained movement: an extended sweep of the arm, an engaged core for balance in suspension. The buoyant electric bass, buoyant and sparkling harp, and smooth synthesized piano all have an element of tactility in their attack: they recall the feeling of a finger plucking a string or pressing a key. Tactile timbres add both playfulness and intimacy and act like a kind of visceral flicker. Airy timbres then situate the sinewy and tactile timbres in relation to motion in an environment. The airy flute carries associations with birds, wind, and general movement through an atmosphere.

Rhythm and Meter

WALL-E and EVE's dance also feels like flight because rhythm and meter interact with timbre and embodiment. Their dance sits in simple triple meter at about 100 beats per minute. The tempo is easy and floating, and the asymmetry inherent in each three-beat group causes a lilt, discussed earlier in this chapter. Try keeping time along with the excerpt to see how this meter feels in your body. If I conduct a three pattern with my hand in time with the scene, I find the following tendencies:

1) I articulate beat one more crisply and directly than beats two and three
2) I move my upper body along with the sway of beats two and three
3) I hold my upper body somewhat still to observe the articulation of beat one

In effect, beat one feels like a point that I bound away from and return to, while beats two and three are all about the motions of defying gravity and succumbing to it. Beat one is potential energy on the verge of motion and beats two and three are the kinetic energy of motion released. Contributing to this effect is the buoyance of the electric bass on beat

one: it sounds and feels like beat one bounds into the longer arching path of beats two and three.

Beat one also feels like a leaping off point because of the way timbre and rhythm work together to set it up. To illustrate this, imagine for a moment that you're preparing to perform a giant leap: you would probably take a few quick steps to gather your momentum before articulating the leap. The rhythm of these steps, broadly, would be some series of quick impulses followed by the long impulse of the leap. Through a series of condensed and more rapid rhythms, the electric bass and timpani participate in this prep-step "quick-long" rhythmic scheme. At (1:11-1:27, 1:00:02-1:00:18 DVD) for example, listen to how the timpani and electric bass leave most of beat one uninterrupted past its initial articulation yet over the course of beats two and three articulate rhythms that sound like skipping, or, especially in the case of the electric bass, like several steps articulated in quick succession at the end of a landing and before another take off.

Visuals

At least two visual aspects overlap with timbral and rhythmic/metric embodied characteristics of flight: sparkling elements and lyrical movement. Sparkling visual elements include the stars through which WALL-E and EVE dance as well as the confetti-like dust from the fire extinguisher that WALL-E uses to propel himself. Though the sparkling and shimmery timbres mentioned earlier do not seem to cross the diegetic boundary to *be* the sounds of the stars and "fire-extinguisher confetti," they still overlap viscerally, creating multimodal sensations of sparkle and shimmer.

Two moments that stand out for their timbral and visual rendering of sparkle are (1:48-2:07, 1:00:38-1:00:57 DVD) and (2:18-2:21, 1:01:09-1:01:12 DVD). In the first example, the human character Mary (Cathy Najimy) is gazing out of the ship's windows and gasps, "Awe, so many stars!" She then sees WALL-E and EVE passing by and exclaims, "Oh! Hey! Hey, that's what's his name!" It's worth pausing to note that as the scene progresses, neither of the female characters (the human Mary or the robot EVE) are named.[306] In Mary's amazement, she accidentally backs her chair into the human character John's (John Ratzenberger) chair, disrupting its autopiloted trajectory and drawing his attention to WALL-E and EVE's dance. "Look, look look look at that!" Mary says excitedly. In a notable shot (2:00-2:04, 1:00:50-1:00:54 DVD), the camera cuts to the window as smooth, slightly blurry synth piano arpeggios underscore EVE and WALL-E crisscrossing paths while WALL-E's fire-extinguisher confetti immerses the dancing couple and blends with the starry backdrop. John responds, "Hey, I know that guy, that's uh, um… WALL-E! That's it!" Mary and John both shout and wave through the ship's window, "Hi WALL-E!" John continues "Hey, it's your buddy John! Hey!" The feeling of sparkle is especially salient in the noted window shot when the camera cuts to Mary and John's perspective of the dance (see Figure 40). The visual density and depth of light-points collides with the timbral shift to the smooth, sparse, high-register piano synth and suggests not only that I am viewing the sparkling stars with Mary and John, but that I, too, am swept up in the stars. The smoothness and regularity of WALL-E

[306] This scene would fail the Bechdel-Wallace test, which asks: 1) are there at least women characters 2) who have names and 3) talk to each other about something other than a man. For more on the Bechdel-Wallace test, see Heather Savigny, Einar Thorsen, Daniel Jackson, Jenny Alexander, *Media, Margins, and Popular Culture* (New York: Palgrave MacMillan: New York, 2015); and Teresa Jusino, "Alison Bechdel Would Like You To Call It the Bechdel-Wallace Test, Thank You Very Much" *The Mary Sue* https://www.themarysue.com/bechdel-wallace-test-please-alison-bechdel/ 2015.

and EVE's paths align with the smoothness of the piano timbre and the regularity of the metric pulse, respectively.

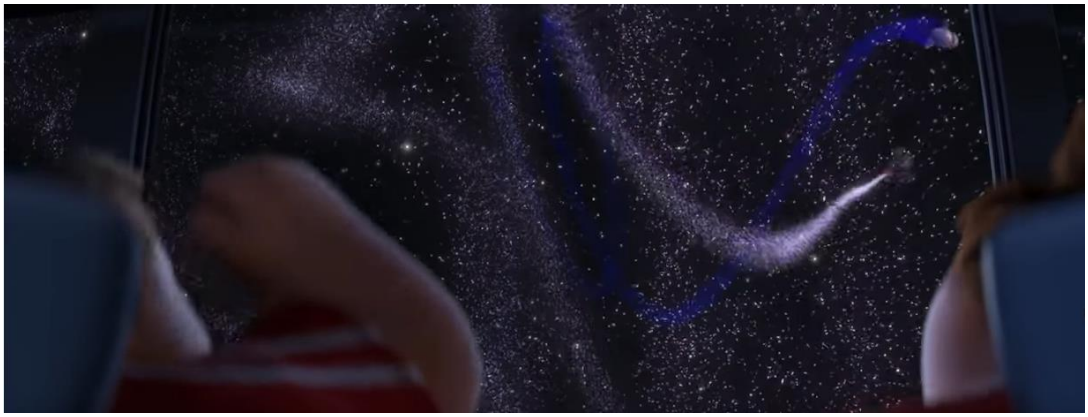

Fig. 40 screenshot at 2:03, 1:00:53 DVD of Mary and John watching WALL-E and EVE dance.

In the second example, (2:18-2:21, 1:01:09-1:01:12 DVD), the camera cuts to a rare perspective: following directly behind WALL-E and EVE in their jet streams (see Figure 41). Simultaneously, the musical timbre shifts to clear, upper-register piano. The clearer tone, in contrast to the smooth synth of the previous example, reflects the feeling of being in the jet streams rather than watching them. The tactile nature of the piano timbre is also clearer, inviting more pointillistic than smooth sensations in the fingertips. In short, the piano timbre sounds more physically "real" as the camera tosses me into the direct, nearly first-person perspective in WALL-E and EVE's jet streams.

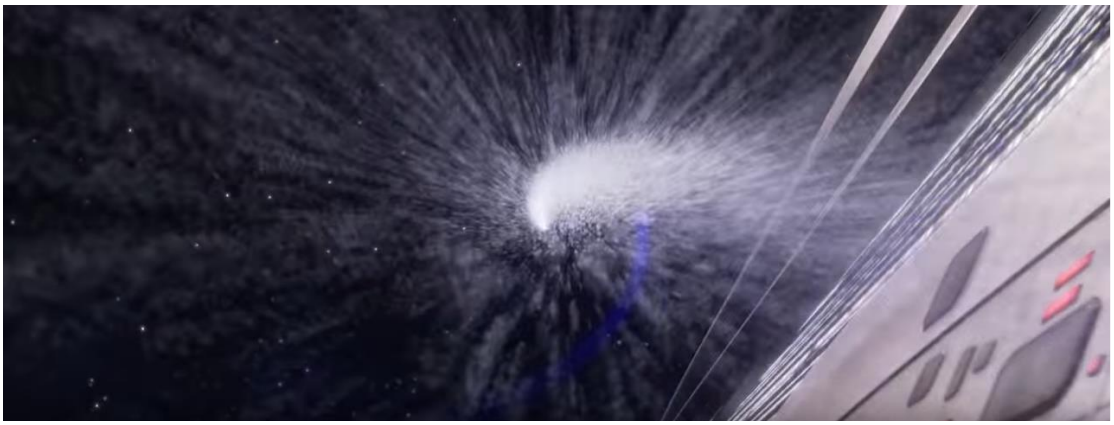

Fig. 41 screenshot at 2:18, 1:01:09 DVD of WALL-E and EVE from the perspective of their jet streams.

Lyrical movement primarily takes place in the form of arc-like, circular, or sustained motion paths and can occur in the movements of the characters, the camera, or both. Where sparkle emphasizes a kind of magical or celestial quality, lyrical movement emphasizes the feeling of the flight path. Though there are several examples, I will focus on three brief moments where lyrical movement and lyrical timbres fuse to bring attention to the feeling of spinning or gliding in a flight path.

At (1:28-1:31, 1:00:19-22 DVD), we see EVE and WALL-E on the left side of the screen turning toward the ship's flame-lit nozzles. The camera seems to dance with EVE and WALL-E: the smooth, lyrical motion of their direction change is mirrored in the camera's rotation as it tilts the vertical view of the nozzles to a horizontal view. The direction change is especially sweeping because the "turn around point" (or apex) aligns with the kinetically charged metrical downbeat. Simultaneously, sinewy and lyrical strings swell to the forefront of the musical texture, making the visual motion feel muscly, sweeping, and gestural.

Just seconds later, at (1:34, 1:00:25 DVD), we hear a lyrical, smooth, slightly airy synth timbre. It comes into aural focus while EVE glides towards the camera and skirts

the outer edge of one of the rounded nozzles (Figure 42). Because the timbre's sustain and brightness match the contour and quality of EVE's movement, as well as the context of the movement (it sounds like a small, singular thing emerging in a broader texture), the ethereal, high-register synth momentarily acts like it *is* the sound of EVE gliding toward and past the camera. As EVE continues, the lyrical synth gradually disrupts its sustain and ripples through falling pitches until it fades. Alongside the rippling synth, EVE's path continues to be smooth, but she adds pirouettes to it, spinning along her vertical axis as she flies. The camera cuts back to a long shot of EVE and WALL-E, and WALL-E's less-smooth jet stream picks up the tones of the rippling synth. It's worth noting that EVE's continually smooth path contrasts with WALL-E's freer and more variable path, paralleling the smoothness and perfection expected of the female lead through white Western beauty standards. In short, the lyrical synth timbre melds with EVE's lyrical motion and its rippling dissipation echoes through EVE's pirouette, WALL-E's rippling trail, and the camera's cut to a long shot.

A third notable moment occurs at (1:42-1:43, 1:00:33-1:0034 DVD), when WALL-E briefly circles EVE. The lyricism of WALL-E's movement is emphasized further by EVE's continuing flight path: WALL-E seems not only to spin in orbit around EVE but also to be gliding relative to her on his horizontal plane. What makes WALL-E's spin expressive rather than auxiliary is that it sweeps with a lyrical swell in the strings across the downbeat. Simultaneously, the shimmery tambourine re-enters in the background. It adds a layer of dazzle and awe while also contrasting with (and therefore emphasizing) the lyricism of WALL-E's movement with the strings.

Fig. 42 EVE (lower left) moves lyrically alongside outer edge of nozzle, underscored by high-range ethereal synth (1:34, 1:00:25 DVD)

Landing

Landing is a distinct feature of any flight and part of what makes this dance scene feel like flight is its "landing." Several elements contribute to this scene's landing and I will discuss them chronologically.

The very first element that signals EVE and WALL-E's flight-dance is coming to an end is Auto (the ship's artificially intelligent pilots assistant) turning the ship's simulation of daytime to nighttime. Lyrical, sustained strings become prominent as we see a digital moon and stars rising as projections on the ship's windows. The visual cue of winding down for bed, combined with the warm, midrange, sustained strings and the absence of buoyant or sparkling timbres, sets up the expectation for stillness. As the day comes to an end, so does EVE and WALL'E's flight.

But the ship's captain isn't ready to go to bed. He has just discovered an exciting new trove of information in the ship's database about culture on Earth. "Auto!" the captain exclaims, "Earth is amazing! *These* are called farms. Humans would put seeds in the ground, pour water on them, and they'd grow food, like pizza!" Clearly unimpressed by the captain's research, Auto turns off the database screen and directs the captain to go

to bed, saying, “Goodnight, Captain.” The captain’s quarters darken as the screen shuts off, matching the tones of the ship’s night-adjusted windows, and adding to sense of calm felt in the sustaining, lyrical strings.

As the captain turns away from the screen to go to bed, he sighs in disappointment at having to leave behind so many curiosities about Earth. Simultaneously, the musical timbres revive their sparkling, as if to voice the captain’s lingering excitement and curiosity. Halting his path to bed, he suddenly reverses the direction of his chair and whispers, “Ps! Computer!” Out the captain’s window in the background, we see EVE and WALL-E oscillating across the sky. The captain continues his voice command to the computer, “Define ‘dancing.’”

As the computer answers the captain, the camera cuts to an exterior shot of the ship with EVE and WALL-E crisscrossing paths and skimming along the ship’s surface. The relatively horizontal orientation of the ship on this shot, and their closeness to it, also hints at the approaching landing. “Dancing,” the computer responds, “a series of movements involving two partners where speed and rhythm match harmoniously with music.” The computer’s response to the captain’s question acts as voiceover for EVE and WALL’E’s dance. Together, the voiceover and the robots’ dance-flight take on the conclusiveness and restfulness of an answer. This helps the dance feel like it is preparing to return to the ground—after all, questions are often described as being “up in the air.”

Along with the computer’s answer, the music shifts slowly away from sparkling timbres, then away from the larger buoyant timbres (the re-articulating bass), leaving only the strings, synth, and timpani. The disappearance of the sparkling timbres forecasts EVE and WALL-E’s exit from the starry sky and overlaps with the feeling of closing

one's eyes at nighttime as I might imagine the captain is finally doing. Against the strings' sighing, lyrical tones, the soft but repeatedly articulating timpani feels like a reminder that there have been steps in this dance all along. The lyrical sighs evoke the sinewy gestures of wings supporting the body while flexing to drop altitude in a series of shorter, graceful glides. The ongoing and exposed timpani then feels like feet running on the ground below me to keep up with my speed as I descend. The scene finally "lands" with only the lyrical strings and one sustained bass note as EVE catches WALL-E in her arms. Their closeness and relative stillness also signal the end of the dance-flight. Carrying WALL-E, EVE zooms toward the ship and through one of its entryways. The camera confirms that the flight's landing by perching on the walkway nearby.

The Planetarium Scene in *La La Land* (2016)

Choreographers*:* Mandy Moore, Jillian Meyers, Michael Riccio
Director*:* Damien Chazelle
Cinematographer: Linus Sandgren
Composer*:* Justin Hurwitz

Narrative Context

Mia (Emma Stone) and Sebastian (Ryan Gosling) are artists struggling to make it in Hollywood. In what is popularly referred to as the "planetarium scene,"[307] Mia chooses Sebastian as her romantic interest. The scene involves Mia and Sebastian visiting the Griffith Observatory. They walk around a large, active pendulum and then begin to waltz. When they enter the planetarium dome, their dance takes to the stars: Sebastian lifts Mia and she continues to float up through clouds into a star-speckled atmosphere. Sebastian follows. Soon, their silhouettes are twirling across space, passing planets, and eventually

[307] As of May 2021, this scene is viewable at: Hup, "La La Land – "Planetarium" scene," April 16, 2017, YouTube video, 4:17, https://www.youtube.com/watch?v=-3VMlzuvMf8.

disappearing into a bright light that recedes to reveal them holding hands and floating back down into the theater seats of the planetarium dome.

Musical Timbre

Several musical timbres contribute to the feeling of flight in this dance scene. In no particular order, the flute timbre is airy, bird-like and lyrical. It encourages me to imagine the air currents of a flight. The plucked harp is tactile, buoyant, and sparkling. It creates playful, upward motion as its sparkle and cultural associations reference their celestial surroundings. The bassoon, oboe, and sax are nasally, lyrical, sinewy, and voice-like. They seem to sing along with Mia and Sebastian's gliding movements. The piano is sparkling and tactile, a flirtatious, visceral flicker. The glockenspiel is sparkling, too. Sinewy and lyrical strings feel as bodied and lyrical as the dance I watch. As in "Define Dancing," buoyant timpani contributes a feeling of bounce. A distinctive timbral feature of this dance seen is its use of trumpet. The trumpet is percussive and sinewy: it is the sound of embouchures and diaphragms spouting its directed staccato sound. Prevalent elsewhere in the film, the trumpets here seem to reference the sound of car horns in a city, not unlike the use of brass in "An American in Paris." In general, the timbres progress from airy to tactile and fleeting, and finally to more corporeal, full-bodied musical sounds. This progression, in combination with the image, makes it feel like I am in the air already and that the dancers join me.

Rhythm and Meter

As in "Define Dancing," the planetarium scene uses a triple division of time to evoke lilt. Mia and Sebastian spin through 6/8 time, lilting through especially buoyant downbeats. This is most pronounced when the couple leaves the ground to float into the

planetarium's stars as well as at the scene's ending. The metric buoyance affirms and references the exaggerated stepping motion that would characterize a bipedal human's takeoff or landing.

Visuals

The visuals in the planetarium scene reference flight largely through the setting of the planetarium. Making visible the timelessness of the dance-flight, Mia and Sebastian waltz around a pendulum, literally circling time. An airy flute flurry accompanies the paper that escapes from Sebastian's hand and floats upward, shortly followed by their ascent through the clouds and into the stars. We only hear the sparkling metallic triangle and glockenspiel once Mia and Sebastian have completed their ascent and are spinning continuously silhouetted against the stars. Low, sinewy strings then correspond with the large, round celestial bodies they pass as they dance.

Landing

Mia and Sebastian's dance-flight lands in the way it began: with a flurry of flutes. The landing, though, sounds more full-bodied and grounded because the airiness of the flutes is supported by other less-airy woodwinds. Retrospectively, this has the embodied effect of lightness and upwardness in their takeoff and a slight heaviness and downwardness in their landing.

Rayla and Callum's Dance in *The Dragon Prince* (2019)

Choreographers*:* Not listed
Director*:* Villads Spangsberg
Cinematographer: Not listed
Composer*:* Frederik Wiedmann

Narrative Context

Rayla (a Moonshadow Elf, voiced by Paula Burrows) and Callum (a human prince, voiced by Jack De Sena) are from warring realms. Rayla is from Xadia, a magical land protected by dragons. Callum is from the Human Kingdoms, the realm of humans since they were exiled from Xadia for practicing dark magic. En route to the Dragon Queen who lives deep within Xadia, Rayla and Callum carry precious cargo: the Dragon Prince hatchling, Zym. The rest of the world believes Zym was killed by humans in an attempt to end the royal line of dragons that protect Xadia. Zym, the living Dragon Prince hatchling, promises hope for ending the war and restoring peace to the two kingdoms. Travelling to the Dragon Queen with Zym in tow, Rayla is sure she and Callum will find support at her home, Silvergrove.

Silvergrove is a magically concealed elven community. The secret entrance, located on the branch of an enormous tree, requires a ritual dance spell to gain access. Rayla instructs Callum through each step of the dance. Runes light up on the bark beneath their feet as they circle one another, spin, and clasp hands. All the while, Zym runs happily around the edge of the spell's circle, as if sealing their spell. A white dome of light emerges and envelopes them. Little balls of light float inside it. As the dome expands, its edges reveal the concealed elven city and its residents. Once the spell is complete, Rayla and Callum run forward into the town. Beaming, Rayla excitedly tells Callum all about the wonders of Silvergrove she can't wait to share with him. But Callum

notices something awry: the elven passersby have no faces. Rayla gasps and realizes she has been made a "ghost." She explains to Callum that she must have been exiled since she failed in her mission to assassinate the human king and princes in retribution for the alleged murder of the Dragon Prince.

Unlike "Define Dancing" and the "planetarium scene," Rayla and Callum's dance scene does *not* depict literal flight. Nonetheless, many of the same elements discussed in the previous case studies contribute to a feeling of flight in Rayla and Callum's dance.[308]

Musical Timbre

As in "Define Dancing" and the "planetarium scene," this dance-flight uses the airy timbre of flutes to reference flight's air currents. I also hear airiness in two instances that set this scene apart. One is the use of the Armenian *duduk* described earlier in this chapter. Its airiness is enmeshed with a sinewy quality similar to the timbre of a violin or viola. As a wind player, I recognize the dynamic contours in the *duduk*'s vibrato as being produced by a diaphragm—an elastic muscle engagement—distinct from the rigidness of a bony finger on a string—fluctuating within the body to control and propel the sound's warmly wavering shape. As discussed earlier, this mixture of airy and sinewy quality viscerally fits the physical narrative of the scene. The *duduk* takes over the melody only once Rayla and Callum have entered Silvergrove. Its sinewy character recalls the distinctly sinewy violin timbre that performed the melody while Rayla and Callum remained outside of Silvergrove. But the *duduk*'s blending of sinews and air expresses the sound of Rayla and Callum's sinewy bodies in a new state, having passed through the

[308] As of May 2021, this scene is viewable at: AniBox Trailer Access, "The Dragon Prince Season 3 Clip 'Rayla & Callum's Dance' Official Promo (NEW 2019) Netflix Anime HD," November 23, 2019, YouTube video, 2:28, https://www.youtube.com/watch?v=qJh2Fzrar5s.

magical barrier and into a previously invisible reality. Additionally, the blurriness of the timbral line between sustained string and the *duduk* subsequently feels like it was foreshadowing Rayla and Callum's illusive physical fate: *they* can see Silvergrove, except for its occupants' faces. The residents of Silvergerove cannot see them. The timbral blurriness is like a corporeal question: *am I a present, muscly body, or am I an airy, specter*?

The other strikingly airy moment, fittingly, is in the scene's twist. As Rayla realizes with her whole body that she "is a ghost," magically banned from her community's physical perception, we hear sharply screaming flutes—the nearly-vocal sounds of forced and violent air. Their timbres tell me that the flutes are coming at me from all sides, as if to affirm from every angle that I truly am here in this strange reality. They make visceral Rayla's full-bodied understanding that she cannot be seen. A dread-laden bass drum thuds in confirmation of this visceral realization.

As in the other case studies, this scene includes a buoyant bass enacting a push and pull against gravity. The sparkling timbre of a harp also evokes magical, celestial imagery, alluding flight's upwardness. Among the most notable timbres in this scene are the choral voices that accompany the appearance of the spell's translucent white sphere. As mentioned briefly in Chapter III, the voices themselves sound luminous. Surrounding Rayla and Callum at the center of the orb, the luminous voices make it feel as though Rayla and Callum are the core of bright star, spinning through the heavens.

Rhythm and Meter

Timbre works with meter in this scene to convey a sense of flight even though the dancers are not depicted as literally flying. As in the other case studies, the downbeats are characterized by buoyant timbres, suggesting bounding leaps. These leaps feel particularly flight-like because sparkling timbres fill the space between each buoyant articulation. It *feels* like bounding into a starry sky.

Visuals

Several visual elements—some of them necessarily already discussed—contribute to the sense of flight in this dance. The dance's location, for instance, is on the branch of an enormous tree. The branch itself provides a surface for the dancers' feet, but it is surrounded on all sides by air. Zym's wings, though not used for flight in this scene, also offer flight as an embodied potential. And the dance's many sky-referent colors (Zym himself blue and white, the spell's luminous white sphere, the small white floating orbs suspended against the sky's blue background) all suggest a starry environment for the dance.

Timbre and visual motion are deeply expressive in this scene as well. Lyrical timbres coincide with the connection of Rayla and Callum's hands as they spin in a circle facing each other, reflecting the sustain of their connection. Lyrical timbres, further, open the spherical light portal, making the physical transformation itself feel flight-like because it visually and sonically matches the shape of a sustaining flight path.

The scene's visuals also make the second iteration of the waltz's melody feel more mournful. As the *duduk* repeats the melody that first belonged to the violin, Rayla

and Callum are pictured walking away from the luminous, lyrical, spinning moment that opened the portal. Their movements are no longer synchronized with the music, and the dance's illusion of timelessness starts to break. The dance's timelessness feels like a memory behind them or a dream lingering around them while their feet progress linearly instead of in a circular path. As their feet and dialogue continue in progressive time and the music stalls in lyric time, the moment feels a bit like a melancholy montage. The music sings wistfully about a physical past (the dance), even before I know there is something wrong with the way Rayla and Callum have materialized in Silvergrove.

Landing

Perhaps the most interesting and defining feature of this scene through the lens of flight is its landing. Unlike the relatively smooth descents of "Define Dancing" and the "planetarium scene," Rayla and Callum's dance feels like it is knocked out of flight by the scene's twist. As Callum begins taking second glances at the elves walking past them, an ominous bass drum *feels* like the dance has caught a glimpse of its undoing on the horizon. The sinewy-airy *duduk* breaks from the melody and ascends through two lingering notes, as though the dance's body is raising its wings to grasp at final strokes of flight and perhaps to shield itself from its doom. I feel a sensation in my own arms desiring to protect my face. With the dance's body, my eyes want to close tightly, and my head wants to turn away. When Callum says, chillingly, "they have no faces," the music suddenly cuts to the dread of the low bass drum, which I feel like a spear in the center of the body I share with the dance. The scattered vocal flutes are like bursts of feathers falling from shattered wings. The dance's true "landing" isn't when Rayla and Callum stop dancing to walk through Silvergrove, but when I fully realize that Rayla is a "ghost."

The realization knocks flight out of me, and I spiral downward in the sounding body of the dance.[309]

Yennefer's Dance with King Virfuril in *The Witcher* (2019)

Choreographers*:* Viktória Jaross and Márta Bíri
Director: Alex Garcia Lopez
Cinematographer*:* Jean-Philippe Gossart
Composers: Sonya Belousova and Giona Ostinelli

"Define Dancing" depicted dance as flight overtly and offered a clear example of a gentle landing. The "planetarium scene" showed us a transition: dance feeling like flight, then taking literal flight in the image. Rayla and Callum's dance then demonstrated how even when flight is not literally depicted, I can still feel its presence. This was especially visceral in the dance-flight's abrupt conclusion that tore it (and me) from the air. In this final case study, Yennefer's dance with King Virfuril, I show how dance's flight and body are fluid. To do this, after giving narrative context, I break from the categories of musical timbre, meter and rhythm, visuals, and landing in favor a narrative shape: *awakening, takeoff, the cliff,* and *celestial landing*.[310]

[309] My reading of dance as having a sounding body in this scene draws parallels with Steven Connor's discussion of the vocalic body. Connor writes, "For voice is not simply an emission of the body; it is also the imaginary production of a secondary body, a body double: a "voice-body." See Steven Connor, "The Strains of the Voice," http://stevenconnor.com/strains.html, 2004, accessed June 2021; and *Dumbstruck: A Cultural History of Ventriloquism* (Oxford: Oxford University Press, 2000); and Caitlan Truelove, "Seed Songs and Witches' Works: The Voice as a Source of Power in *Motherland: Fort Salem* (2020-present)," paper presented at Music and the Moving Image, NYU Steinhardt / Virtual, May 27, 2021. My reading of the dance's sonic body in Rayla and Callum's dance scene, as well as Yennefer's dance with King Virfuril applies a similar idea to all musical sounds.

[310] As of May 2021, this scene is viewable at AuraofBarry, "Yennefer Transformation (The Witcher S01E03 scene}," December 22, 2019, YouTube video, 2:42, https://www.youtube.com/watch?v=J7ehIRUrlY4.

Narrative Context

Yennefer (Anya Chalotra) is a sorceress on the market for a position as a king's mage. Throughout her life she has been abused and taken for granted. When the mage's position she most desires—in the court of King Virfuril of Vengleberg—is promised to one of her colleagues, she takes fate into her own hands. She undergoes a gruesome magical ritual during which she sacrifices her fertility to gain symmetrical beauty. Yennefer then proceeds to a ball where she steals King Virfuril for a dance and secures the mage position. The dance, though intimate at times, is not about a romance between Yennefer and the king. Rather, it is about Yennefer's empowerment. When the dance ends, I feel not only that flight has taken place, but that a body of epic proportions and power has landed.

Awakening

In my reading, the dance begins when Yennefer speaks her own name to introduce herself to King Virfuril. "Yennefer of Vengleberg," she says, looking him directly in the eye. The sound of her speaking her name to the king is significant because it is the sound of her agency, of her choosing her own destiny. Immediately after she speaks these words, the sparkling timbre of a music box sounds in an oscillating accompanimental pattern. The music's entrance is uncannily like the moment in *Harry Potter and the Sorcerer's Stone* (2001) when Ollivander pulls the final wand box from the shelf, wondering if its fateful and magical contents is destined for Harry. In both moments, the music's sparkling and chime-like entrance feels like something awakening. In Yennefer's scene, the speaking of her own name becomes an incantation, summoning what follows.

As the music awakens, we hear the following dialogue:

Tissaia: My apologies, your Excellence. Please, allow me to remove this misguided girl.
King Virfuril: What sort of king refuses a dance with one of his subjects? [turns to Yennefer]
Vengleberg. Are you aware that I'm in the market for just such a mage?
Yennefer: On your lead, your Excellence.

Beneath this dialogue, the timbres gradually become more full-bodied. A low, resonant drum sounds once under Tissaia's words, like the single heartbeat of a large creature whose pulse emerges upon waking. A lyrical flute sends a gentle breeze past the creature's slumber. Its tone brightens, blending with an oboe, and becomes glossy, like blinking eyes slowly opening after sleep. A low, warm string bass enters as King Virfuril asks if Yennefer is aware that he is in the market for *just such a mage*. The bass's low warm tone is muscly and as it ascends, it sounds like a large body stretching. As Yennefer says, "On your lead," the bright, glossy oboe and low string bass merge in the sinewy sustain of a prominent midrange cello. The dance's musical body has stood up, stretched, and is preparing for flight.

Takeoff

As Yennefer and the king walk to the dance floor, the sustained cello glides lyrically and smoothly, surrounded by the sparkling, atmospheric timbres of upper-range piano arpeggios and windchimes. I hear the cello as an arching motion, passing easily and sleepily through the air. It sounds comfortable, as though flying at a low altitude in familiar terrain. It is supported by a buoyant low bass answered by low pizzicato strings in a triple metric pattern. Their wide rhythm feels more like the quickening of a giant

heartbeat than it does like large bounds or steps.[311] Falling out of the cello's timbre is a smooth, sine-wavy electric synth. The synth is *almost* vocal, as if the fantastic creature is calling to me.

At the center of the dancefloor, Yennefer and the king bow to one another and the music becomes more full-bodied still. Among the many musical timbres shaping this scene, the solo female voice that enters at this moment is key. It not only draws on the fantasy destiny topic,[312] but enacts the very sound of Yennefer rising, taking up the lyrical paths of flight and forming them as her own. The vocal timbre's sustain and release are especially expressive of Yennefer's transcendence. Here, and elsewhere in the scene, the voice dissipates into echo with a pitch bend, corporeally sounding her power: yes, she is contained in a body, but the body has access to all sonic spaces and it shapeshifts fluidly through them.

While the voice dissipates, Yennefer draws her hand over the king's hand on her waist, their connection lingering over the now ovary-less womb whose fertility she sacrificed for this fantastical power. The clear piano tones that follow sound the intimacy of Yennefer and Virfuril's connection as they begin to perform the dance's first steps. In my imagery of the sound, the piano's clear, tactile tones flicker like light dancing around the warm, sinewy body of the cello. It's as if Yennefer and Virfuril's connection activates one of the fantastical sonic creature's powers, causing it to shimmer. Briefly interlinked, the piano and cello descend together in the same pitches and rhythms. Without the cello,

[311] The lyrics, "The heart beats in threes, just like a waltz," from Regina Spektor's song "Firewood" (2012) come to mind.
[312] Jesse Kinne, "The Solo Female Voice as Destiny *Topos* in Fantasy Media," paper given at Music and the Moving Image conference, Saturday, June 1, 2019.

the piano then repeats their gesture in its middle register, acting like a visceral, luminous echo of the shape they briefly shared. I feel that the dance's musical body is changing. We again hear the smooth, ethereal synth calling out from it. Fringilla, who has been sidelined by Yennefer, realizes what has happened, shares a knowing look with her father, and runs distraughtly out of the ballroom. Perhaps the spectral creature heard the transcendently dissipating voice and is answering.

The Cliff

The piano's persisting midrange oscillations that follow the ethereal call are anticipatory. They grow in volume, breaking occasionally into the piano's highest register, knowing all along that something approaches. Cascading, fizzy rainsticks envelope the piano's anticipation and send a tingling sensation into my body. The soft onset of a cymbal roll begins to grow—at once a distant, towering wave on the horizon and something rising inside me/the sonic creature. At this moment, the dance's fantastic musical body seems to have gathered itself, its wings drawn close, and its heart fluttering in a smooth, low, rumbling drumroll.

What happens next can only be described as soaring. If the spectral creature has been flying close to the ground, here the ground suddenly drops off in a coastal cliff and the creature spreads its triumphant wings, an ocean of cymbals crashing below it, its bass drum heart beating fully in its chest. The camera, powerfully, cuts to an aerial perspective of Virfuril and Yennefer—I look with the spectral body at "the people far below."[313] In

[313] In the short film *The Snowman* (1982), there's a famous scene that feels much like "the cliff" in Yennefer's dance. The boy and the snowman fly through the wintry sky underscored by the song "Walking in the Air." Its opening lyrics are: *We're walking in the air, We're floating in the moonlit sky, The people far below are sleeping as we fly.*

blurred tactility, swiftly descending harp glissandos fall away from the body like glinting light. A deep, deep sustaining bass sounds the grandness in the body's distance from the earth. As the creature flies out from the cliff, it cries out in the voice of the soprano. This crucial moment reveals that the creature's former ethereal voice, and the voice of the solo soprano are one and the same: the powerful, epic, and corporeally fluid Yennefer.

Celestial Landing

Yennefer's dance-flight ends nothing like the other case studies—it does not come to rest (as in "Define Dancing"), it does not merely descend (as in the "planetarium scene"), and it is certainly not knocked out of the air (as in Rayla and Callum's dance). None of these would be appropriate for Yennefer's powerful sonic specter. The only proper landing for such a magnificent flight is among the stars.

As the camera floats in aerial perspective of the dance, numerous visual and sonic characteristics enact Yennefer's celestial landing. The scene is visually rich with spheres and elliptical patterns, referencing the spin and orbit of celestial bodies. Bright white decorative etching in the dancefloor takes the form of variously sized, intersecting circles and ovals. Only one etched circle does not intersect with the others: the circle in the middle of the dancefloor where Yennefer and Virfuril spin around each other like a sun at the center of a solar system. The other dancing couples spin in orbit around them. Several small glowing white orbs suspend themselves like tiny stars above the dancefloor, showing that at this height, gravity no longer applies. A dull metallic mobile with an orb at its center surrounded by various intersecting rings recalls the etching on the dancefloor. The mobile resembles at once an atom and a planet, drawing my attention subtly to the

sheer material scale of Yennefer's influence. All the while, the camera floats slightly away from the ground, adding to the feeling that this flight ends far from the earth.

Timbre tells me that there is crucially more to Yennefer's celestial landing. As the solo voice fades into reverberation, it blends with ringing cymbals, bright piano, sparkling harp, and shimmering wind chimes—sounding the swirling collision of ocean and stars. The sonic body is undoing the world as I know it, entering an ultimately fluid corporeal state. The boundary between Yennefer's sonic specter and the rest of the universe disappears. They are one and the same. The final timbres I hear before the camera cuts away from the ballroom are a music box and gentle flute. It feels like I am standing on the ground where the creature first woke from its slumber, gazing up at the stars somehow knowing the specter is there, the fluty breeze like remnants of its recent flight. Through her fluid and epic corporeality, Yennefer more than lands among the stars, she *becomes* them.

Conclusion

In this chapter, I have explored ways musical meter and timbre contribute to a feeling of flight in four partner dance scenes from recent popular film. To begin, I examined how flight involves the feeling of weightlessness as well as timelessness. Triple and compound meters can produce both—the lilt created by the third pulse pushes against gravity for symmetrical bodies,[314] and the repetition of the lilt lulls me into lyric time—the present that is always present.[315] Through its timbre, sound can take on the shapes of bodies travelling in flight. Lyrical timbres evoke gliding flight paths, sparkling

[314] Chattah "Film Music as Embodiment,"
[315] Monelle, *The Sense of Music*, 115.

timbres reference the atmospheric twinkling of stars, and buoyant timbres express a flying body's fluid push and pull against gravity. Timbre's perceived physicality, too, can echo a body in flight. Airy timbres feel like the wind through which the body passes. Sinewy timbres feel like the muscled body, contracting to maintain its position in the air. Tactile timbres invite me to feel what it would be like to touch the stars.

Each of the four cast studies told a different story about their dance's flight. "Define Dancing" showed EVE and WALL-E in literal flight and concluded with a gentle and sleepy landing. The "planetarium scene" depicted a transition from dance feeling flight-like to dance taking literal flight in the image. In Rayla and Callum's dance scene, flight is never literally depicted, but I still feel its presence. This dance-flight's abrupt conclusion revealed that not all landings are soft. Finally, Yennefer's dance with King Virfuril told a story of empowerment. The dance's body, as a powerfully fluid corporeal specter, awakened at Yennefer's summoning. It took flight, soared beyond the edge of a majestic cliff, and landed in Yennefer's celestial ascension.

Where this chapter argued that I might feel flight in a dance scene, even when flight is not literally depicted in the image, the next chapter makes a similar argument about dance itself. Drawing on the musical and cinematic characteristics of dance scenes described in the present chapter, the next chapter analyzes two moving scenes that are not about dance yet are undeniably dance-like.

CHAPTER VII: DANCE AS STRUCTURE IN SCENES THAT MOVE ME

The Waltz

Let it be said
That I danced.
That every ounce of my body and soul
Contracted in joy
And breathed in
The time that I had.
Music is witness
To simultaneity—
You and me
In the world at the same time.
The wind passes us by
And we smile in it,
Gliding in it,
For as long as we can.
All the way,
I'll hold your hands.
All the way,
I'll hold your hands.

Chelsea Oden
March 2021

Scenes that move me often play with time. They speed time forward or backward and ask me to hold the distances of life in a mere series of seconds. They are like cinematic poems, breaking the novel-like structure of a film to hold time in a fist.[316] As I explore in the poem above, this expressive manipulation of time and motion can feel like a dance. This chapter draws on the overlap of music and dance discussed in Chapter V and the musical and cinematic characteristics of dance scenes described in Chapter VI to analyze two moving montages that are not about dance yet are undeniably dance-like. "Married Life" (by Michael Giacchino) from the beginning of *Up* (2009) and "Look What We Made" (which is underscored by The Cinematic Orchestra's "The Arrival of

[316] With a nod to author Sylvia Plath who described a novel as a contoured, open hand and a poem as that hand clenched into a fist (*Johnny Panic and the Bible of Dreams: Short Stories, Prose, and Diary Excerpts*).

the Birds") from the end of *The Theory of Everything* (2014) are two powerful, minutes-long sequences that move me, not only because they tell the story of a life, but because they cast life as a dance.

"Married Life" and "Look What We Made" are a poetic pairing. "Married Life" is the famously heart-wrenching sequence at the beginning of the Pixar film *Up* (2009). The montage follows a young Ellie and Carl from their wedding through their decades-long marriage, into old age, and through Ellie's death. The montage sets up the rest of the film during which the grieving, aged, and bitter Carl finds joy and adventure in unexpected places. Where "Married Life" opens a film and tells a life's story seemingly in fast-forward, "Look What We Made" closes a film and tells its story in reverse, rewinding the decades-long relationship of Jane and Stephen Hawking. It begins with Jane and Stephen, divorced, watching their children run around a fountain in a courtyard at Buckingham Palace after meeting the Queen. As Jane and Stephen watch their children, Stephen begins clicking text into his voice synthesizer. "What are you writing?" Jane asks. He responds, "Look what we made." As the music enters, the camera cuts to their children walking around the fountain in slightly slowed motion. The camera shots that follow play time forward and backward in quick and lingering rhythms, gradually tracing backwards through the film's narrative. The montage undoes and redoes steps of Jane and Stephen's journey until we come to the very first moment they met. The scene fades and epilogue text fades in and out before the credits roll.

If you are not familiar with these scenes, take a moment to watch them now and think about how they move you.[317] Do they move you emotionally? Physically? How do the characters move? How would you describe the movement of the camera? In "Married Life," perhaps you noticed a kind of lilt in the way Carl and Ellie exchanged gestures. In "Look What We Made," perhaps you felt the momentum of time swinging back and forth through a musically revised gravity. In these and many other ways, "Married Life" and "Look What We Made" are scenes that are undeniably dance-like despite not being "about dance." This chapter will explore the overlap of film, music, and dance to argue that even when dance is not present as the subject of the film, its embodied, musical, and cinematic dimensions can structure film. To ground this argument, I discuss several elements that these case studies share with scenes that depict literal dance, beginning with musical elements, then exploring aspects of cinematography.

Musical elements typical of many romantic dance scenes that also occur in "Married Life" and "Look What We Made" are waltz-able meter, accompanimental patterns with moving notes, timbres that are sparkling, lyrical, and sinewy, and repetitive melody. I will turn first to meter. Waltz-able meters may be a key feature of romantic dance scenes not only for their cultural reference to the intimacy of waltzes but also for their conflict with symmetrical bodies that results in the physical necessity for spins, lilts, or skips. The triple feeling in waltz-able meter can occur at the beat level (as in the compound meter 6/8), at the metrical level (as in the triple meter 3/4), or both (as in the

[317] As of May 2021, "Look What We Made" from *The Theory of Everything* (2014) is viewable at nilkosvideos, "Theory of Everything – Look What We Made," February 15, 2015, YouTube video, 2:16, https://www.youtube.com/watch?v=qiXOAUygjDI, and "Married Life" is viewable at UruvielClo, "Disney's Up -Married Life – Carl & Ellie (HQ)," November 1, 2009, YouTube video, 4:28, https://www.youtube.com/watch?v=9yjAFMNkCDo.

compound triple meter 9/8). The Yule Ball featured in *Harry Potter and the Goblet of Fire* (2005) is one of numerous examples of waltz-able meter commonplace in partner dance scenes. The quick-paced waltz can be heard "in one" at 60bpm, or "in three" at 180bpm. Lifts and spins tend to highlight the "in one" feel and consequently the feeling of lilt or spin in accommodating the underlying triple subdivision. Shots where Harry's nervous shuffle is visible, on the other hand, tend to highlight the feeling of the fast-paced individual dance steps as opposed to the lilts or spins that glide over them.

"Married Life" can also be read "in one" or "in three," and although it courses through several different tempos, it opens at and frequently returns to a tempo just a few clicks slower than the waltz from the Yule Ball—58pbm if taken "in one" and 174bpm if "in three." When Ellie and Carl are experiencing the more jubilant parts of life, the tempo tends to be brisker, implying the spinning and gliding feel of "in one." As they pass through the harder parts of life, the tempo slows dramatically, exposing the waltz's individual steps in a clear, soft triple meter. When we see Ellie and Carl being told it will not be possible for them to have children, for instance, what was previously a brisk and blurry stepping pace of 174bpm slows to 96bpm, nearly half the previous tempo. It feels as if I have suddenly fallen out of a spin or stopped gliding across the floor and am now looking down at my feet to really observe each step. The slowness suggests a more quiet and vulnerable interaction between Ellie and Carl who—for the moment—are not joyously spinning through the world but stepping carefully and slowly together.

"Look What We Made" sits more comfortably "in three" at about 129bpm, though it could be considered in a broad 6/8 at 43bpm. As in the Yule Ball waltz and "Married Life," sweeping gestures tend to align with the broader metrical downbeat,

emphasizing the length felt in gliding, swinging, or spinning. A sequence from (0:57-1:02) is exemplary. On the first metrical downbeat, time plays in reverse and Stephen is rolled on a gurney leftward across the screen. The motion sustains through beats two and three. On the next metrical downbeat, time flips forward and the gurney reverses course to retrace its path rightward across the screen. Its motion is quickly replaced and continued through beats two and three by the image of a surgical pen "untracing" an incision mark rightward along the same horizontal trajectory, time reversed. On the next metrical downbeat, the surgical pen untraces the vertically intersecting incision mark. It moves in slightly slowed motion, lingering through beats two and three and expressively matching the melody's sustained strings. In all, these three metrical downbeats highlight the feeling of swinging right to left, left to right, then front to back. Moreover, because time moves backward for the first measure, and forward in the following two measures, the second and third measures feel more connected, as if the surgical pen's change of direction from horizontal to vertical on the third measure is the result of a continued motion (like a basic turn in a box step waltz).

Overall, the beat level pulse (129bpm) in "Look What We Made" acts more like a marker of steps over which the metrical beat (43bpm) glides. In other words, though I can easily conduct the beat level pulse, in combination with the image, this underlying pulse is less overt and more subconscious. It is as if I know my feet must be touching the ground, but I don't really notice them. One exception, where the music and image overtly co-articulate the beat level pulse, is a sequence that occurs at (1:17-1:18). Beat one is marked by the onset of a clearly articulated, midrange piano chord and a synchronous cut to a medium shot of Jane standing with her back to the camera under a dark brick

archway at Cambridge University. Beat two clips to Jane in the same position but glancing back over her shoulder at the camera. On beat three, she returns her gaze forward and begins to walk away from the camera. Because Jane's movements are tightly coordinated with the beat level pulse, and because she is framed by a dark archway that highlights her through color contrast and by centering her position in the frame, these three beats emphasize Jane as integral to the "danced" montage. Particularly notable is the way beat one stalls the image in a near freeze-frame. It seems to say, "this is Jane." Her glance and retreat on beats two and three then bring her to life—she acknowledges me, as if to say, "Yes I am real," and then, as further evidence of her vitality, steps forward on her path. I might read it as Stephen remembering her, I might read it as Jane saying "I, too, was a partner in this dance." In both readings, it's a moment that makes me pause and think about Jane, and especially her active and equal presence as a person in their partnership.

Another exception is the sequence at (1:07-1:08) where, time reversed, we see Stephen in his wheelchair bouncing "up" a small flight of steps assisted by his colleague (rather than down the flight of stairs as in the time-forward version featured earlier in the film). The bounce visualizes not just the beat but also subdivisions of the beat. On beat one, Stephen bounces up. On the "and" of one, the bounce resolves downward. The same movement occurs over the counts "two and three and." The feeling of the bounce's upward motion being situated "on" the beat, and the bounce's downward motion being situated "off" the beat might seem counter-intuitive: the bounce's upward motion is the *least* restful point in the movement yet is paired with *most* restful metrical position in the music (being "on" the beat), and the bounce's downward motion is the *most* restful point

in the movement yet is paired with the *least* restful metrical position in the music (being "off" the beat). Rather than feeling like a puzzle, however, these paired trajectories feel like closely mirrored motion in a partner dance. Jilting along with the beat, Stephen's reversed ascent of the stairs pushes and pulls in a quick exchange of counterbalances with the musical meter.

The coordination of music and movement as Stephen ascends the stairs might seem merely decorative or aesthetically pleasing, but it's a moment rich with the possibility for deeper meaning. The salient, synchronized bounce, for instance, highlights the way Stephen's mode of movement—a wheelchair—conflicts with the systems and architectures he is forced to navigate that are designed for people who don't use a wheelchair. In other words, it comments on ablism by drawing attention to the experience of a biased environment. This conflict, then, is not only highlighted, but cast as a coordinated and mirrored dance – it allows a reading of Stephen's life as a dance in its own right, that happened to take on the movements and shapes of lived experience with amyotrophic lateral sclerosis (ALS).

Another musical element common in partner dance scenes that is also present in "Married Life" and "Look What We Made" is accompanimental patterns with moving notes. Typical in waltzes and other kinds of florid dance music, accompanimental patterns with moving notes can add metrical engagement through subdivisions of the pulse (as described above), or feel more ornamental or flourishing, like the twinkling stars, decorative lights, or other such sparkly visual features that frequent romantic partner dance scenes. In an exemplary clip from the 2003 Peter Pan film, James Newton Howard's underlying harp arpeggios accompany Peter and Wendy as they dance into the

air by the magic of fairy dust (0:57).[318] A harp glissando underscores their initial ascent, as flourishing and magical as the wisps of pixie dust around them. Then the harp continues buoyantly and playfully, as if running alongside the floating couple and taking small leaps to try to match them. The harp accompaniment articulates the rhythm "one and two, three," where the consecutive articulations on "one and two" sound like a running start and the uninterrupted beats "two, three" sound like two small bounds.

In "Married Life," much of the accompaniment follows the "oom-pah-pah" pattern stylistic of triple-meter waltzes. The specific feeling of movement within this accompanimental pattern changes over the course of the montage to reflect different contexts and events. At the beginning of the montage, for instance, the accompanimental pattern evokes a joyful skipping motion through playfully scattered dotted rhythms in the underlying midrange piano (0:16-0:19). The playfulness and jubilance match the energy of the newly wed Ellie and Carl working together to build their dream house. When we later see Ellie and Carl cloud-watching and dreaming about having a child, flurries of flute-prominent woodwinds ornament the accompanimental pattern. The timbre and movement underline the airiness of the cloud-strewn sky and Ellie and Carl's flutter of excitement. In an actual waltz, such flourishes might accompany a fast, skirt-flaring turn or a series of quick ornamental steps, in contrast to the playful chassés implied in the opening accompanimental pattern. As a final example, in the few seconds when we actually do see Ellie and Carl dancing, their living-room waltz is embellished by romantically gushing low-range strings. Coursing beneath the violin melody and over the unadorned "oom-pah-pah" pattern in the piano, the warm low-range strings rise and fall

[318] Lê Hồng Hạnh, "Peter Pan & Wendy Darling – Fairy Dance," May 4, 2012, YouTube video, 2:15, https://www.youtube.com/watch?v=mGz56SQ7EVE, 0:57.

in a kind of lengthened sigh. Though the visual tone of the dance is a dark and warm sepia, the movement and tone of the accompanimental strings sounds straight out of a romantic scene in a black-and-white golden age Hollywood film. The effect is that Ellie and Carl's literal waltz feels warm, nostalgic, comfortable, familiar, and perhaps reminiscent.

Where the tones and movement of the accompaniment in "Married Life" reflects its many shifts in context and environment, "Look What We Made" is somewhat more static, invoking minimalistic layers that gradually come to support a soaring, lyrical string melody. Coursing almost throughout the scene is a submerged harp. Sometimes it articulates full arpeggios—upward and downward—and other times it stalls between two notes. The tactile and buoyant harp is often interspersed with crystalline piano articulations. Like the harp, the piano at times alternates between two notes in a kind of stalled rhythmic glimmer. Other times, the piano accompaniment plays a brief, decorative, leaping ascent, which I might imagine alongside dancers in an actual waltz looking or gesturing gracefully upward. At a notable moment (1:17), lyrical, soaring strings take up the arpeggios previously articulated in the harp and piano. The strings make what was previously accompaniment in terms of pitch and rhythm feel suddenly like melody. The sense of emergence is powerful, not only because of the expressively transformed role of the arpeggios (something from the background brought to the fore) but also because it lyricizes the underlying motion, painting it in broad strokes, lingering in and celebrating its beauty. In an actual waltz, the dancers might take longer and more fluid steps and progress in a rotating pattern across the floor, as if really digging into and savoring the momentum and lyricism of each step. The lyricized celebration of the

underlying motor contains a powerful and visceral metaphor that life isn't a story we tell, it's an experience we live, and the living is in the steps and falls of the journey itself. The images that blend with this "accompaniment lyricized and brought to the fore" are those of the earliest steps of Jane and Stephen's journey. The focus on the journey, and not the destination, is made all the more poignant as the image asks me to remember where Jane and Stephen have been and will go while the music asks me to think about the life of each step.

Dance scenes also have certain timbral characteristics. As described in Chapter VI, timbral shapes (sound envelopes) can reflect movement in a dance scene. Timbral shapes that frequently arise in dance scenes are lyrical, sparkling, and buoyant. Lyrical timbres such as legato strings, melodic flute, or vocal descant on a vowel, feel song-like. They usually have soft articulations and long, malleable sustains. In dance scenes, lyrical timbres parallel the sustained movements of the dance such as progression across the dance floor or the movement of a turn expressed through an extended arm (recall the choral voices and violin in the excerpt from *The Dragon Prince* in Chapter VI). Sparkling timbres such as harp, other plucked strings, glockenspiel, windchimes, piano, or celeste feel high, ephemeral, and small. They are textural and atmospheric. They articulate sharply, dissipate quickly, and parallel the visual movement of twinkling stars, flickering candle flames, glimmering snowflakes, or shimmering water (recall the piano and windchimes in the excerpt from *The Witcher* discussed in the previous chapter). In addition to lyrical and sparkling shapes, some timbres take on the characteristic of buoyance, reflecting what I feel as a push and pull against gravity. Buoyant timbres have a sharper attack than lyrical timbres, but a softer attack than sparkling timbres. Their

decay is slower and more pronounced, and their sustain and release are brief (such as roundly articulated bass). Buoyant timbres function often as bass notes, outlining the metric pulse and colliding with the rebound of downbeats. They map onto the push and pull between the dancers including the dances' rise and fall against gravity (recall the timpani and electric bass in *Wall-E* (1:10-1:20).

Alongside these timbral shapes, which parallel motion in a dance scene, the physicality of timbre can parallel the bodies and environment portrayed in a dance scene. As discussed in Chapter VI, sinewy timbres, tactile timbres, and airy timbres each draw out an embodied empathy with the act of dancing. Sinewy timbres are those in which I imagine a sustained muscle engagement, such as a violin bow pulling across strings, including the imagery of *being* those strings. Tactile timbres are those in which my imagery of the sound involves touch, such as fingertips plucking harp strings. Airy timbres are those in which I imagine air currents producing or defining the sound, such as vocal timbres or flutes. In dance scenes, timbres that invite tactile and sinewy imagery paint the flicker and sustain of the dancing body: sustained strings feel full-bodied, familiar, and corporeal; plucked harp feels more fleeting, playful, and buoyant. Timbres that invite airy imagery, then add to a feeling of flight referenced in many dance scenes – as though the dancing body is suspended in air or passing through air currents.

All of these timbral shapes and physicalities are at play in the two case studies, evoking dance, but I find the use of the piano in "Married Life" to be especially powerful. The piano timbre in "Married Life" takes on dramatically different roles. Through much of the scene, it jaunts along skippingly with a child-like innocence, jubilant at Ellie and Carl's whirling dance through life. It is not only the rhythmic skitter that makes the piano

sound joyous, but also kinesthetic empathy—the envisioned and felt dance of fingertips across smooth piano keys (see Chapter IV). The movement of producing the jubilant piano timbre is itself playful, aptly summarized in the very kinesthetic and visual idiom "tickling the ivories." Yet in two soul-crushing instances, the piano emerges with a delicate simplicity to bear witness to life's not-so-briskly danced moments.

The first is when Ellie and Carl learn that they cannot have a child. After we see them in slumped postures at a fertility doctor's clinic, the camera cuts to Carl, looking out at Ellie from the window of the dream house they fixed together. The piano plays just three notes, their small leap sounding like the soft question. The camera cuts to a shot from behind Carl, looking with him out the window at Ellie sitting on a chair in their yard. The chord the piano strikes at this moment is more full-bodied, it *sounds* like Carl seeing Ellie. The piano continues simply and slowly, repeating its initial gesture as Carl approaches Ellie. He hands her the famous Adventure Book and she looks up at him in surprise and they smile at each other. A flute enters over the more cheerfully active piano and its sounds as if Ellie and Carl have pulled themselves up and are again taking flight.

The delicate, desolate, yet somehow intimate piano timbre is also how the scene ends. As Ellie struggles up a hill for a picnic with Carl, sinewy string timbres begin to fade and the piano's soft, clear, melancholy tones enter. They continue as we see Ellie in her hospital bed, and Carl playfully, lovingly, and sadly sending her a single blue balloon. As he approaches her in the hospital bed, the piano sounds their closeness. Its tactility draws me to the connection between their hands as she passes her Adventure Book back to Carl and smiles. As Carl sits at on the steps of the church surrounded by funeral wreaths, the piano continues to echo the fleeting, final sensations of touch they shared.

Since this timbre has been present though out the entire "dance," I feel connected to the fullness of Ellie's life with Carl at the same time that I, with Carl, feel her absence and wonder how the dance passed by so quickly.

Another musical characteristic shared between the cases studies and romantic partner dance scenes is simple, repetitive melody. An iconic moment from the ending scene of *La La Land* (2016) is an apt example (see Figure 43). The melody repeats the same basic figure three times: an unadorned, rhythmically regular, stepwise descent that spans a 5th and culminates in sustain. It has more stillness than motion, as if providing short flights of stairs to long hallways. In the choreography performed by Mia (Emma Stone) and Sebastian (Ryan Gosling), each of the melody's moving notes lines up with the dancers' steps. The sustained notes in the melody, meanwhile, allow string flourishes to accentuate the dancers' lyrical styling: at the end of each melodic sustain, Mia performs a brisk and fluid turn with her arm extended parallel to the floor.

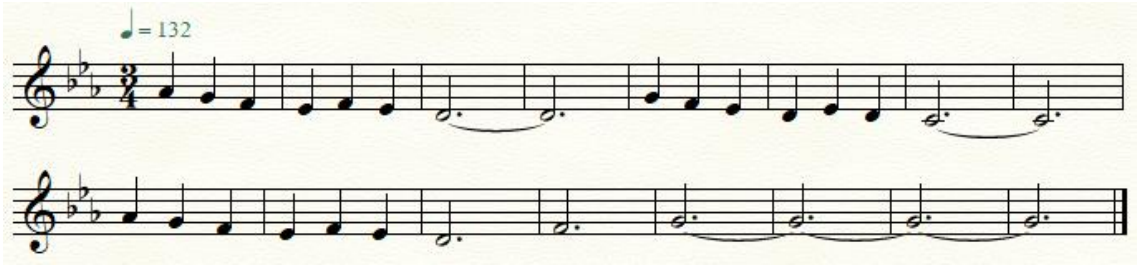

Fig. 43 Theme from *La La Land* (2016), composed by Justin Hurwitz, transcribed by the author.

Giacchino's familiar melody for "Married Life," is highly repetitive, cycling through stylistic variations over the entire sequence. Its varied repetition offers familiarity alongside the feeling of movement through new environments, akin to the experience of partnered dancers changing orientation in a ballroom. The familiarity with variation is a

feeling that resonates with Ellie and Carl's journey – life throws them around unexpected corners, but through each rotation they are together. The dance, like the repetitive theme, is theirs and omnipresent, regardless of the terrain. Small, repetitive figures within the melody also align with the feeling of small, repeated patterns in a dance step (see Figure 44). Comprised primarily of small leaps (no more than a 4th at their widest), the leaping figures mirror the contours of skipping. Swung variations of the melody further accentuate the feeling of skipping through the characteristic short-long rhythm. In all, the inner repetition of the melody emphasizes a dance-like and childlike sense of jubilance or playfulness in Ellie and Carl's relationship while the theme's repetition over the course of the scene reflects the feeling of their dance-like movement through phases of life.

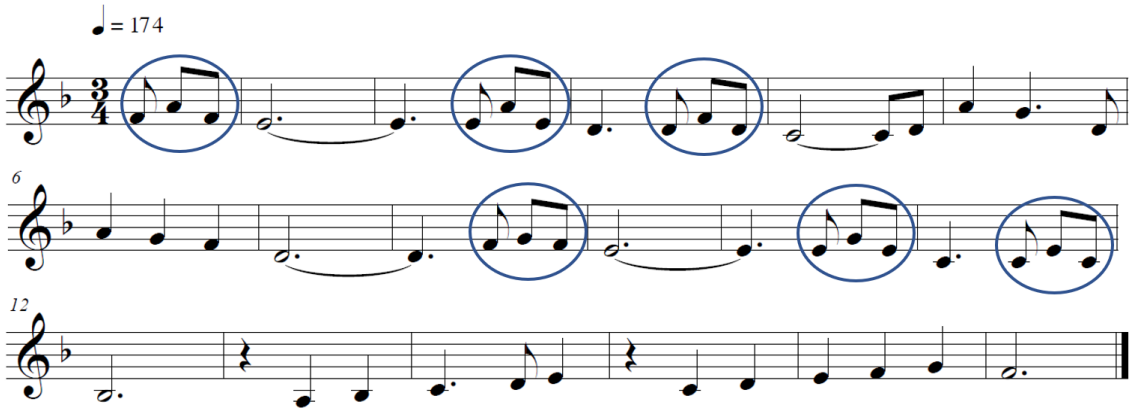

Fig. 44 "Married Life" main theme from *Up* (2009) by Michael Giacchino, transcribed by the author. The short, quick, leap or step figure is circled in blue.

The Cinematic Orchestra's simple melody that underscores "Look What We Made" tells a dance-like story of reflection and acceptance. The beginning is wistful and nostalgic, the middle is soaring and far-reaching, and the end holds poignantly onto the present. The beginning, mm. 1-18 in Figure 45, feels wistful and nostalgic in part because of melodic shape. It begins with a rising step, then leaps upward a third, as though breaking from the present moment to look back from a distance. The initial small leap is

then followed by a downward leap of a fourth, returning to the starting pitch. The return to the starting pitch makes the distance of the widest leap seem greater. "You're *here* remembering *there*," it seems to say. Further solidifying the present, the melody proceeds with another step downward and sustains restfully on Eb—the note that seems most plausible as tonic to this point. Arriving on Eb casts the melancholy of the minor mode through the pitches I have just heard. The present seems bittersweet, inflecting the past—which had felt hopeful in its upwardness—with what I now know. The melody repeats itself, retracing its steps as if to question the past—"Didn't the past have hope in it?" the melody seems to ask. It is not only the repetition that prompts this question, but also the tonal possibilities of the melody: F-Gb (the upward step) and Gb-Bb (the upward leap) themselves play at Gb major through the leading tone F and crucial third (do-mi) of the Gb major tonic triad. We have not heard, nor will we hear, the leading tone for Eb minor. Over the course of the excerpt, every pitch candidate for the minor leading tone is softened to Db—the dominant scale degree in Gb major. In other words, though the melody lingers on Eb, it cannot seem to accept minor tonality as the complete story. It traces a path that embraces sadness and joy both, with neither displacing the other.

The wistful and nostalgic beginning takes on even more emotional depth in the ways it is dance-like. The melody plays with emphasizing 3/4 or 6/8, leaving me sometimes with a clear feeling of where I might place my feet if I were dancing to it, and other times leaving me with uncertainty. This play parallels very much the beginning of any dance where two partners are learning how to feel one another's unique momentum and timing—it is almost conversational. In the beginning's wistful and nostalgic tones, the two partners learning to dance together are the past and the present—Jane and

Stephen's "then" and their "now." "How can we step together?" the present seems to ask the past. "Two steps, or three?"

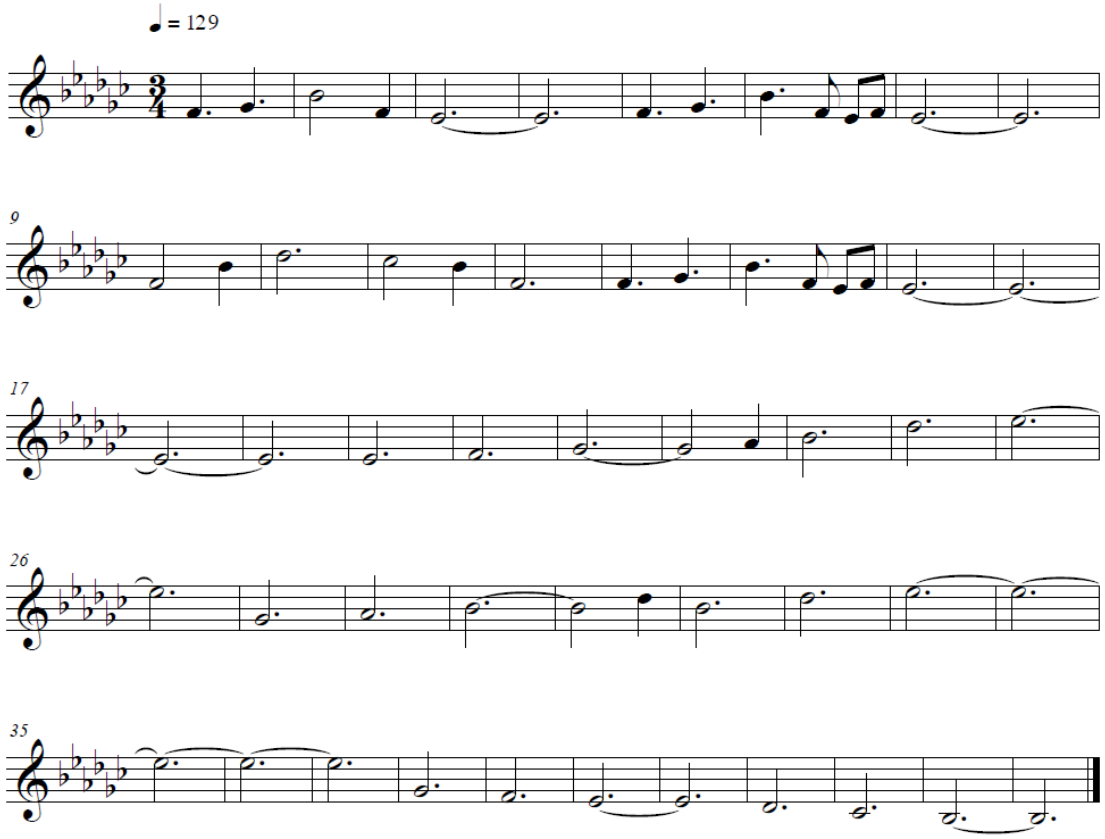

Fig. 45 Melody in "Look What We Made" ("Arrival of the Birds" by The Cinematic Orchestra) in *The Theory of Everything* (2014), transcribed by the author.

In contrast to the rhythmically active opening, the middle of the melody soars. Every note in mm. 19-37 is the length of a bar or longer except for two quarter notes in mm. 22 and 30. The sustain of each note resonates with the flight path of a gliding body. Alongside the montage that works its way back in time, the melody seems to have taken my feet off the ground in order to time travel. In the middle section, the melody's pitches open more directly the questioning of joy and sorrow set out in the ambiguity between Eb minor and Gb major in the beginning. Measure 19 starts on Eb and works its way up

through the minor scale. Yet as it ascends, it lingers most on the pitches of the Gb major triad, sustaining Gb for a full five beats in mm. 21-22 then leaping from the third (Bb) to the fifth (Db) in mm. 23-24. The leap skips over what would be the mode-defining sixth scale degree of Eb minor (Cb). And although the melody's first ascent culminates again in Eb, the Eb is elevated both in register and in harmony: it's the third of a Cb major triad functioning both as the deceptive VI in Eb minor (the most major context for the minor mode's sixth scale degree) and as the dominant-pointing IV in Gb major. When the melody reinitiates its ascent in m. 27, it begins on Gb with further lift and hopefulness. It breaks its stepwise ascent in mm. 29-32 to leap back and forth between Bb and Db, further emphasizing Gb major in spite of the destined high point Eb. For a second time, the high Eb sits as the major third of a Cb chord. This second high Eb sustains longer than any other note, holding for five full measures (mm.33-37). It is the perfect blend of major and minor contexts, of joy and sadness locked in step.

In m. 38, when the melody falls out of its longest, most lingering glide, it lands on a Gb. The feeling of landing discussed in the case studies in Chapter VI (especially with regard to "Define Dancing" and the "planetarium scene") also describes the effect of the concluding section (mm. 38-46). Moving for the first time in a stepwise, descending scale, the melody traces a slow, linear path from Gb to Bb. As it descends, it lingers for two measures on Eb, then passes through Db and Cb to land finally on Bb for the last two measures. Bb—the dominant of Eb minor and the mode-defining third of Gb major—is the tonic of neither. I am left to feel Eb minor and Gb major simultaneously. The lack of resolution, in contrast to an unresolved leading tone, does not feel interrupted but merely unfinished. Because the Bb is a chord tone in both tonic triads, it offers a sense of

stability alongside openness. It allows me to acknowledge the future while being rooted in the present, holding my/Jane's/Stephen's joys and sorrows in this moment, much in the way two spinning dancers progress across the floor while maintain their focus on one another.

These many musical elements interplay with elements of visual motion that are typical in dance scenes. Three elements of motion that are central in many dance scenes are archlike camera movement and character gesture, rhythmic and metric conversational gestures, and the use of shot/countershot technique. Archlike camera movement occurs primarily because characters in partner dance often move in circles. As the camera follows the movements of the dancers, it tends toward swooping or arch-like motion. The dance scene from the 2005 film *Pride and Prejudice*, choreographed by Jane Gibson and Isabela Baquero and framed through Roman Osin's cinematography, is an excellent example.[319] As Elizabeth and Mr. Darcy trade positions across the English country dance lines, dipping to a triple-meter Rondeau theme by English Baroque composer Henry Purcell, the camera follows side to side with a lilt. The candlesticks in the background serve as a useful reference for just how much the camera dips to follow the swooping movement of each dancer.

Another kind of staple rotation can be seen in the ballroom dance scene from the 2015 *Cinderella* film, choreographed by Terry King and Rob Ashford and framed through Haris Zambarloukos's cinematography.[320] At (0:59), the camera circles the spinning dancers, giving the sense that they accelerate when they turn in the opposite

[319] Movieclips, "Pride & Prejudice (3/10) Movie CLIP – Elizabeth and Darcy's Dance (2005) HD," June 16, 2011, YouTube video, 2:55, https://www.youtube.com/watch?v=z9SXvUdM_iw.
[320] Viewable at Sathish Kumar Kontham, "Cinderella 2015 – The Ball dance," June 30, 2015, YouTube video, 3:21, https://www.youtube.com/watch?v=2QGGbT5HGxY.

direction of the camera. Similarly, in the *La La Land* planetarium scene (choreographed by Mandy Moore, Jillian Meyers, and Michael Riccio, and framed with Linus Sandgren's cinematography), Mia and Sebastian not only twirl around each other, but also around a sphere-bearing pendulum swooping back and forth. The camera gently rotates around the encircled pendulum opposite the direction of Mia and Sebastian's path. Their path feels accelerated, like a visual Doppler effect as the orbits of the dancers and the camera align and recede.

A common related perspective emphasizes the characters' spin by placing the camera *inside* the dancer's rotation looking out. In Rayla and Callum's dance scene from *The Dragon Prince*, discussed in the previous chapter, the camera shows not only Rayla and Callum from the perspective at the center of the circle, but also Zym racing playfully in a circle around them (see 0:59-1:08). As part of the spell they are performing, the characters' circular motion generates a luminous white sphere that gradually expands outward, imprinting its round shape through the world as it travels. It feels truly encompassing because I have just been rotating at its center.[321]

Though the camera can interact dynamically with the movements of the dancers, sometimes its stillness showcases their circular movements best. In the *La La Land* planetarium scene, for instance, a relatively still camera frames the iconic shots of Mia and Sebastian's silhouettes spinning against a celestial backdrop (3:10). The camera positions their silhouettes in the same horizontal and vertical location as stars drift behind them suggesting that though the dancers' position in the frame hardly changes, they are

[321] Joe Hisaishi's famous waltz that underscores Howl and Sophie's airborne "dance" is another excellent example. Its title, "Marry-Go-Round of Life" elicits exactly this imagery and experience of centrifugal motion, despite Howl and Sophie's path being linear.

somehow progressing. I feel as though I, too, am floating along with them, gliding across an impossibly smooth and invisible surface, mesmerized by their rotation.

The camera may also use relative stillness from an aerial perspective to emphasize the circular shapes created by partners dancing in rotational patterns. Consider the ballroom dance scene from *The Witcher* (discussed in the previous chapter) choreographed by Viktória Jaross and Márta Bíri and framed by Jean Philippe Gossart's cinematography. At the climactic point of the scene, the camera cuts to an aerial perspective, framing the entire dance floor. At the center of the frame, Yennefer and King Virfuril step in a clockwise circular pattern, turning in time with the dance's other couples. Their synchronized circular movement is visually striking against white elliptical etchings in the ballroom floor. As the camera zooms slightly out, it rotates slowly clockwise, as though meditating on the faster movements of the dancers it frames. A mobile suspended from the ceiling like a chandelier further accentuates circular movement. As the camera floats away, it reveals the mobile's many rings spinning around each other at various angles and speeds.

The curved movement and emphasis on round geometry typical of partner dance scenes is also at work in the case study "Look What We Made," which features choreography by Isabel Mortimer and Shelby Williams and is framed by Benoit Delhomme's cinematography. The scene's opening features Jane and Stephen's children running around a circular fountain. Their path evokes celestial imagery, as does the fountain's sparkle. The first cut to time past shows Jane walking in reverse, and Stephen tracing a backwards loop in his wheelchair. The movement recalls EVE and WALL-E's exchanged spins in "Define Dancing." When Stephen rises from the pavement in reverse

time, his feet remain anchored as the rest of his body traces an arch. Of particular note is a moment in which Jane and Stephen are pictured in literal dance. As they spin and hold hands, the camera circles opposite, accelerating their motion. As the montage approaches its end (Jane and Stephen's beginning), the camera floats down from an aerial view of Jane and Stephen's very first dance. It signals the scene's landing, while also telling me that the life that followed this first dance was itself dancing.

In "Married Life," the frame is more still, lending itself toward a storybook kind of narration, which seems to parallel the way Carl would later read Ellie's adventure book (1:11:10 DVD).[322] The relative stillness of the camera also invites the general nostalgia of looking at a still-framed photograph, which, powerfully, is most often how we see Ellie through Carl for the remainder of the film. Though the camera is still, character gesture in "Married Life" frequently takes an arch-like shape. Even the tree that falls on their house, and the hammer that falls to break open their money jar, trace an arch-like sweep from a fixed point. This shows me that through the very ups and downs of Ellie and Carl's life, dance is present.

Rhythmic and metric conversational gestures especially characterize motion in dance scenes. A great example of this kind of movement appears in the "Define Dancing" scene from WALL-E discussed in Chapter VI. At (1:21-1:28), notice the timing of each robot as they enter from the top of the frame and in their spins exchanged in opposite directions as they exit. Similar moments occur in "Married Life" at (1:52-1:57) where Ellie and Carl trade movement on downbeats as they re-arrange their fireplace mantel, or at (2:00-2:02) when Ellie and Carl cross their hearts making a promise that they *will* get

[322] *Up*, directed by Pete Doctor, (Emeryville, CA: Pixar Animation Studios, 2009), DVD.

to Paradise Falls. A similar exchange happens more subtly between Jane and Stephen at the beginning of "Look What We Made". At (0:30), Jane looks up. On the next downbeat, she looks toward Stephen. With the next downbeat, he smiles back at her, and she returns his smile on the downbeat that follows. Two down beats pass before Jane moves her hand over Stephen's in time with swelling, sinewy strings. The silent conversation plays out in an alternation parallel to the direction of a box-step waltz—first one partner steps backward, then the direction reverses.

The conversational movement of a partner dance can finally be conveyed through shot/countershot technique. In this technique the camera's first shot frames one of two characters as they engage in conversation. The countershot then reverses direction to show the second character from the first character's perspective, and so on. Because dancing characters are engaged at least in a physical conversation, if not dialogue, shot/countershot is a frequent technique in dance scenes. When Gamora and Starlord dance in *Guardians of the Galaxy, Vol. 2* (2017), for example, the shot shows Gamora (0:25). At (0:35), the countershot frames Starlord. At (0:38) the countershot again frames Gamora, before finally cutting back to showcase Gamora's spin.

We find similar instances of shot/countershot technique in "Married Life." When Ellie and Carl agree to set aside money for their dream adventure, for example, the shot frames Ellie "crossing her heart" from one side of the jar while looking at Carl. The countershot cuts to Carl from Ellie's perspective as he crosses his heart, raises his hand, and nods in agreement. At the end of "Look What We Made," shot/countershot technique is how we view the first time Jane and Stephen saw each other. The shot frames Jane, looking through a crowded room of people, swaying side to side as she searches for

Stephen. The countershot cuts to Stephen with his head turned toward the camera and smiling slightly as he looks at Jane. This, too, suggests that their entire life that followed, which we have just relived, was a dance.

One of the most pervasive signifiers of the romantic dance scene is an aspect of the image: the orange-cerulean color palette. The palette commonly occurs as shades of blue, white, and gold. Though not a rule, in heterosexual pairings, we often see the lady wearing white and the gentleman wearing darker colors. This color scheme frequently translates as decorative orbs of golden or white light against darker or blue backdrops. These decorative orbs can take many forms including candles, bright flowers, strings of lights, snowflakes, and stars. In "Married Life," we find bright yellow flowers and candles as well as multi-colored balloons. In "Look What We Made," we find strings of lights, confetti, and fireworks.

Finally, one of the most important image characteristics of the romantic dance scene is its visual reference to weightlessness. In addition to literal flight, [323] these scenes may invite us into weightlessness by placing their characters on frictionless surfaces such as ice,[324] or on buoyant bodies like ships.[325] The color orange-cerulean color scheme, too, makes a symbolic reference to weightlessness: white and gold orbs suspended in blue are the colors and shapes of our own sky: blue with white clouds and golden-lit sun or stars. "Married Life" conveys weightlessness symbolically when Ellie and Carl use clouds to

[323] In addition to "Define Dancing" from *WALL-E* (2009) and the planetarium scene from *La La Land* (2016) described in the previous chapter, a few other examples of dance in literal flight include the dragon dances in *Avatar: The Last Airbender* (dates), Casper and Kat's dance in *Casper* (1997), Howl and Sophie's dance in *Howl's Moving Castle* (2004), the boy and the Snowman's dance in *The Snowman* (1982), Aladdin and Jasmine's carpet ride in *Aladdin* (1992, 2019), the fairy dance in *Peter Pan* (2003), and the dance scene in *Ready Player One* (2018).
[324] Consider the "ice dance" in *King Kong* (2005) for instance.
[325] For example, Anastasia's waltz with Dmitri aboard a ship in *Anastasia* (1997), or Yvaine and Tristan's waltz aboard a ship that sails through the air in *Star Dust* (2007).

converse about having a child. Throughout the montage, floating balloons also serve as a gravity-defying motif. The blue balloon, especially, is striking: it passes to a child between Ellie and Carl the last time we see them together at the balloon cart, and it later passes from Carl to Ellie in her hospital bed. "Look What We Made," accomplishes the feeling of weightlessness by reversing time. As time reverses, so does gravity, and this enables me to see—and feel—Stephen un-falling, his coffee un-spilling, confetti rising at Jane and Stephen's wedding.

Dance As Structure

The many elements described in the course of this chapter are summarized in Table 4. Together they show that even when a scene is not *about* dance, dance can be the broader lens that gives a scene structure. Dance as structure organizes audiovisual shapes and invites my body into the temporal, audiovisual world in a uniquely musical way.

Dance as Structure	
Music – waltz-able meter – active accompaniment – sparkling, lyrical timbre – repetitive melody	**Motion** – arch-like camera & character movement – rhythmic/metric conversational gestures – shot/countershot technique
Image – orange-cerulean color pallet – decorative orbs of light – references to weightlessness	**The Body** – weightless – rotational – timeless

Table 4 Summary of framework for dance as structure

"Married Life" and "Look What We Made" are moving not only because they invite me to dance, but because their music, choreography, and cinematography carry me physically through an impossible experience of time. They liberate me from the three-

dimensional world in which my temporal speed and position are fixed and linear. They take me somewhere I cannot go. “Married Life” is time spent somehow too quickly, lilted, lifted, contained in a powerful cinematic poem. “Look What We Made” is time reversed, accelerated, undone, re-lived, embraced. “Married Life,” leaves me like a breath stolen; “Look What We Made,” reopens me like a breath taken.

Watch “Look What We Made” and “Married Life” again. Do you feel *dance* blending the boundaries of music, image, and motion? I certainly do. Perhaps a quote famously attributed the choreographer Balanchine rings true: “Dancing is music made visible.” To me, in my body, these scenes dance as music made not only visible but living. They are music come to life, and they are *life* come to dance.

CHAPTER VIII: CONCLUSION

This dissertation began with three lessons I encountered during the course of my Western music education: 1) music is something we feel and do, and it marks time *in and through* our bodies (like the up and down of my foot making a beat); 2) music is visual, and the body's visual movements are part of experiencing music; and 3) movement is musical: audiences want to see the body in the sound.

I then discussed the mind/body problem, how in popular and scholarly discourse about music, film, and dance, we tend to separate the mind from the body, thereby subjugating the body. Erasing the body from musical sound has immense consequences in the structures of our world. I discussed the example of how the gendering of the mind/body problem leads to the erasure of women as composers, directors, cinematographers, and choreographers. I then overviewed scholarly work that has proposed solutions to the mind body problem, focusing on new material feminism, embodied music theory, embodied film studies, kinesthetic empathy, and timbre studies. Together, these frameworks challenge the mind/body problem by centering bodily ways of knowing. They treat bodies and materials as active forces in dynamic relationships, rather than as vessels for the abstract results of untouchable genius. Especially, they draw together knowledge of sound and moving bodies through empathy, asking me to step into sound and motion through my own dynamic body.

Drawing from these many scholarly works, movements, and impulses, this dissertation proposed a collection of frameworks based on the central premise that there is a body in the sound, and that film, music, and dance overlap in this body. In Chapter II, I outlined a new semiotic approach to the analysis of musical timbre in film scores,

connecting Peircean semiotics with foundational film theory concepts such as diegesis, Mickey-Mousing, and leittimbre. I also offered a four-step analytical process adaptable for pedagogical purposes.

In Chapter III, I applied this method to the musical timbres of spell casts in the 8-film Harry Potter saga. I showed that musical timbre answered a question about magic-making through each semiotic lens. Through index, we found that music and magic came from the same narrative *and physical* space—the non-diegetic realm just beyond the everyday reach of the characters. Through icon, we found that musical timbre could take on the shapes of specific spells, making their impossible physics believable through cross-modal aspects of embodiment. Finally, through symbol, we learned how the meaning of magic changes over the course of the series. In the early films, spell timbres were sustained and musical, reflecting the awe and curiosity of wizards first learning to perform magic. As political tensions escalated and the characters gained a more technical working knowledge of magic, spell timbres became increasingly reflective of magic's utility and larger consequences.

In Chapter IV, I explored the symbolism of a single instrument, what I called the "cinematic piano." I offered evidence that the cinematic piano is a deeply tactile symbol, attracting dialogue about sensations of touch in cinema and embodied scholarship alike. I also examined how the camera tends to frame the instrument and I considered what this framing means about the ways we might play a piano, and the ways we might think a piano is played. Considering aspects of the cinematic piano's sociocultural meaning, I showed that the instrument largely abides by nineteenth-century gender norms and is strongly associated with nineteenth-century ideals such as tragedy, transcendence, and

nostalgia. In films set in the nineteenth century, such as *The Piano* (1993), *Little Women* (1994), and *Pride and Prejudice* (1940, 1995, 2003, 2005), the piano appears primarily with women pianists in domestic or social settings and secondarily with men pianists in displays of virtuosity, wealth, or power. Films set outside of the nineteenth century, such as *Groundhog Day* (1993), *The Pianist* (2002), *Road to Perdition* (2002), and *Dr. Strange* (2016), overwhelmingly present the piano in the hands of men who continue to use the instrument to display achievement, virtuosity, wealth, and power. Regardless of period setting, the piano—as image and timbre—frequently accompanies scenes that feature Romantic ideals.

Chapter V outlined an approach to music-dance analysis and applied this method to two popular music-dance videos that responded to the 2016 Orlando Massacre. In the weeks and months following the shooting, the music video for Sia's "The Greatest" (2016) topped charts internationally, and the dance video for X-Ambassador's "Unsteady" (2016) accumulated hundreds of thousands of views on YouTube. These two case studies are noteworthy for the ways in which they unite music, dance, and film in a political critique of the violence. They are especially powerful because they reanimate the very sonic and visceral acts of living that were silenced in the shooting—people dancing to music together. I approached these case studies first by contextualizing the dancing body as a political force. I then proposed a system of music-dance analysis, drawing examples from "The Greatest" and "Unsteady" to explore the ways the body as a political force joins and politically amplifies music. To illustrate the significance of this amplification, I offered a thought experiment, "the three listenings," which considers how danced political messages remain vivid in music even beyond the film's frame. I closed

with a more focused analysis of "The Greatest" and "Unsteady" that included YouTube viewer comments as one indicator of the videos' political impact.

Chapter VI focused on how embodied aspects of musical timbre and meter fuse with other cinematic elements to make certain dance scenes feel flight-like. Expanding on earlier chapters' embodied approach to timbre in film, and on the concept of music-dance centered in Chapter V, this chapter specifically developed a model of empathetic listening regarding timbral features of dance scenes. The chapter showcased the "Define Dancing" scene from *WALL-E* (2008) as a primary case study and included briefer analyses of the planetarium scene from *La La Land* (2016), the dance between Rayla and Callum in *The Dragon Prince* (2019), and the dance between Yennefer and King Virfuril in *The Witcher* (2019). In each I discussed how overlapping embodied experiences of sound and motion made the depicted dances feel flight-like, whether or not the characters had literally left the ground.

In the final chapter, "Dance as Structure in Scenes that Move Me," I continued to draw on the overlap of music and dance discussed in Chapter V and the musical and cinematic characteristics of dance scenes described in Chapter VI to analyze two moving scenes that are not about dance yet are undeniably dance-like. "Married Life" (by Michael Giacchino) from the beginning of *Up* (2009) and "Look What We Made" (which is underscored by The Cinematic Orchestra's "The Arrival of the Birds") from the end of *The Theory of Everything* (2014) are two powerful, minutes-long sequences that move me, not only because they tell the story of a life, but because they cast life as a dance. This chapter argued that even when dance is not present as the subject of the film, its overlapping embodied, musical, and cinematic dimensions give film structure.

This dissertation was written and concludes during a difficult time for bodies. In the past year, as I've been confined to the small space in which I've worked and slept, my body has had to be more silent than ever before. Most of us, this year, have probably received fewer hugs, touched fewer hands, and danced little if at all. I miss going to the large movie theatre and feeling my body enveloped in the sound. I miss the sound of simultaneous laughter in numerous other bodies. I miss the spin, the pattern, the push and pull of social dance, and the feeling of my body overlapping with the dance's music through motion. Listening for the body in the sound, when my own body has had to be so silent, has become a deeply emotional experience. It is one that will stay with me, whether music sets me down gently, knocks me out of the air, or carries me into the stars.

Films Set in 19th Century (Image + Timbre)						
Year	**Film**	**"The Music Lesson"**	Associated with: **Women**	**Men**	**Romantic Ideals** TG=tragedy TS=transcendence N=nostalgia	**Other**
1940	*Price and Prejudice*	✓	✓		unrequited love	
1970	*Jane Eyre*	✓	✓		forbidden love	
1978	*Little Women*		✓	✓	TG, TS, N	
1982	*The Man from Snowy River*	✓	✓		forbidden love, TS, N	
1991	*Impromptu*	✓		✓	forbidden love, virtuosity	power
1993	*The Piano*	✓	✓		forbidden love, TG, TS, N	Ada's voice
1994	*Black Beauty** (timbre only)				TG, TS, N	
1994	*Little Women*		✓	✓	TG, TS, N	Beth's voice
1995	*Pride and Prejudice*	✓	✓		unrequited love	
1996	*Emma*	✓	✓		forbidden love	
1997	*Jane Eyre*	✓	✓		forbidden love	
2002	*Chopin: Desire for Love*			✓	forbidden love, TG, virtuosity	power
2003	*Pride and Prejudice*	✓	✓		unrequited love	
2005	*The Corpse Bride*	partial reversal	✓	✓	TG, TS, N	
2005	*Pride and Prejudice*	✓	✓		unrequited love	
2007	*Becoming Jane*	✓	✓		forbidden love, TG	
2011	*Jane Eyre*		✓	✓	forbidden love	wealth

Films highlighted in light grey show that every film set in the 19th Century that associated the piano exclusively with women contained a scene equivalent to "The Music Lesson," that is, the woman pianist playing the piano for a man.

19th-Century Source Literature			Associated with:	
Year	**Novel**	**Mentions of "piano"**	**Women**	**Men**
1813	*Pride and Prejudice*	5	✓	
1815	*Emma*	22	✓	
1847	*Jane Eyre*	14	✓	(✓)
1868	*Little Women*	27	✓	✓
1877	*Black Beauty*	0		
1890	*The Man from Snowy River*	0		

The *Jane Eyre* novel involves a woman playing a man's piano that symbolizes his wealth. The piano's implied association with the man is realized in the 2011 *Jane Eyre* film based on the novel, but not in other iterations. (✓) on the source literature chart indicates that the piano has a connection with a man (enough to inspire his playing it in the 2011 film), but that he doesn't actually play it in the novel.

Films Set Outside of 19th Century (Image + Timbre)						
Year	**Film**	**"The Music Lesson"**	Associated with: **Women**	**Men**	**Romantic Ideals** TG=tragedy TS=transcendence N=nostalgia	**Other**
1948	*Rope*			✓	virtuosity	wealth, power
1970	*Five Easy Pieces*			✓	virtuosity	wealth, power
1988	*Big*			✓	N	spectacle
1993	*Groundhog Day*			✓	virtuosity	
1996	*Shine*			✓	TG, N, virtuosity	truth, David's voice
2001	*The Piano Teacher*	✓	✓	✓	forbidden love, TG, femme fatale	
2002	*The Pianist*		✓	✓	TG, TS, N, virtuosity	
2002	*Road to Perdition*			✓	TG, N	fate, wealth, power
2002	*About a Boy*		✓		irony	
2005	*Batman Begins*			✓		wealth, portal
2006	*Penelope*	reversal		✓	forbidden love, TG	
2007	*Dan in Real Life*			✓		comedy/narrator
2007	*Once*	✓	✓		forbidden love, TG	
2008	*Twilight*	reversal		✓	forbidden love, TG	vast knowledge
2009	*The Hangover*			✓		comedy/narrator
2010	*Harry Potter and the Deathly Hallows, Part 1*	partial reversal	✓	✓	romantic love, N	
2012	*Cloud Atlas*	masculine homoerotic		✓	forbidden love, TG, TS, N	composer in poverty
2013	*The Grand Piano*			✓	virtuosity	anxiety
2013	*A Promise*	✓	✓	✓	TG, N	
2015	*The Lady in the Van*		✓		TG, N	
2016	*Dr. Strange*			✓	TG	wealth
2016	*La La Land*			✓	forbidden love, TG, N	
2016	*Sing*			✓	TS	
2017	*The Lego Batman Movie*			✓	TG, N	wealth
2017	*Call Me By Your Name*	masculine homoerotic		✓	forbidden love, TG, TS	
2017	*The Death of Stalin*		✓		virtuosity, femme fatale	

Films Set Outside of the 19th Century (Timbre)				
Year	**Film**	**Love Scene**	**Further Context**	**Romantic Ideals** TG=tragedy TS=transcendence N=nostalgia
1982	*The Snowman*		("Walking in the Air")	TG, TS, N
1991	*Beauty and the Beast*	✓	dance ("Tale as Old as Time")	TS, N
1994	*The Shawshank Redemption*		death ("Brooks Was Here")	TG, N
1994	*Forrest Gump*		death, Jenny's grave	TG, TS, N
1995	*Meet Joe Black*	✓	death, consummation	forbidden love, TG, TS
1999	*American Beauty*	✓	dance ("plastic bag scene"), death	TG, TS, N
2001	*Amelie*		baking cake, longing for lover	unrequited love
2002	*Star Wars Episode II*	✓	confession of love	forbidden love
2003	*Peter Pan*	✓	fairy dance scene	unrequited/forbidden love, N
2004	*Finding Neverland*		prominent throughout film	forbidden love, TG, TS, N
2005	*Batman Begins*		death, parents' grave	TG
2005	*King Kong*	✓	dance ("Central Park"), beauty (sunset)	forbidden love, TG, TS
2006	*Lady in the Water*		("The Healing")	TG, TS, N
2009	*Up*	✓	adventure book ("Stuff We Did")	TG, TS, N
2010	*Inception*		ending ("Time")	N
2012	*The Life of Pi*		ending, Richard Parker	TG, TS, N
2013	*Man of Steel*		mockery in bar, recovery/flight	TG, isolation, TS
2013	*Star Trek Into Darkness*		death, Captain Kirk with Spock	TG, TS, N
2014	*The Theory of Everything*		ending ("Look What We Made")	TG, TS, N
2015	*Jurassic World*		finding the old visitors' center	N
2016	*Lion*		Saroo's reunion with his mother	TG, TS, N
2017	*Beauty and the Beast*		the Beast's death	TG

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