Florida State University Libraries

Electronic Theses, Treatises and Dissertations The Graduate School

2008

Form and Style in the Music of U2

Christopher James Scott Endrinal

Follow this and additional works at the FSU Digital Library. For more information, please contact lib-ir@fsu.edu

FLORIDA STATE UNIVERSITY

COLLEGE OF MUSIC

FORM AND STYLE IN THE MUSIC OF U2

By

CHRISTOPHER JAMES SCOTT ENDRINAL

A Dissertation submitted to the
College of Music
In partial fulfillment of the
requirements for the degree of
Doctor of Philosophy in Music

Spring Semester, 2008

Copyright © 2008
Christopher J. S. Endrinal
All Rights Reserved

The members of the Committee approve the dissertation of Christopher J. S. Endrinal, defended on 25 February 2008.

Jane Piper Clendinning
Professor Directing Dissertation

James R. Mathes
Committee Member

Matthew R. Shaftel
Committee Member

Charles E. Brewer
Outside Committee Member

The Office of Graduate Studies has verified and approved the above listed committee members.

To Azucena and Dominic.

ACKNOWLEDGMENTS

I wish to extend my gratitude and appreciation to my advisor, Professor Jane Piper Clendinning. Her guidance and support during my entire tenure at Florida State have proven to be invaluable resources, for which I cannot thank her enough. I also extend my appreciation to Professor James Mathes (whose doctoral seminar provided the initial inspiration for this research) and to Professors Matthew Shaftel and Charles Brewer, for lending me their unique perspectives and insightful critiques. I would also like to thank the rest of the Music Theory faculty at Florida State. Their vast knowledge and constant encouragement helped keep me focused and motivated.

I have been blessed with wonderful parents, without whom none of this would have been possible. Your wisdom, determination, faith, and unconditional love have instilled in me a foundation of values upon which I hope to continue to build a happy life and a successful career. I am eternally grateful for all you have provided me. You are my heroes and my inspiration.

Finally, many thanks to my friends at Florida State. You have helped make Tallahassee my home. Thank you for sharing your time and talents with me, for picking me up when I was down, for distracting me when I need to be distracted, and for pushing me forward when I wanted to step back. Special thanks go to Amy Acevedo and Marty Blessinger. Whether near or far, you have enriched my life and have helped me in countless ways, both great and small. In you two, truly, I have found what I am looking for.

TABLE OF CONTENTS

LIST OF FIGURES

ABSTRACT

The purpose of this study is to examine the formal designs and stylistic characteristics that U2 employs. It is my contention that, in addition to business savvy and commercial promotion, U2's sustained success has been a result of stylistic originality and musical complexity.

The research in this dissertation is three-tiered. First, it identifies the salient sonic characteristics that distinguish U2's music from the music of other bands. Second, using those characteristics, it examines the various formal organizations U2 uses throughout its catalogue. This step requires analysis of each section's function and relationship to surrounding sections as well as to the song as a whole, which entails detailed examination of several elements including harmony, melody, lyrics, instrumentation, timbre, recording and production techniques, rhythm, meter, and motivic content. Third, I provide detailed analyses of several songs across the band's career to demonstrate how U2 constructs songs and how each member incorporates his own unique musical perspective into these formal designs.

This study adopts a hybrid outlook on form and formal process, one that combines aspects of several different theories of form with original analytical strategies. I employ both "bottom-up" and "top-down" approaches to formal construction, graphical analysis in the form of electronic waveforms and spectrographs, as well as linear reductive methods, and traditional rhythmic, metric, melodic, and harmonic analysis.

CHAPTER 1

U WHO?: An Introduction to the Band

The topic of this dissertation is form and style in the music of Irish rock group U2 from a music theoretical perspective. The purpose of this study is to examine the formal organizations and stylistic devices that U2 employs. In doing so, I hope to identify the specific elements that differentiate the band's music from other rock groups and ultimately characterize the band's distinctive sonic signature.

As popular music analysis emerges as a legitimate sub-discipline in the field of music theory, a comprehensive study of one of the most popular and most influential groups in the genre is needed. Despite U2's numerous accolades and record-setting financial success, surprisingly little has been written on the band's music in scholarly circles. The band history in this chapter demonstrates that U2's place among the all-time great rock bands is undeniable. I contend that it has been one of the most influential bands in pop music and has maintained this status from its initial success in the genre in the early-1980's to this day. Author and music critic Hank Bordowitz states that

> U2 has now been good longer than any other important band in history. The Rolling Stones have been around forever, but their creative period lasted only 15 years. The Beatles imploded after a decade. U2—the same lineup of [lead singer] Bono [born Paul Hewson], [lead guitarist] The Edge [born David Evans], [bassist] Adam Clayton, and [drummer] Larry Mullen—has been making acclaimed albums since 1980's *Boy*.[1]

The band's sustained public and critical success over the course of almost three decades only re-affirms my contention that U2's music warrants scholarly attention. I intend to show, however, that U2's ascendancy into rock's elite is due not only to shrewd marketing and commercial promotion, but also to the combination of a unique sound with formal musical diversity that can be found among its songs.

Chapter 1 begins with a brief history of the band divided into five timeframes. Each period is labeled with a song title from the band's catalogue that I believe aptly describes the band's outlook and sound during that time, beginning with its modest high school ef-

1. Hank Bordowitz. *The U2 Reader: A Quarter Century of Commentary, Criticism, and Reviews* (Milwaukee: Hal Leonard Corporation, 2003), 137.

forts in the mid-1970's (*Desire*: Pre-1980), through its meteoric rise to superstardom in the mid- to late-1980's ("*The First Time*: The First Period, 1980-1983" and "*Another Time, Another Place*: The Second Period, 1984-1990"). The band's experimental third period ("*Electrical Storm*: The Third Period, 1991-1999") directly precedes the current era, in which it has become one of the highest-selling and most critically-acclaimed bands in rock history ("*A Sort of Homecoming*: The Fourth Period, 2000-present").[2]

Much like U2's style periods, I have titled each chapter of this dissertation with a song title, album title, or a variation thereof that reflects the content of that specific chapter. Chapter 2, "SOMETIMES YOU CAN'T MAKE IT ON YOUR OWN: Review of Literature and Analytical Methods" describes the prevailing theories of musical form as they apply to the current project. The chapter also outlines the analytical approaches and techniques that I have adapted and developed for use in this dissertation. Chapter 3, entitled "INTO THE HEART: General Style Characteristics" lists, defines, and illustrates eight sonic attributes I have identified that comprise the "U2 sound." I examine the formal elements of a rock song in Chapter 4, "CRUMBS FROM YOUR TABLE: Song Sections and Formal Types." The content and function of each section of a rock song is defined and illustrated; I also present some anomalous examples of each. Toward the end of the chapter, I outline some statistics regarding particular formal organizations U2 uses. The fifth chapter, "LIKE A SONG: Analytical Examples," presents comprehensive analyses of five songs, incorporating the techniques described in Chapter 2 and using the terminology and definitions detailed in Chapters 3 and 4. Finally, Chapter 6, "ORIGINAL OF THE SPECIES: Conclusions" provides a summary of the research presented in the previous four chapters and offers some conclusions about U2's own production, as well as some conclusions about U2's influence on pop and rock music in general.

2. I obtained the majority of the biographical information from U2's extensive autobiography *U2 By U2* (London: HarperCollins Publishers, 2006), a collection of interviews and quotes arranged and edited by Neil McCormick, detailing the band's existence from its inception through the release of *How To Dismantle An Atomic Bomb*.

"DESIRE": 1976-1980

In the fall of 1975, four Irish teenagers met in a crowded kitchen in Dublin, Ireland to discuss forming a band. Mullen, who founded the band, originally thought of the group as just "a bit of fun, it was never anything else. No big ideas, no expectations."[3] Indeed, these schoolboys had no grandiose visions of sold-out stadium tours and multi-platinum album sales. They simply were interested in learning how to play their instruments, both individually and as an ensemble. "Progress was slow," describes The Edge, "and for a very long time we tried unsuccessfully to play a song, any song, from start to finish….We were all learning how to play together—we really didn't have a clue. There was a glimmer of ability but it was too hard to spot amongst the lack of experience and coordination."[4] After a few weeks of rehearsals, the band, initially named "Feedback," played the only two songs it knew for a school talent show; much to their surprise, the gig was a success. "After that, I think we were a band. We had actually managed to play in public together without totally disgracing ourselves," recounts Mullen. The Edge sensed the chemistry, too. "There was something about it that really worked [among] us, that even as inept as we were, when we hit it, stuff went off in a very visceral and very primitive way."[5]

Feedback continued to rehearse and play local gigs in order to achieve more chemistry. At first, its sets consisted only of covers. However, as the band grew more comfortable with each other, personally and musically, covering other artists' music became frustrating. They wanted to establish a unique musical identity. The punk rock revolution had just begun in the United Kingdom, and Feedback had taken notice of this new, aggressive sound. Clayton recalls, "When we were planning our set and looking at different material, I remember feeling that this music we were trying to play was part of another generation, it didn't really connect with us. We were very unschooled musicians who were just ripe for the energy of punk when it came along."[6] Among their influences were punk pioneers The Sex Pistols, The Clash, and The Ramones, along with rock legends The

3. Neil McCormick, ed. *U2ByU2* (London: HarperCollins Publishers, 2006), 27.
4. Ibid., 30.
5. Ibid., 32.
6. Ibid., 35.

Beatles, Elvis Presley, Led Zeppelin, and Patti Smith, to name a few. By the summer of 1977, Feedback was now called "The Hype." With punk rock taking a foothold in Europe, particularly in the UK, The Hype, with its newfound punk-influenced material, was starting to play more gigs around Dublin. "It was the beginning of our punk phase and so it was a completely different sort of intensity [from] the early more pastoral stage that we went through," The Edge recounts.[7]

Punk rock also provided The Hype a springboard to write its own material. According to Clayton, "Punk happened and we were able to get the very essence of three-chord songs and make something of them, and then that very quickly shifted to us being able to write our own tunes. Not terribly good tunes at the time, but certainly energetic and experimental."[8] Punk served the band merely as an influence, however. It was a starting point, and since the moniker "The Hype" identified a punk-based band, the members decided to change it. Conscientious even then about image and the band's place in the music scene, they settled on the name "U2" because, according to The Edge, "it meant nothing in particular, so we started to like the idea that it didn't have any major connotations. And it also separated us from The Whatevers, The Jam, The Clash, all the bands whose names started with 'The' at the time. Our name was a bit different."[9]

"U2" debuted at a nearby local talent competition on St. Patrick's Day, 1978. Playing a three-song set solely of original material in front of a relatively large audience, they pulled out an improbable victory that included prize money of £500 and a meager recording contract. U2 had finally received some recognition and a much-needed shot of confidence. Not long after recording a demo, the band embarked on a club tour in London, England in hopes of landing a substantial record contract from a major label. Inconsistent performances resulted in a failure to land a deal and sent the four aspiring musicians and their newly acquired manager, Paul McGuiness, back to Ireland to try their luck on home soil.[10] This tour of gigs in Ireland was much more successful, culminating in a

7. Ibid., 39.
8. Ibid., 40.
9. Ibid., 44.
10. Ibid., 84-88.

show in front of approximately two thousand people. After that performance, much to the delight of the band, a representative from Island Records made his way backstage and offered the band a recording contract. U2 was finally on its way to greatness.

"The First Time": The First Period, 1980-1983

U2 has always maintained a contrarian's stance, musically as well as philosophically. While other pop music acts in the late-1970's and early 1980's were crooning over love, misery, and being misunderstood with bombastic guitar solos (e.g. Journey's "Don't Stop Believin'") or blazingly fast power chords (e.g. The Sex Pistols' "Anarchy in the UK"), Bono was concerned with "big concepts like death and the elusiveness of being a man or a woman. [But] the sneer of punk just didn't explain enough to me, and the power chord didn't say enough to me about whatever it was that was going on in my head and my life."[11] Consequently, U2 set out create a sound all their own, incorporating extensive use of echo and delay in the lead guitar, largely doing without extended solo guitar passages commonly found in 1970's hard rock, and taking a more melodic approach to the lead vocals and guitar textures than punk rock.

Island Records released the band's first full-length studio album, *Boy*, in October of 1980. Since the four members were still in their teens when recording *Boy*, it is not surprising that the album features emotionally charged songs about this turbulent period in a boy's life. "Most of the songs on [*Boy*] are visionary reflections of adolescence, with lyrics that have a consciously poetical ring," writes *The New York Times*' Stephen Holden.[12] Tim Sommer, of *Trouser Press*, declares that

> U2's uniqueness is probably due to the emotional depth-charges they detonate live and on record. Their debut album, *Boy*, is a glorious roar of hope, drenched in emotion. The band has a wonderful ability to find the musical correlatives to the ideas stirring in their young hearts and minds….A lot of groups represent some form of nihilism, escapism, or despair; how many can honestly state the opposite case?[13]

11. Ibid., 51.
12. Bordowitz, *The U2* Reader, 188.
13. Ibid., 10.

Following a tour of Europe and a brief stint on the east coast of the United States that culminated with a sold-out show in Boston, MA, the band returned to Dublin to record a second album. *Boy* enjoyed moderate success in both the UK and the US, but failed to crack the top fifty in sales in either region. U2 entered the studio with ambitions of greater sales and bigger live shows than before. Tensions among the band members and pressure from outside the group, however, were starting to put a strain on the recording process. On one hand, Bono, The Edge, and Mullen were very involved in a Christian prayer group, Shalom, while the non-religious Clayton did not participate. On the other hand, the four were trying to establish themselves in the popular music industry. There were increasing demands from the prayer group to drop the musical aspirations and become more involved with Shalom. In the midst of this pressure, The Edge and Bono considered leaving the band, while Mullen contemplated leaving Shalom.

U2 was suddenly at a crossroads: not even two albums into their fledgling music career and already it was in danger of disintegrating. After much soul-searching and a meeting with their producer and manager, U2 decided to remain together and finish the second album. The Edge "felt very clearly this band had something unique and special, and it was completely bogus to suggest that [we] couldn't have a legitimate spiritual life *and* [emphasis his] be in the rock 'n' roll business."[14] *October*, U2's follow-up to *Boy*, thematically centered on God, spirituality, and the conflict of trying to strike a balance between the two seemingly disparate vantage points of the rock-and-roll lifestyle and Christian values. Despite the band's best efforts, however, *October* came out to mixed reviews, little radio play, and poor sales figures.

"We had let things drift a little bit [on *October*] and it was time to get back to the original vision that we had for the band," describes The Edge.[15] Clayton agrees, saying that the band "wanted something that was more abrasive, a bit more in-your-face."[16] *War* is U2's third album and the first to reach the top of the sales charts in England. An aggressive, driving sound coupled with the politically charged hits "Sunday Bloody Sunday" and

14. McCormick, *U2ByU2*, 119.
15. Ibid., 130.
16. Ibid., 135.

"New Year's Day," gave U2 its first taste of mainstream recognition. Riding the success of their first top-ten song in the UK, the band toured Europe, the US, and Japan, all the while maintaining their "we-are-different-from-any-other-group" mentality. They had managed to hit it big in the industry, yet were not living a lavish, party-minded lifestyle typically associated with rock music. "We were in a different orbit," recalls Bono. "Drugs, sex…[we] had a sense occasionally that they were there but they just weren't part of our world."[17]

"ANOTHER TIME, ANOTHER PLACE": The Second Period, 1984-1988

By the end of 1983, U2 had established itself as a major player in pop music. Despite its success thus far, the band realized that the current sound would only take it so far. Top-ten success was not enough: they wanted to be number one. They also wanted to be known for creating inspirational, emotional, meaningful music with a distinctive, original sound. Bono recalls: "All we had to do was keep doing what we were doing and we would become the biggest band since Led Zeppelin, without a doubt. But…we felt we had more dimension that just being the next anything; we had something unique to offer. The innovation was what would suffer if we went down the standard rock route. We were looking for another feeling."[18] Steve Lillywhite had produced U2's first three albums, so the band looked to hire new producers for a fresh perspective. They turned to Daniel Lanois and Brian Eno to try to discover those "other feelings."

The difference was immediate. Instead of working in a studio, U2 recorded the majority of their fourth album in Slane Castle, a large sixteenth-century castle west of Dublin. Eno and Lanois, with the aid of the castle's open rooms and large spaces, helped U2 produce a sound unlike any it or any other band before them had made. The new album ushered U2 into new sonic territory that focused on spaciousness and ambience, which matched the "more serious [and] more arty" approach the band wanted to take.[19] The Edge used the echo/delay effect very sparingly on *War*; this fourth record saw not only the return of the echo, but the effect taking center stage as *the* characteristic sound of U2.

17. Ibid., 140.
18. Ibid., 147.
19. Ibid., 147.

Eno and Lanois also stressed the importance of freedom during the recording process. As a result, *The Unforgettable Fire* has more of an improvisatory feel to it than the previous three albums, which perhaps is most evident in Clayton's bass lines. On tracks such as "Bad" and "A Sort Of Homecoming," he plays loosely and with no reservations, almost as if he is improvising as he goes along. *The Unforgettable Fire* was released in October of 1984 to good reviews, and "Pride (In the Name of Love)" reached the American Top 40 charts, becoming the band's biggest hit to date.

By 1985, U2's star was rising so rapidly that *Rolling Stone* magazine bestowed the band the title of "Band of the Eighties." In the summer of that same year, the band performed at Live Aid, a benefit concert for Ethiopian famine relief. U2's performance was heralded as one of the most memorable of the concert and became a turning point in the band's career. Seen by millions of people around the world, U2 was now firmly planted in the mainstream consciousness on a global scale.

The next studio offering would catapult the band to record heights. Released in March 1987, critics hailed *The Joshua Tree* as U2's *magnum opus*. Steve Pond's review of the album in *Rolling Stone* declares

> U2 is poised to rise from the level of mere platinum groups to the more rarefied air above. For a band that's always specialized in inspirational, larger-than-life gestures—a band utterly determined to be Important [his emphasis]—*The Joshua Tree* could be the big one, and that's precisely what it sounds like… More than any other U2 album [up to this point in its career], *The Joshua Tree* has the power and allure to seduce and capture a mass audience on its own terms.[20]

The album certainly was "the big one," becoming the fastest-selling album in UK history with more than 400,000 copies sold in its first week of release. Aside from spawning the chart-topping singles "With Or Without You" and "I Still Haven't Found What I'm Looking For," *The Joshua Tree* has become the band's highest-selling album to date, with the Recording Industry Association of America (RIAA) bestowing the record with one of the 62 inaugural Diamond Awards in 1999 for exceeding sales of 10 million in the United States

20. *Rolling Stone*, "Album Reviews: U2 The Joshua Tree"; available from http://www.rollingstone.com/artists/u2/albums/album/108063/review/6067670/the_joshua_tree; Internet; accessed 27 March 2007.

alone.[21] It also became the band's first international number-one album and earned it its first Grammy Award, Album of the Year.[22] In addition to the historic sales numbers, the April 27, 1987 issue of *Time* magazine declared U2 "Rock's Hottest Ticket" and placed the band on the cover.

U2 refused to ride the coattails of *The Joshua Tree*'s massive global success. While on *The Joshua Tree* tour, they began another project. Originally meant as a behind-the-scenes documentary of U2's life on the road that would incorporate some live concert video, *Rattle and Hum* turned into a hybrid film that included scenes from studio sessions and music videos, in addition to the concert and backstage footage. The corresponding album of the same title was also a hybrid record, a 17-track double album consisting of both live recordings and new studio work. On *Rattle and Hum*, U2 explores American roots rock and blues, covering Jimi Hendrix's "All Along the Watchtower" and playing with B.B. King on "When Love Comes to Town," in addition to a gospel rendition of their number one song "I Still Haven't Found What I'm Looking For," and the blistering three-chord blues-based "Desire." The movie opened to mixed reviews and did poorly at the box office. The album was even more heavily criticized: "By almost any rock and roll fan's standards, U2's *Rattle and Hum* is an awful record….The record's an embarrassment."[23] However, it went on to sell an astounding 14 million copies worldwide, thanks to hits like "Desire," "All I Want Is You," and "Angel of Harlem," which anchored the album.

"ELECTRICAL STORM": The Third Period, 1991-1997

By this point in its career, U2 had proved beyond any doubt that their success was not an accident or sheer luck. With combined worldwide sales of *The Joshua Tree* and *Rattle and Hum* albums in excess of 30 million, it would have been easy for U2 to settle

21. Recording Industry Association of America, "Diamond Awards"; available from http://riaa.com/goldandplatinumdata.php?table=tblDiamond; Internet; accessed 31 January 2007.

22. Billboard, "Artist/Album Review"; available from http://www.billboard.com/bbcom/discography/index.jsp?pid=5928&aid=17561#review; Internet; accessed 31 January 2007; The Grammys, "Grammy Award Winners"; available from http://www.grammy.com/GRAMMY_Awards/Winners/Results.aspx; Internet; accessed 31 January 2007.

23. Bordowitz, *The U2 Reader*, 216.

into a comfort zone or ride off into the proverbial sunset. However, the band, ever-conscious of not wanting to fall into the trap of being formulaic and predictable, did the exact opposite: they challenged their own success and sought to reinvent themselves by producing an album that served as a reaction to the superstar status the band attained thanks to *The Joshua Tree*.

U2's seventh studio release, *Achtung Baby*, hit shelves in October 1991. Sonically, it differs from other albums in that it features extensive amounts of electronic processing, which gives the record a dark, brooding tone. The central themes in the lyrics on the new album were also different from the band's previous offerings. U2's songs had been known for messages of hope (e.g. "Where the Streets Have No Name"), love (e.g. "All I Want Is You"), political awareness (e.g. "Sunday Bloody Sunday"), and spirituality (e.g. "Gloria"). While many of these themes remain central in U2's catalogue, *Achtung Baby* introduced a darker, more cynical side that included themes of betrayal (e.g. "Love Is Blindness"), jealously (e.g. "So Cruel"), experiencing the moment (e.g. "Even Better Than The Real Thing"), and irony (e.g. "The Fly"). Bono aptly describes the record as "the sound of four men chopping down the *The Joshua Tree*."[24] Despite these radical differences, *Achtung Baby* landed U2 atop United States and international sales charts once again and has proceeded to sell over 13 million copies around the world.

Zooropa, U2's late-1993 release, was recorded during a brief two-month break amid the band's massive ZooTV world tour. It was "made…for no other reason than to document what [was] on the band's collective mind [that] very moment."[25] That is, it took over where *Achtung Baby* left off, continuing the band's foray into the world of electronic experimentation while singing about media, technology, and indulgence. Gone were the rousing stadium-rattling anthems to which U2 fans had grown accustomed. The record was more about pushing the limits of the studio resources. Mullen characterizes *Zooropa* as "the sound of U2 becoming comfortable with a new recording environment. After [*Achtung Baby*], it was clear that this technology stuff was OK, it's not the Devil, it's not

24. Niall Stokes, *U2: Into the Heart—The Stories Behind Every Song* (New York: Thunder's Mouth Press, 1997, 2005), 102.

25. Bordowitz, *The U2 Reader*, 223.

the enemy, we can work with it."[26] Although it continued in the thematic and production line of *Achtung Baby*, *Zooropa* could not match the sales numbers of its predecessor, falling short by selling only four million copies.

The last album of the band's third period is *Pop*, which debuted in early 1997. It was the furthest U2 went from the "classic" sound that made them superstars. The Edge recalls the band thinking about experimenting even more and trying to "find new ways to write songs, accepting the influence and aesthetics of dance music. We were in an experimental frame of mind, [and] because [Mullen] wasn't really in a position to play with us [because of a back injury], we thought, 'Let's just start with [producer Howie B] mixing drum beats and see where that gets us."[27] It got U2 back to the top of the US charts, with the first single from *Pop*, "Discothèque" peaking in the top 10 and the album debuting at number one. Sales declined sharply after the release (a disappointing 3 million units worldwide), however, as fans were reluctant to buy into U2's third, and most experimental, technologically-driven effort.

"A Sort of Homecoming": The Fourth Period, 2000-present

U2 was anxious to get back into the studio and record their next album. Clayton describes the band as "a bit bruised and bloodied after the *Pop* experience. Because even though audience and sales figures were in the millions, it didn't catch fire the way we had hoped it would. We came away feeling that we hadn't quite dotted the 'i's and crossed the 't's and we needed to re-group and get back to work quite quickly. We all felt it was a good idea to talk to [*The Joshua Tree* producers] Brian [Eno] and Danny [Lanois] and see if they would be up for working with us again."[28] The new millennium brought yet another change in style for the band. *All That You Can't Leave Behind* (2000) saw U2 once again reinvent itself, this time more in the style that won the band recognition in the first place. Gone was the reliance on signal processors, synthesizers, and drum loops as the first means of sound production; back were the echo/delay of Edge's guitar, Clayton's driv-

26. McCormick, *U2ByU2*, 248.
27. Ibid., 262.
28. Ibid., 289.

ing bass lines, Mullen's steady drum beats, and Bono's hopeful, inspirational lyrics. Also returning was an emphasis on political and social commentary that pervaded much of the band's music in their first period. Unlike the previous style shift, this musical reinvention did not result in mixed critical reviews or sluggish album sales. Quite the opposite, in fact, as *All That You Can't Leave Behind* signaled the band's return to a more guitar-driven, rock-based sound. Critics and fans alike hailed the record as the band's third masterpiece, following *The Joshua Tree* and *Achtung Baby*. It earned platinum status (one million units) in the United States just weeks after its release and has sold over 12 million copies worldwide.

U2 showed no signs of slowing on their eleventh studio album, *How To Dismantle An Atomic Bomb* (2004). It debuted at number one in more than 30 countries and has gone on to sell almost 10 million copies around the globe. "We wanted to make a harder-sounding album than *All That You Can't Leave Behind*. We needed to focus on better songwriting and more up-tempo tunes."[29] Hits like "Vertigo" and "All Because Of You" fulfilled that requirement, while songs like "Sometimes You Can't Make It On Your Own" and "City Of Blinding Lights" are reminiscent of the highlights from *The Joshua Tree* and *The Unforgettable Fire*. *How To Dismantle An Atomic Bomb* has earned just as much critical praise as commercial success, garnering eight of the band's record 22 Grammy Awards, including another "Album of the Year" honor.

Throughout the rest of this dissertation, a coding system is provided in parentheses following the title of each song to identify where in U2's chronology the song falls. The coding system includes a shorthand listing of the style period (Roman numeral), album (capital letter), and track number for the referenced song, each separated by a colon. For example, "Dirty Day," the ninth track from the second album (B) of the third style period (III), would be listed as follows: "Dirty Day" (III:B:9). This shorthand derives the coding system from the following discography, which lists only the band's full-length studio releases. U2 has released a number of B-sides, remixes, and live recordings. Although these

29. Ibid., 317.

songs and performances certainly are interesting and worthy of study, the multitude of variables that encompass these versions—limited circulation and release, the concept of authenticity and legitimacy, live performance considerations, for example—places the complete analysis of these recordings beyond the scope of this dissertation.[30] I do include, however, six tracks from the band's three compilation albums: "Sweetest Thing" (*The Best Of 1980-1990*: 10; released in 1998), "Electrical Storm," "Miss Sarajevo," "The Hands That Built America," "Hold Me, Thrill Me, Kiss Me, Kill Me" (T*he Best Of 1990-2000*: 4, 6, 11, 13, respectively; released in 2002), and "Window In The Skies" (*U218 Singles*: 18; released in 2006). Each of these songs was a new recording (not a B-side or remix) that was individually released and widely circulated either as a soundtrack theme or as a single, occupying chart positions and accumulating sales figures and radio airplay statistics.

U2 Discography [*album title* (release year)]

I. First Period
   A. *Boy* (1980)
   B. *October* (1981)
   C. *War* (1983)

II. Second Period
   A. *The Unforgettable Fire* (1984)
   B. *The Joshua Tree* (1987)
   C. *Rattle and Hum* (1988)

III. Third Period
   A. *Achtung Baby* (1991)
   B. *Zooropa* (1993)
   C. *Pop* (1997)

IV. Fourth Period
   A. *All That You Can't Leave Behind* (2000)
   B. *How To Dismantle An Atomic Bomb* (2004)

30. In 1995, Brian Eno, the members of U2, and other producers and musicians, a group collectively known as the "Passengers," released an album of motion picture sountrack songs entitled *Passengers: Original Soundtracks 1* (Island Records 314-524 166-2, 1995). That record is not included in the discography nor is it included in this dissertation because it was not released specifically as a "U2" project, and because of the amount of "extra-U2" musical contributions from Eno and the other "Passengers."

Bono, The Edge, Adam Clayton, and Larry Mullen all admit they may not be the most technically proficient instrumentalists in rock history. However, U2's storied history, coupled with its longevity and continuing relevance in the rock genre, is a testament to the band's creativity and musical savvy, as well as a keen awareness of how best to utilize their talents. On the surface, the band's musical stylings may have changed over the course of their career. Upon closer examination, however, U2 has always maintained a consistent set of formal and stylistic characteristics at their foundation, regardless of how varied the surface details may seem. From the post-punk angst of *Boy* to the soul and blues dabblings of *Rattle and Hum*, from the atmospheric character of *The Unforgettable Fire* to the techno-influenced *Pop*, from the dark irony of *Achtung Baby* to the rejuvenated rock of *All That You Can't Leave Behind*, each style period (and its constituent songs) is distinctly and uniquely stamped with trademark U2 qualities. It is this complex mix of aural and formal traits that separates U2 from the rest of the genre, casting them into the select group of transcendent superstars whose music is captivating, emotional, and deserving of academic attention.

CHAPTER 2

HOW TO DISMANTLE U2: Review of Literature and Analytical Methodology

Few topics have occupied the attention of music theorists more than musical form. From the late-nineteenth century to the present, numerous methods of analysis of formal organization have been postulated. As Dalhaus states succinctly, "The changes in thought about musical form are closely connected with change in form itself—not merely individual forms, but in what form signifies in music in general."[31] This chapter outlines some of the major trends in thought regarding musical form, from late nineteenth- and early twentieth-century approaches to form to more recent approaches to Classical and Romantic forms. Secondly, it will examine some approaches to form and formal process in minimalist music and popular styles. Lastly, I will delineate my own approach for analyzing form and style in U2's music, explaining how it draws from and relates to existing models of formal and stylistic analysis. I then describe the original methods I employ to study the music of U2.

Theories of Form

Though the conception of form has changed over time, one element remains constant: the notion of hierarchy. Theories of form regarding tonal music all center on the hierarchical nature of tonal music. So fundamental is the concept of hierarchy that Dalhaus proclaims it obvious: "The demand that a musical form must be conceived as the result of an interplay between its parts and components is self-evident."[32] Organicism extended the notion of hierarchical thought from the late nineteenth century into the early twentieth century, as it was the chief mode of thinking during this period. Arnold Schoenberg's theory of musical function is grounded in the concept of organic coherence. That is, the musical work as a whole can be comprehended through analysis of smaller parts and their relationships between and among each other. Ultimately, an entire artwork is articulated

31. Carl Dalhaus, "Some Modes of Unity in Music Form," *Journal of Music Theory* 19, no. 1 (1975): 4.
32. Ibid., 9.

by the specific functions of individual parts.[33] In effect, the individual parts act like organs in a large organism, each one performing a specific function that either directly or indirectly has an effect on other parts, consequently affecting the performance of the whole. A visual art analogue could be found in a painting by Monet. A close viewing would bring out a series of seemingly disjointed individual brushstrokes. Observing the painting from some distance, however, reveals an entire scene, the sum total of all the individual strokes. The hierarchy in this theory was viewed as a functional development from the smallest part—the motive—up to larger parts (such as phrases and themes), eventually leading to the whole musical work. Also playing a part in Schoenberg's organic theory was tension. Much like the process of breathing in and out, he believed tonal works to have an interior conflict, first establishing a tonal center (body at rest), then moving away from this center (body inhaling), thereby causing unrest (slight pause after inhalation), and eventually moving back to tonic (body exhaling), resolving the tension.

Perhaps no other theorist had a more profound effect on twentieth-century theories of tonal music theory than Heinrich Schenker. His reductive methods of analysis and emphasis on the fundamental structure were the basis of his theory. Tonality and the embellishment and prolongation of structural scale degrees were the elements that have been most adopted by modern theorists. According to Schenker, it is from the fundamental structure that musical form arises: "I derive the forms from the background and middleground."[34] This proves an important distinction from theories that stress thematic development. Schenker's theory is harmonically based, as opposed to centering on themes or motives:

> I reject those definitions of [form] which take the motive as their starting point and emphasize manipulation of motive….I also reject those explanations which are based upon phrases, phrase-groups, periods, double periods, themes, antecedents, and consequents. My theory replaces all of these with specific concepts of form which are based upon the content of the whole and of the individual parts; that is, the differences in prolongation lead to differences in form.[35]

---

33. Patricia Carpenter, "A Problem in Organic Form: Schoenberg's Tonal Body," *Theory and* Practice 13 (1988): 36.

34. Heinrich Schenker, *Der Freie Satz*, (New York: Longman, 1979), §306.

35. Schenker, *Der Freie Satz*, §308.

In other words, the conception of form begins at the highest level—the fundamental structure in the background—and works its way down to the surface level (the foreground) where the details of the musical form of a specific piece reside. In effect, this theory is a kind of "reverse organicsm," meaning that it starts with a basic idea, much in the same manner traditional organicist thought starts, but this primary idea lies at the top of the musical hierarchy, rather than at the bottom. For Schenker's view of form, no two musical pieces would share the exact same formal structure due to the mid- and low-level intricacies of each work. Though their backgrounds might be similar, their middle- and foregrounds would be drastically different, thereby affecting the overall form of each piece.

More recent views on musical form have been just as diverse as those from the early- and mid-twentieth century. Spencer and Temko view form as a composite of "structural phenomena" that serve as perceptual cues to the larger overall structure. "The understanding of a complex musical entity depends upon the understanding of relationships between smaller units within that entity."[36] These structural phenomena—cadences, tonal regions, tempo, meter, rhythm, texture, motive, for example—have one of four functions (expository, transitional, developmental, and terminative), and how these units and their respective functions are organized determines the overall form of the piece. Wallace Berry also incorporated hierarchy into his theory of form in music. "The theory of hierarchic levels…has important implications for theoretical treatment of individual structural elements, especially in matters of classification and terminology."[37] Similar to Spencer's and Temko's approach, Berry states that form can be viewed in terms of functional relationships, how one section of a piece relates to the others. In addition to the antecedent-consequent dynamic, he identifies several functions which segments of music can perform both locally and globally, namely as an introduction, an exposition, a transition, a development, and a resolution.

---

36. Peter Spencer and Peter Temko, *A Practical Approach to the Study of Form in Music* (Englewood Cliffs: Waveland Press, Inc., 1988, 1994), 1.

37. Wallace Berry, *Form in Music* (Upper Saddle River: Prentice-Hall, Inc., 1986), 14.

William Caplin's theory of form focuses on the instrumental works of Haydn, Mozart, and Beethoven. His approach, organic in nature, begins by defining motives and fragments in detail (e.g. basic idea, contrasting idea), and then illustrating how these small units are assembled into larger units like phrases and periods. Much like Schoenberg, Caplin argues that small fragments comprise large-scale forms. In addition to defining and illustrating chunks of music, he also develops a comprehensive set of processes (e.g. repetition, fragmentation) and formal types (e.g. sentences, periods), which help identify specific functions at local and global formal levels.

Doubtless, sonata form has been the centerpiece of the analysis of Classical- and Romantic-era music. James Hepokoski and Warren Darcy challenge the standard methods of thinking and attempt to introduce a new and different way to approach the sonata. They begin by examining the "structural punctuation" of the sonata exposition, culminating in their definition of the "medial caesura," which creates a "two-part exposition." They explore different ways composers treat this important event and how its treatment affects the surrounding material. Hepokoski then expands the theory by first identifying inconsistencies in past discussions of sonata form, citing, Tovey, E. T. Cone, and Ratner, among others. Regarding the question of how to establish flexible sonata form principles, Hepokoski states that "different scholars came up with different answers."[38] Essentially, Hepokoski and Darcy call attention to the fact that discussions and theories of sonata form have been, at best, inconsistent. Their method of analyzing the principle attempts to combine thematic and harmonic techniques into one comprehensive, yet flexible, system.

In the face of the numerous analytical methods developed for music of the Western art tradition, Kofi Agawu calls attention to the lack of analytical and theoretical literature regarding vocal music. "In spite of its ubiquity…song has had a less than decisive influence on the development of music theory and analysis in the twentieth century. [The] canonical techniques of analysis have emerged primarily from considerations of instrumental music, not vocal music….Theory-based analysis of song is notoriously lacking in models.

38. James Hepokoski, "Beyond the Sonata Principle," p. 99.

The literature is dominated by individual 'readings.'"[39] He goes on to describe and discuss four models of song analysis that, together, encompass virtually all existing studies of art songs.

According to Agawu, the main difficulty in art song analysis is the consideration that many art songs incorporate text (mostly poems) written by a person other than the song's composer. The analysis of a specific art song can change depending on the analyst's perspective of the relationship between the music and the text. In his "assimilation model," words are subsumed by the music: the music is the primary force, with the words "[disappearing] *as words* and [assuming] a musical form" [his emphasis].[40] The "alloy" model assumes that the words and music coexist without either element losing its "essence."[41] His third model for nineteenth-century art song analysis is the "pyramid structure," a hierarchical arrangement in which the musical base provides support for the meanings signified in the text. A Venn diagram illustrates the fourth model, in which the music, words, and song itself maintain autonomous existences but overlap to form a specific song. However, according to Agawu, each of these models presents problems regarding its constituent parts and their relationships to each other and to the whole entity of the song itself.

I contend that in recent popular songs (from 1960 to the present), the relationship between the lyrics and the music is different from that in art songs in that, for the majority of these popular songs, the lyrics and the music are written and developed concurrently, either by an individual who is directly involved with both the music-making and lyric-writing processes, or as a collaborative effort among members of a group or band. Rarely are modern popular song lyrics standalone poems or free verses, as is the case with many art songs.[42] That is, frequently, the lyrics of a popular song are not written with the intent

39. Kofi Agawu, "Theory and Practice in the Analysis of the Nineteeth-Century *Lied*," *Music Analysis* 11, no. 1 (1992): 3.

40. Ibid., 5.

41. Ibid., 6.

42. In my experience, only a small fraction of recent popular music artists compose the lyrics and music indepdently of each other, at least in the early stages of the songwriting process. Bob Dylan and Jimi Hendrix are two noteworthy examples.

of functioning as a self-contained artwork. The words and the music are composed together, for example, to espouse a specific emotion, convey a viewpoint, or elaborate a motive. In the songs of U2, these two elements are so dependent upon one another that the "essence" of one is dependent upon the presence of the other: the meaning of the text of a U2 song would be incomplete without the support of the music, and vice versa. Because of this interdependent relationship between the music and the lyrics, they both contribute equally to the form in U2's songs.

Although Agawu's article focuses on music theoretical literature as it relates to art song, his statement about a lack of theory-based analytical models can also be applied to the genre of popular song. One of the difficulties, perhaps, in establishing models for popular song analysis is the genre's relative newness in the grand timeline of Western music. As a result, music theorists have not had as much experience with U2, for example, as they have with Schubert or Schumann. One of the main goals of this dissertation is to use U2's music as an example while providing such a model.

Despite the multitude of popular music developments in the twentieth and twenty-first centuries, especially in the years since World War II, a theory of popular music form has yet to be developed. Aside from the its recent development, this is due, perhaps, to the large number of different genres and subgenres of popular music—so many, in fact, that one theory of form may not be adequate. Much of the research performed on popular music has been in the realm of meaning and interpretation, as well as the influence of and significance in various cultural and social strata. Theoretical analysis of the "music itself" has focused more on the small-scale relationships, for example, local harmonic function or motivic connections across entire songs. Daniel Harrison's study of the Beach Boys briefly mentions formal aspects of the music, but concentrates mainly on the harmonic, metric, and lyrical construction of the songs.[43] Guy Capuzzo focuses on harmonic progressions and chord transformations, but writes little in the way of musical form.[44]

---

43. Daniel Harrison, "After Sundown: The Beach Boys' Experimental Music," *Understanding Rock: Essays in Musical Analysis* (New York: Oxford University Press, 1997), 33-58.

44. Guy Capuzzo, "Neo-Riemannian Theory and the Analysis of Pop-Rock Music," *Music Theory Spectrum* 26, no. 2 (2004): 177-199.

John Covach suggests a quasi-organic approach to form in rock music, beginning with chord progressions, and then working up the hierarchy to the harmonic structure of phrases, which in turn make up sections that together articulate one of a few general types of forms. According to Covach, other elements, such as melody, text, and rhythm, should be analyzed separately, and then used to reinforce the overriding form.[45] Walter Everett, in his extensive research on the Beatles, focuses first on harmonic, melodic, rhythmic, and lyric aspects, then discusses elements of instrumentation and production in relation to formal sections. Ken Stephenson states that "traditionally, the chief [musical cues concerning form] are cadence patterns and key schemes. But in rock, the relevant cues most often appear in the areas of text, instrumentation, rhythm, and harmony."[46] Both Stephenson and Covach define several types of general forms in rock music, including AABA Form, Verse-Chorus Form, and Compound Forms (Covach); and Strophic, Verse-Chorus-Bridge, and Rounded Binary (Stephenson). Other notable popular music analysts, however, such as Philip Tagg and Richard Middleton, avoid using formalistic methods in pop music analysis, preferring to analyze musical specifics in relation to meaning and interpretation.

Analytical Methods

The research in this dissertation is three-tiered. My first task is to identify the salient sonic traits that characterize U2's music. To use Schenkerian terminology, what aural "foreground" surface details differentiate U2's music from that of other popular acts? Second, using those characteristics, I examine the various formal organizations U2 uses throughout its catalogue. In this step, I examine how each section functions and relates to surrounding sections as well as to the song as a whole. These two stages entail detailed examination of several elements, including harmony, melody, lyrics, instrumentation, timbre, recording and production techniques (such as effects, overdubbing, and processing),

45. John Covach, "Form in Rock: A Primer," *Engaging Music: Essays in Musical Analysis*, ed. Deborah Stein (New York: Oxford University Press, 2005), 66.

46. Ken Stephenson, *What to Listen For in Rock: A Stylistic Analysis* (New Haven: Yale University Press), 122.

rhythm, meter, and motivic content. An analysis of the band's entire studio catalogue will reveal the band's defining stylistic characteristics, and what forms are most typical of their music. Third, I provide detailed analyses of several songs across the band's anthology to demonstrate how it constructs songs and how each member incorporates his own unique musical stylings into these formal designs. This dissertation adopts a hybrid outlook on form and formal process, one that combines aspects of several different theories of form with original analytical strategies. I employ both "bottom-up" and "top-down" approaches to formal construction as well as use reductive methods and traditional rhythmic, metric, melodic, and harmonic analysis.

The first step of this dissertation was to collect a raw set of data with which to work and from which I could draw some preliminary conclusions. Some of the questions I posed for myself initially included:

- Generally, what creates the "U2 sound"? From a musical perspective, how has this band distinguished itself from other rock and pop bands? Essentially, what makes U2 sound like U2?
- What (salient) aural characteristics does U2's songs have in common?
- What formal designs, if any, does U2 prefer?
- How am I going to visually represent some of the unique sounds and timbres U2 incorporates?
- What analytical methods are the most appropriate to the study of form and style in popular music?

To begin answering these questions, I started with the music itself. Since credible, authorized scores for the majority of U2's discography do not exist, my primary sources were the band's studio recordings. The scores that are published are either arrangements or pared-down versions of the studio recordings. In many cases, conventional notation was inadequate to convey a particular sound, timbre, or effect. These scores, then, served mainly as guides from which I could base my own transcriptions. A pre-existing series of Piano/Vocal/Guitar scores published by Hal Leonard served as the primary source of material.

From the band's eleven full-length studio records and three compilation albums, I began with the band's most popular and commercially successful songs, those that earned

awards, were released as singles, and/or were in regular rotation on radio and television (MTV and VH1, primarily) broadcasts. I observed several common traits among this set of approximately 35 songs. The song set then was expanded to include another 20 of my personal favorite songs in an attempt to determine the consistency of these traits.

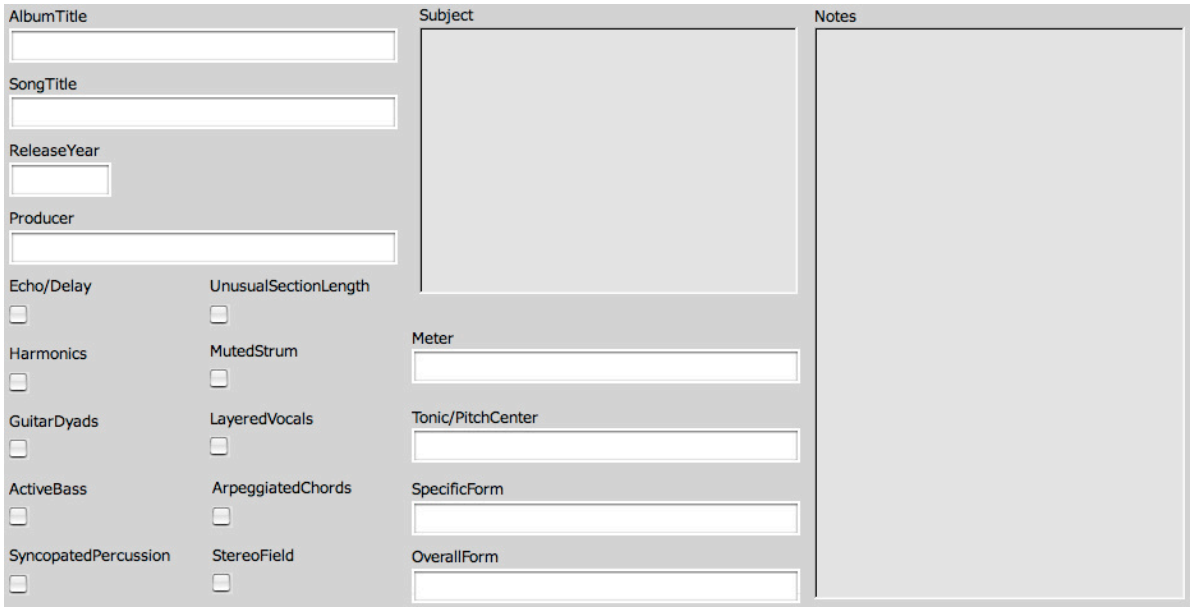
Based on these listening sessions and this initial set of characteristics, I created a database in order to document these features across the band's entire studio catalogue.[47] In doing so, I thoroughly defined each style and formal characteristic in the database to ensure that the various criteria were uniformly applied to each song. The next step in the data collection was the creation of a dataform for each song that listed basic information about the song, such as the album on which it originally appeared, the year that album was released, the song's producer(s), the song's meter and tonality/pitch center, and the song's specific and overall forms. I added a checkbox for each one of the ten stylistic and formal traits I determined characterize U2's signature sound: a check would indicate the use of that particular feature, while an empty box denotes its absence. Also included in this datasheet were fields for the song's subject matter, gathered from various interviews, (auto)biographical sources, and my own personal interpretations, along with an open field for notes and observations that occurred to me during the listening and analysis process. Example 2.1a is a screenshot of the blank template; Example 2.1b is a screenshot of a sample dataform completed for the song "One" (III:A:3).

A third listening session then followed that included repeat evaluation of the 50 songs already examined plus the remaining songs from the studio output, raising the total number of songs analyzed in the dissertation to 125. I used the dataform throughout this session; the information from each individual sheet was then compiled into one chart, thereby making data comparisons between songs and albums convenient. A screenshot sample of that chart is presented in Example 2.2 below. After the third listening session, I revised further the set of characteristics. Statistically, the "guitar dyads" identified in the first set of traits are not used in enough songs to warrant consideration as characteristic of the band's style, appearing in only 17.6% of the songs (22/125). The "extended introduc-

47. I used the open-source software NeoOffice for Mac OSX.

tion" attribute, used in a more viable 34.4% of the songs (43/125), replaced the dyads in the set of characteristics. Chapters 3 and 4 present the rest of the percentages and statistics in greater detail.

a.



b.

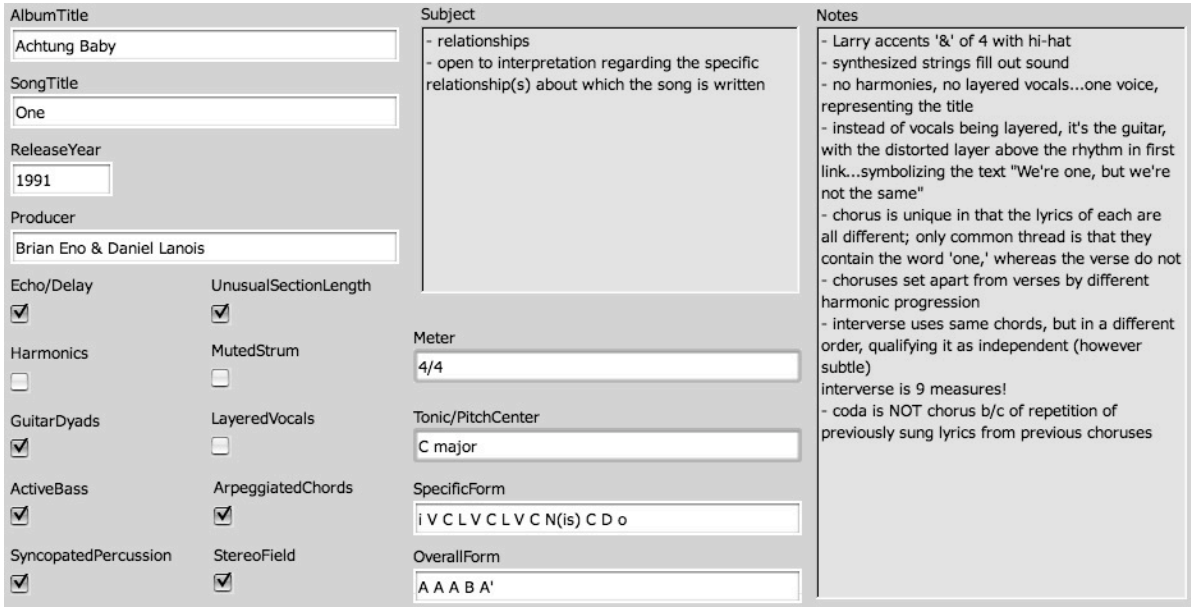


Figure 2.1 a. Blank listening form; b. Completed form for "One."

ID	AlbumTitle	SongTitle	ReleaseYear	Producer	Echo...	Harm...	Guit...	Acti...	Syn...	Laye...	Eli...	Unu...	Mut...	Arp...	Ste...	Tonic/PitchCenter	Meter
1	Boy	I Wil Follow	1980	Steve Lillywhite	☑	☑	☑	☑	☑	☑	☐	☑	☑	☑	☑	Eb	4/4
2	Boy	Twilight	1980	Steve Lillywhite	☑	☑	☐	☑	☑	☐	☐	☑	☑	☑	☑	Eb minor	4/4
3	Boy	An Cat Dubh	1980	Steve Lillywhite	☐	☑	☐	☑	☑	☑	☐	☑	☐	☑	☑	C# (minor)	4/4
4	Boy	Into the Heart	1980	Steve Lillywhite	☑	☑	☐	☑	☐	☐	☐	☑	☐	☐	☑	B	4/4
5	Boy	Out of Control	1980	Steve Lillywhite	☐	☑	☑	☑	☑	☑	☐	☑	☑	☑	☑	C#	4/4
6	Boy	Stories for Boys	1980	Steve Lillywhite	☑	☑	☐	☑	☑	☐	☐	☑	☐	☐	☑	Eb minor	4/4
7	Boy	The Ocean	1980	Steve Lillywhite	☐	☑	☑	☑	☑	☐	☐	☐	☐	☐	☐	Eb minor	4/4
8	Boy	A Day Without Me	1980	Steve Lillywhite	☑	☑	☐	☐	☑	☑	☐	☑	☑	☐	☑	C#	4/4
9	Boy	Another Time, Another Place	1980	Steve Lillywhite	☐	☑	☐	☑	☑	☐	☐	☑	☐	☐	☑	Eb minor	4/4
10	Boy	The Electric Co.	1980	Steve Lillywhite	☑	☑	☐	☑	☑	☐	☐	☑	☑	☑	☑	C#	4/4
11	Boy	Shadows and Tall Trees	1980	Steve Lillywhite	☐	☐	☐	☑	☑	☐	☑	☑	☐	☐	☑	F#	4/4
12	October	Gloria	1981	Steve Lillywhite	☑	☑	☐	☑	☑	☐	☐	☑	☑	☐	☑	Eb	4/4
13	October	I Fall Down	1981	Steve Lillywhite	☑	☑	☐	☑	☐	☐	☐	☑	☐	☐	☑	Ab	4/4
14	October	I Threw A Brick Through A Window	1981	Steve Lillywhite	☑	☑	☐	☑	☑	☐	☐	☑	☐	☐	☑	E	4/4

Figure 2.2 Screenshot of compiled style and form chart.

Throughout the rest of this dissertation, I refer to harmonies in two ways. Within a harmonic and/or tonal context, I use Roman numerals to refer to the chord's function within that tonality, using upper-case numerals for major and augmented chords and lower-case for minor and diminished chords, and adding figured bass symbols and any necessary accidentals. Frequently, the band uses extensions of these chords, adding (added sixths or ninths, for example) or subtracting notes (omitting the third and playing open fifths) to add richness to the texture or even enhance the ambiguity surrounding a chord's function. The Edge recalls this vagueness in some of the U2's early songwriting and harmonic techniques:

> Our chord construction was interesting…the third became our enemy. The third is the note that gives the sex of the chord in major or minor terms and if you leave out the third, the key becomes ambiguous and much more open to different melodies…It worked quite well because it kept the canvas completely open. And when it came to recording, that ambiguity gave me the ability to play around with overdubs. [We] could really change things a lot because [we] weren't setting down chords in a very clear fashion.[48]

Since my overall analytical method is a hybrid of classic and modern techniques, the chord designations used in this dissertation are hybrids of pop and classical notation. That is, when referring to a chord out of a harmonic context, I use a capital letter of the chord's root; if the chord is inverted, a slash and a capital letter follow the chord root label, indicating the bass note and indirectly identifying the chords inversion. I add an upper-case 'M' if there is an interval of major quality (besides a third) added to the harmony and lower-case 'm' if the quality of the chord is minor or if there is an interval of minor quality added to the chord. For example, C# refers to a C-sharp major chord; C#m desig-

48. McCormick, *U2ByU2*, 72.

nates a C-sharp minor sonority; C#M^{7} indicates a C-sharp major chord with an added major seventh interval; C#Mm^{7}/G specifies a second-inversion C# dominant seventh harmony; C#^{9} signifies a C-sharp major chord with an added ninth above the root; and C#sus^{4} indicates a C-sharp major chord with a suspended fourth above the root.

There are four primary kinds of musical examples used in this project to clarify points of discussion: 1) transcriptions of studio recordings, chiefly my own, with a few examples loosely based on the Hal Leonard scores; 2) reductions/voice-leading sketches; 3) waveforms and spectrum analyses of the studio recordings; and 4) arch-maps of songs' specific and overall forms. I notated all instruments as they sound using the International Acoustic Society's system of pitch designations, with C4 representing middle C. Similar to Allan Moore's transcriptions, all vocal pitches in this dissertation are notated in treble clef, thereby representing the singers' functional registers rather than the sounding pitches.[49] The recordings used in this dissertation are the compact disc format of the original releases; I avoided using any remastered versions due to their limited release and my desire to capture these songs as they were originally produced and released. From these discs, I used Apple's iTunes program to make digital copies of each album in AAC format, at a sampling rate of 192 kilobytes per second (kbps). I then used Sound Studio 3.5.5 and Audacity 1.2.6 to generate waveforms and spectrum analyses of these digital versions.

Other software used in this research is NeoOffice, for the listening datasheet and database, Finale 2008, for transcriptions and reductions, OmniGraffle 4.2.2, for the arch-maps, Transcribe! 7.40.4 and Amazing Slow Downer OS X 3.1.2, during the listening process, and Microsoft Word 2008 for Mac, for the writing, editing, formatting, and layout of the prose of the dissertation.

There has been no shortage of theories of musical form, particularly within the last century. While popular music scholarship certainly has gained prominence and credibility, little research has been published regarding form in popular music, perhaps due to the genre's immense (and rapidly-growing) volume. Using the music of U2, this dissertation is

49. Allan F. Moore, "U2 and the Myth of Authenticity in Rock," *Popular Musicology* 3 (1998): 30.

an attempt to put forth a theory of form and style in rock music by fusing previous methods of form analysis (e.g. reductions, lyrical, and harmonic analyses) with newer analytical methods such as electronic timbral analysis through waveform and sonic spectrum graphs.

CHAPTER 3

INTO THE HEART: General Style Characteristics

In this chapter, I will consider the most prominent characteristics that comprise U2's unique sonic signature, as determined by extensive listening to and analysis of the band's entire studio catalogue. I demonstrate that the unique "U2 sound" is not created by a single element alone, rather by a specific combination of harmonic, timbral, textural, and lyrical elements. The features considered in this chapter include active bass lines, syncopated percussion patterns, an echo/delay effect on the guitar, dynamic use of the stereo field, guitar harmonics, a muted guitar strum, arpeggiated chords in the guitar parts, and a layered lead vocal part. Each characteristic is unique, producing vastly different sounds and effects from the others; therefore, the characteristics are not paired, grouped, or categorized, but are examined individually. I include definitions of each trait along with examples (in the form of transcriptions, waveforms, and reductions), and in some instances, descriptions and examples of different sub-types of a specific style characteristic.

I identified the characteristics listed above by listening in real time as well as at various slower tempos, and also by determining which traits were common to the greatest number of songs. In other words, the traits presented in this chapter are those that were used the most frequently. They are presented in the order of the frequency of their occurrence, with the element used most often examined first. Table 1 in Appendix A lists the statistical distribution of each style characteristic across U2's catalogue (along with two formal characteristics that are discussed in Chapter 4), and also lists the number of songs in which U2 includes each trait. The primary output source for these listenings was a set of noise-canceling headphones and high-performance desktop speakers.[50] Determining the various instruments, effects, and timbres used also required visual graphic analysis, in the form of waveforms and spectral analysis. If needed, please refer to Chapter 1 for the band's complete discography and legend for the coding system used to identify each song's place within U2's catalogue.

50. Bose QuietComfort® 2 Acoustic Noise Cancelling® headphones; Logitech® Z-2300 THX®-certfied 2.1 speakers.

Active Bass

The bass guitar along with the percussion forms the "rhythm section" of a rock band, providing a rhythmic, metric, and harmonic foundation above which the lead guitar and vocals present and develop melodic ideas and rhythmic motives. Typically, the bass guitar serves as the lowest voice of a harmony, playing on chord changes and simply sustaining those notes until the next chord change. "A bass player's job is usually down in the engine room with the drummer," says Mullen. "But [Clayton takes] a much more musical approach."[51] An "active bass" refers to a bass guitar line that functions as more than just harmonic and metric support for the lead guitar and vocals. It serves two main functions: 1) It is another prominent layer of the texture that, in conjunction with the percussion, supplies a steady rhythmic pulse, giving the song a sense of motion and helping it propel forward from one measure, phrase, or section to the next; and 2) It provides another melodic line in addition to those already present in the lead guitar and the vocal line, thereby creating a varied, polyphonic texture. This multi-voice texture helps the band achieve a more expansive and intricate sound than their four-piece instrumentation would initially seem to suggest.

The most common active bass pattern in U2's repertoire is a steady eighth-note pulse. Rather than playing only when the harmonies change (primarily on downbeats), Clayton plays the pitch repeatedly throughout the measure in eighth notes, providing a constant pulse that helps push the song forward. "Gloria" (I:B:1) illustrates clearly this type of active bass. Figure 3.1 is a transcription of the song's introduction. Although the harmonies change in a predictable 2-1-1-measure pattern, it is the relentless, driving eighth-note rhythm that designates this particular bass part as an "active" one. By playing on every beat and almost every beat division, Clayton bolsters the bass guitar's presence in the song's texture, making it a featured layer rather than relegating it to a background element. Some other songs in U2's catalogue that use this first type of active bass line are "Sunday Bloody Sunday" (I:C:1), "With or Without You" (II:B:3), "Who's Gonna Ride Your Wild Horses" (III:A:5), and "When I Look At The World" (IV:A:9).

51. McCormick, *U2ByU2*, 72.

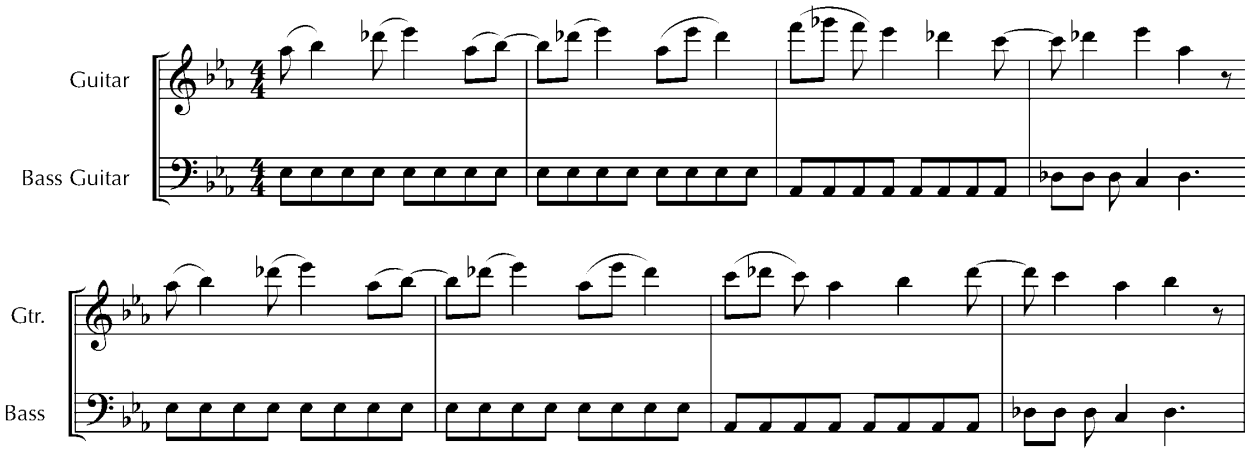


Figure 3.1 "Gloria," introduction, 0:14-0:27.

Figure 3.2 is a transcription of a commonly used variation of the previously-described active bass pattern. Rhythmically, the steady eighth-note pulse in the bass guitar of "Beautiful Day" (IV:A:1) is virturally the same as in "Gloria." The harmonic rhythm, however, is more rapid in "Beautiful Day," changing five times within the span of four measures, as opposed to just twice in the same span in "Gloria." In this example, both the physical and harmonic rhythms contribute to the "active" nature of the bass line.

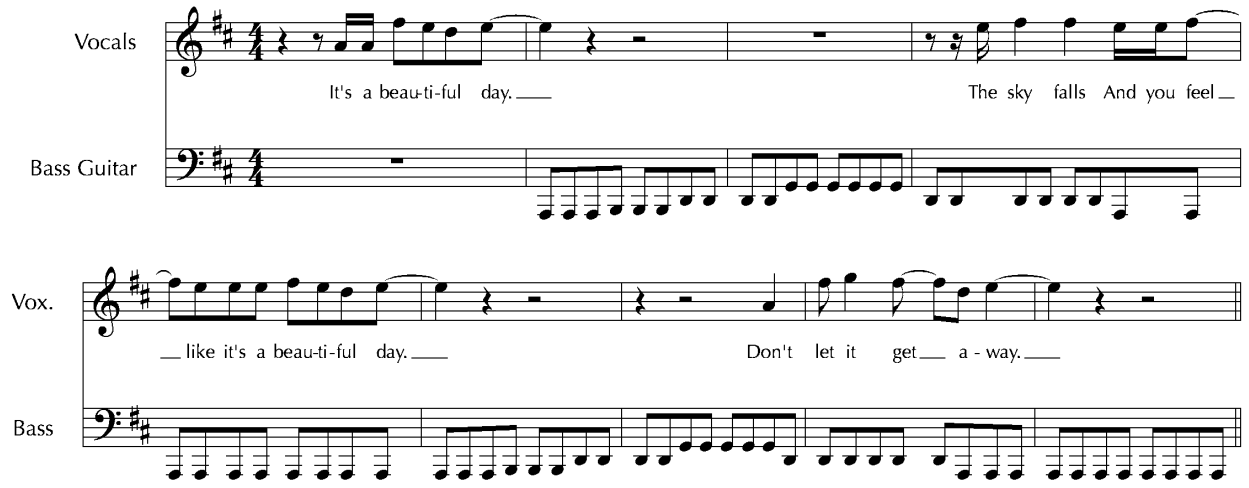


Figure 3.2 "Beautiful Day," chorus, 0:56-1:10.

Although released nineteen years after "Gloria," "Beautiful Day" (and many of the other tracks on *All That You Can't Leave Behind*) is reminiscent of the band's earlier albums, and even recalls the bass lines of punk rock legends The Ramones (e.g. "Blitzkrieg

Bop"; see Figure 3.3) and The Sex Pistols (e.g. "Streets of London"; see Figure 3.4), both of whom served as early and important influences on U2. Because of the electronic-centered sound of their radically different third period, U2 had come under intense scrutiny from both critics and fans alike. *All That You Can't Leave Behind* ushered in their fourth style period, one that, lyrically, musically, and stylistically harkened back to the U2 of the early- and late-1980's, and bass lines such as those found in "Beautiful Day" symbolize U2's return to the rock-based sound of that time. Other examples of this type of active bass include "Rejoice" (I:B:4), "I Still Haven't Found What I'm Looking For" (II:B:2), "Even Better Than The Real Thing" (III:A:2), and "City Of Blinding Lights" (IV:B:5).

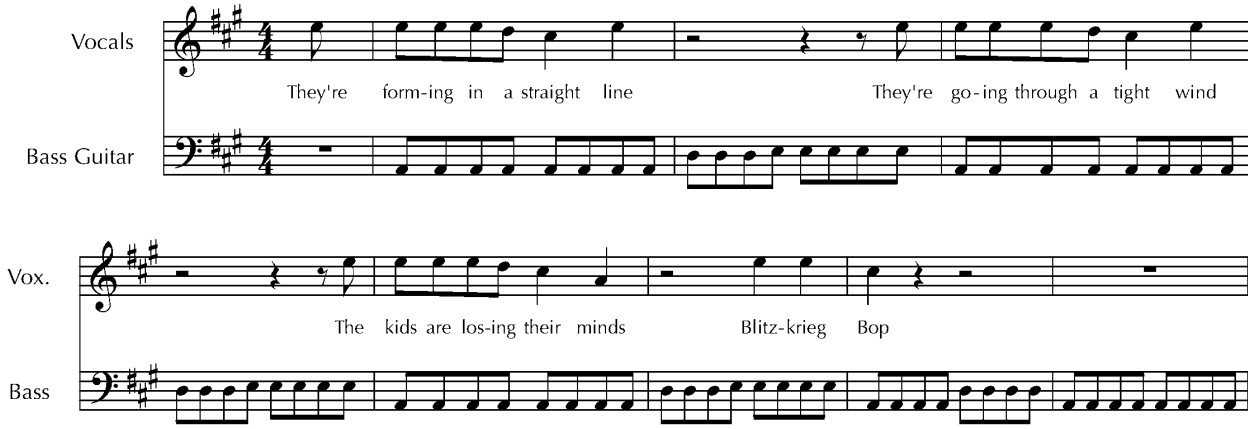


Figure 3.3 "Blitzkrieg Bop," 0:32-0:43.

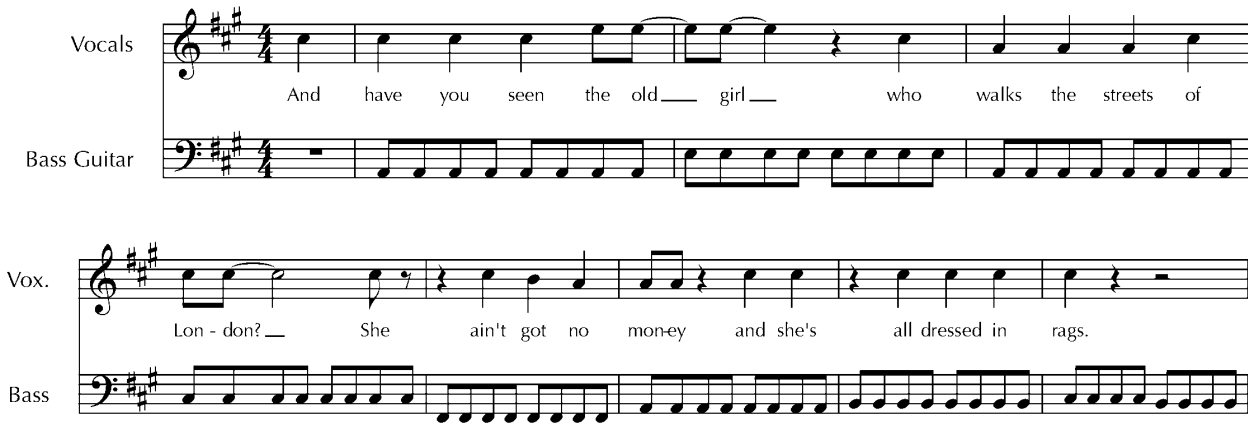


Figure 3.4 "Streets of London," 0:56-1:06.

"Please" (III:C:11) incorporates an example of a third kind of active bass line. Similar to the first two types presented in the previous two examples, the rhythm of the bass in "Please" is a steady stream of eighth notes, as shown in Figure 3.5, thereby qualifying it as "active." Its continuous motion, however, is different from that in "Gloria" and "Beautiful Day." The bass line in "Please" is characterized by an undulating contour, whereas the bass in the two earlier transcriptions moves in a more straightforward, almost linear, fashion. Chromaticism also contributes to the active nature of the bass line. Coupled with the constantly changing contour, this chromaticism lends a melodic quality to the bass part, further enhancing its prominence within the song's texture. "Please" comes from U2's heavily-criticized (yet highly underrated) third style period. While the eighth-note stream links it to earlier U2 tracks, the overall character of the bass line of "Please" clearly mirrors the band's stylistic "departure" of the 1990's.

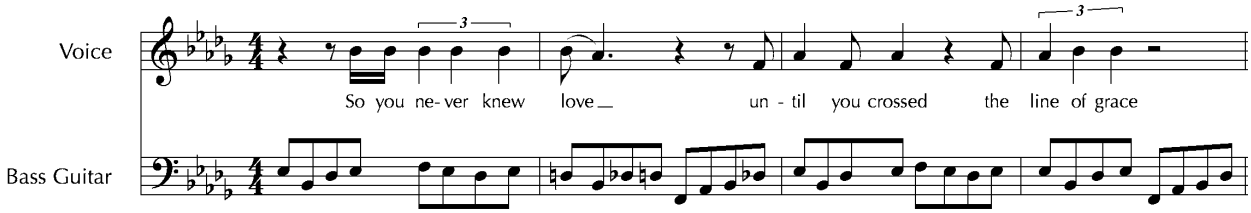


Figure 3.5 "Please," verse, 0:36-0:45.

Many other examples of this third type of active bass are present in U2's output, including "I Threw a Brick Through a Window" (I:B:3), "In God's Country" (II:B:7), "Last Night On Earth" (III:C:6), and "Vertigo" (IV:B:1).

The Unforgettable Fire is the first album of U2's second period, and therefore presents music that is markedly different from the first three album releases. Gone were the days of tedious working and re-working of lyrics, recording, and overdubbing tracks of a song. The band hired a new production team and began to work more spontaneously in the studio. The bass line in "Bad" (II:A:7) reflects this stylistic shift. Immediately evident from the transcription in Figure 3.6 is the difference in rhythm from Figures 3.1, 3.2, and 3.5. In those instances, the rhythm is a continuous eighth-note pulse; in "Bad," Clayton scatters rests and incorporates syncopation into his line.

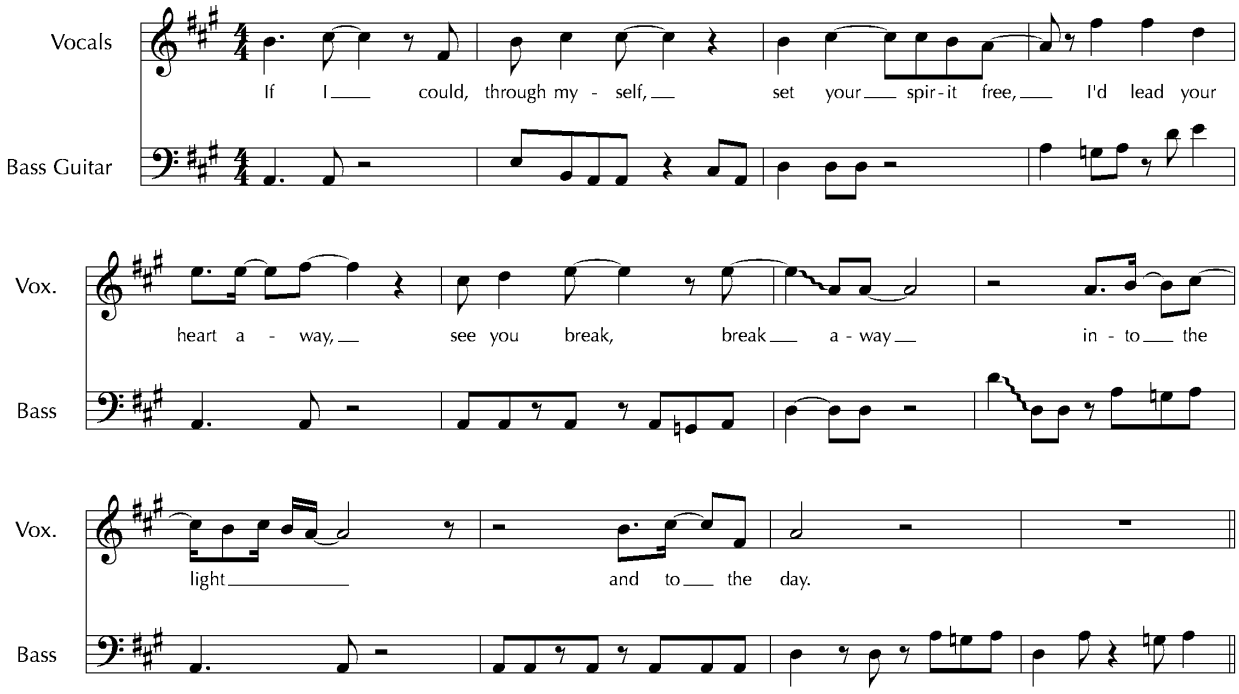


Figure 3.6 "Bad," verse, 1:50-2:19.

These dub-inspired rhythms lend an improvisatory feel to the track while also helping to propel the song forward.[52] As Clayton recounts, "'Bad' was something we had done with [producer] Brian [Eno] as a sort of impro [*sic*] piece, and he wouldn't let us replay it or change anything, so the improvisation stands pretty much as is."[53] There is also a melodic quality to the bass line in "Bad," one afforded by its range and rhythmic interaction with the vocal line. Other dub-like active bass lines can be found in "Red Light" (I:C:8), "One Tree Hill" (II:B:9), "Some Days Are Better Than Others" (III:B:7), and "A Man And A Woman" (IV:B:7).

No one part of U2's ensemble is more important than the others, and certainly Adam Clayton's bass lines take second billing to no one. Statistically the most prevalent style characteristic (please see Table 1 in Appendix A), these active bass lines serve not only as the band's harmonic foundation, but also as an integral middle- and foreground

52. "Dub music" is rooted in Jamaican music, evolving out of 1960's reggae. It is primarily an instrumental genre that creates a different version of an existing song. Dub music emphasizes the percussion and bass parts. Effects such as echo and reverb are used extensively, along with a very low bass (guitar) part, which usually has sub-harmonic effects applied to it in order to achieve an even lower pitch.

53. McCormick, *U2ByU2*, 152.

texture without which U2 would not sound the same. The Edge recognized that fact early on: "[Clayton] was such an unorthodox bass player, and [Mullen] and [I], in an attempt to make [the band] work, developed our mutual styles to accommodate [Clayton's] approach. In some ways, [Mullen] and I were like the rhythm section and [Clayton's] really forceful bass playing was almost like the lead, it was very much out in the forefront."[54]

Syncopated Percussion

U2's percussion simultaneously provides a steady pulse and a solid metric organization while many times also emphasizing "offbeats." An "offbeat" is any point in the metric organization that usually is not accented. For example, in a typical $\frac{4}{4}$ rock texture, the snare drum is played on the second and fourth beats. Figure 3.7 illustrates a conventional rock and roll drum kit pattern, with the ⊗'s representing open hi-hat cymbal hits. An example of an offbeat, in this case, would be an unexpected snare hit on beats one and/or three, instead of the expected two and four, or an accented hit on the second half of any beat within the measure.

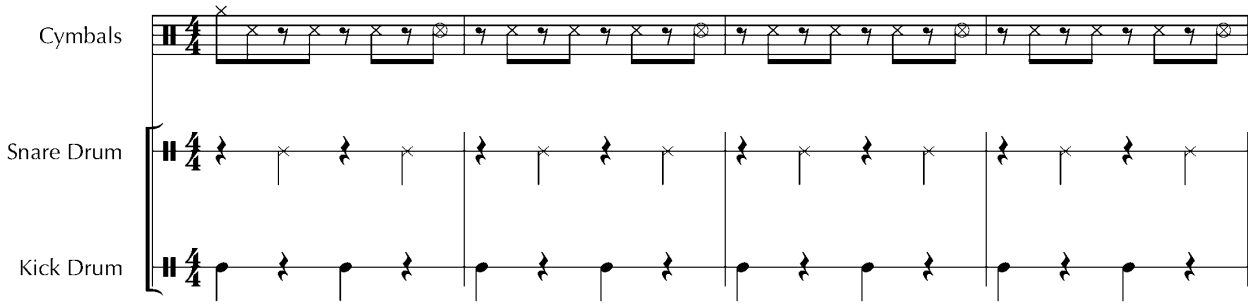


Figure 3.7 A typical rock drum kit pattern.

Mullen employs several syncopation techniques in his drumming patterns. As rock and roll legend Bruce Springsteen notes, "[U2 has] very modern rhythms going. Rather than a straight 'two and four,' [Mullen] often plays with a lot of syncopation. The drums often [sound] high and tight and he [swings] down there, and this [gives] the band a

54. McCormick, *U2ByU2*, 72.

unique profile and [allows] their rock textures to soar above the bed of his rhythm."[55] U2's first mainstream single, "I Will Follow" (I:A:1), features an uncomplicated drumming cycle with a syncopated snare drum in the second measure of the four-measure pattern. Mullen replaces the snare hit on beat four with hits on the immediately surrounding eighth notes, as marked by the arrows in Figure 3.8, below.

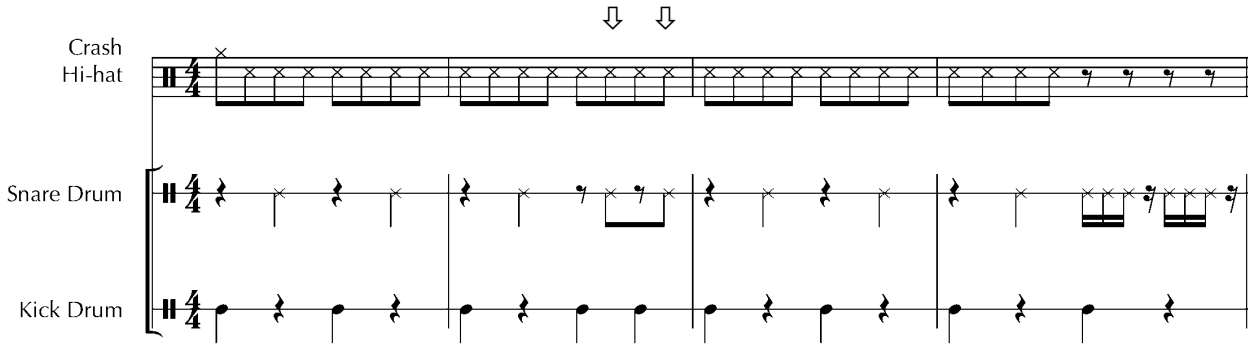


Figure 3.8 Drum kit pattern, "I Will Follow."

"Babyface" (III:B:2) highlights a drumming pattern that uses the kick drum in addition to the snare to incorporate syncopation. A maraca and tambourine provide the steady pulse, similar to the hi-hat in "I Will Follow." Instead of playing the kick drum on the third beat of each measure, however, Mullen hits it on the fourth and last eighth notes of each measure, giving the pattern more of a "swing" feel. He syncopates the snare hits as well, striking the drum "early" on the sixth eighth-note of each measure rather than the seventh eighth-note, as in a more conventional rock pattern. Part of what makes the percussion of "Babyface" stand out is that the syncopation is confined only to the verses. The drums in the chorus section revert to a more basic rhythm, one that is closer to the "straight two and four" rhythm to which Springsteen refers, with the snare coming in on the second and fourth beats (third and seventh eighth notes, respectively). Figures 3.9a and 3.9b compare the patterns of the two sections.

Figure 3.10 is a transcription of the percussion in the verse of "Stuck In A Moment You Can't Get Out Of" (IV:A:3). Together, the kick drum and hi-hat cymbals provide the

55. Bruce Springsteen. U2 Rock and Roll Hall of Fame induction speech, transcript. (Cleveland, OH: 17 March 2005).

syncopation in this pattern. The kick drum enters "early," on the second half of the second beat instead of directly on beat three, and the simultaneous hi-hat hit at this point is in an expected location. However, the following kick and hi-hat hits, on the second half of the third beat, are unexpected for two reasons. First, compared to the model illustrated in Figure 3.5, the kick drum hit is not in its typical placement within the measure. Second, the timbrally distinctive kick drum and open hi hat hits occur on a weak portion of the beat, thereby accenting an otherwise unaccented portion of the measure.

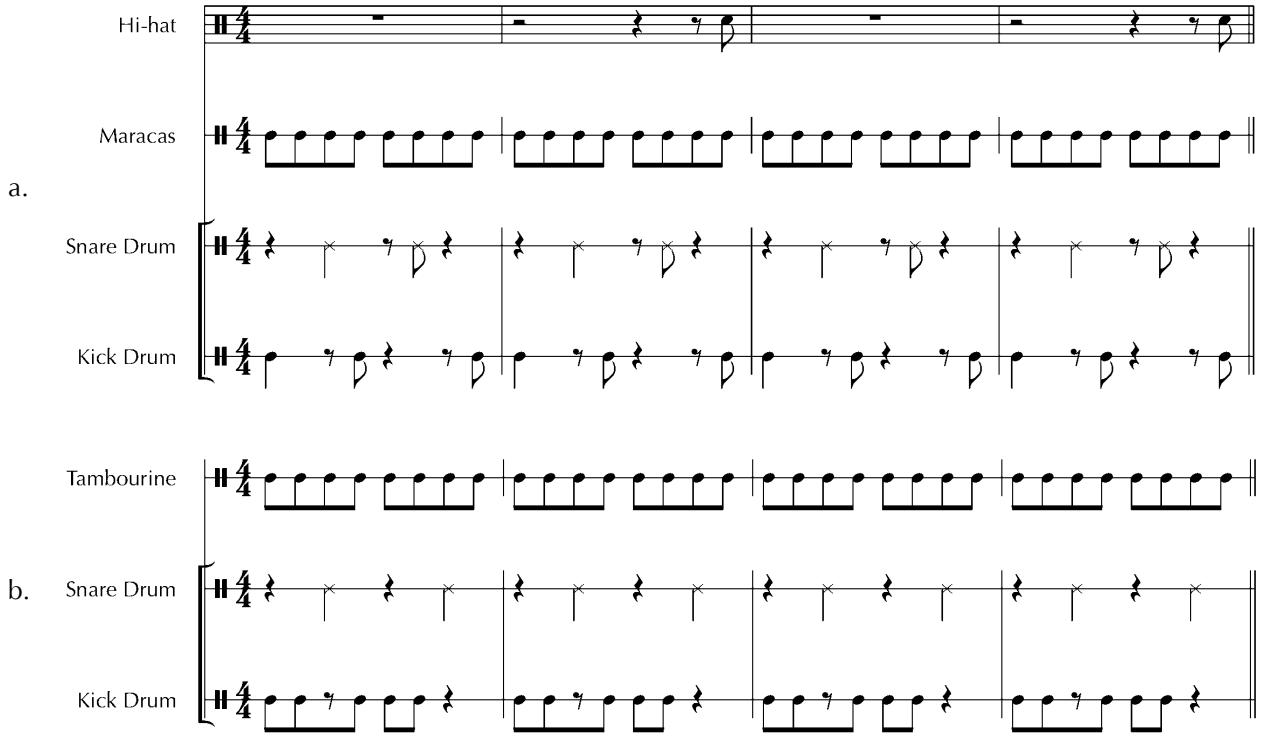


Figure 3.9 Drum kit patterns, "Babyface": a. verse, b. chorus.

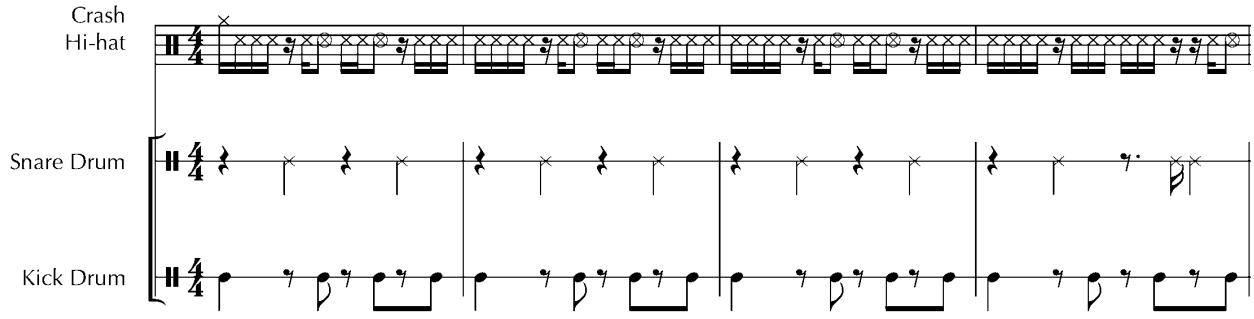


Figure 3.10 Drum kit pattern, "Stuck In A Moment You Can't Get Out Of," verse.

There are dozens of other syncopated drum patterns in U2's catalogue, to be sure. Larry Mullen, Jr. certainly is not the first drummer to incorporate syncopation (John Bonham of Led Zeppelin, Carter Beauford of Dave Matthews Band, and Lars Ulrich of Metallica, to name but three others, also syncopate their dumming patterns regularly). What is remarkable about Mullen's drumming, however, is how often he includes offbeats in his drum lines, whether subtly with an open hi hat, or blatantly with a kick drum and crash cymbal. As noted in Table 1 in Appendix A, more than three-quarters of the songs analyzed in this dissertation use syncopation in their percussion. Some other songs that include noteworthy examples of syncopated percussion are "Sunday Bloody Sunday" (I:C:1), "Angel of Harlem" (II:C:10), "Please," and "In A Little While" (IV:A:6).

Echo/Delay Effect

Perhaps the most readily distinguishing and most immediately recognizable characteristic of the "U2 sound" is the echo/delay effect on The Edge's lead guitar parts. "Edge acquired his echo unit," Bono remembers, "and that changed everything. We were looking for that otherness which we just couldn't get out of power chords."[56] Pink Floyd and The Cure were among only a handful of bands using such effects to color their songs, but Bono was quick to acknowledge there was more to get out of them. He and the rest of the band realized early that mastering this echo/delay could lead to an unmistakable sound, one that would separate U2 from other rock acts, past and present, giving them an instantly identifiable signature.

The Edge is among only a select few guitarists "who defined the sound of their band and their times…[with] those rhythmic two-note sustained fourths, drenched in echo," describes Springsteen. "There are only a handful of guitar stylists who can create a world with their instruments, and he is one of them. The Edge's guitar playing creates enormous space and vast landscapes."[57] One of the hallmarks of U2's style is the ability to produce a much more expansive sound that belies its four-man arrangement, and nowhere is this more evident than in The Edge's guitar parts. Applied either during recording

56. McCormick, *U2ByU2*, 72.
57. Springsteen, Rock and Roll Hall of Fame induction speech.

or in post-production, this effect simulates an echo, providing an artificial delay and creating the illusion that 1) he is playing more notes than he actually is, 2) he is playing in a resonant, echo-inducing space, or 3) there is more than one guitarist playing. The Edge sets the echo/delay timing anywhere from 150 milliseconds (ms) to 550ms, depending on the tempo of the song, the number of repeats he requires, and the placement of the echoed notes within the measure.[58]

The echo effect has been a part of U2's sound since their very first album, on such songs as "I Will Follow" (I:A:1), "The Electric Co." (I:A:10) and "Fire" (I:B:5). It was not until their second period, however, that U2 began to utilize this effect on a regular basis. Perhaps the clearest example of The Edge's echo/delay is in the introduction to "Bad." Figures 3.11 and 3.12 are waveform representations of measures 1 and 4 of the introduction, respectively. The upper portion of each picture represents sound from the left channel; the right channel is illustrated in the bottom half. Listed across the top of each waveform are time markers in "minutes and seconds" (mm'ss) format. I applied no modifications, volume balancing, or level equalization to the analysis: the graphs are representations of digital copies (sampled at 192 kbps) of original album release as analyzed by the software. Both these illustrations are magnified 4x to identify more clearly the timing of the sound signals and their echoes. Figure 3.11 is useful in determining the delay timing in "Bad." The first spike in the graph is the original guitar tone, followed shortly by a smaller spike, which represents the echo.

Based on the waveform, the delay in "Bad" is approximately 460ms. Figure 3.12 confirms this timing. Similar to the previous example, labeled vertical lines indicate occurrences of both the original signals ("D-1," "D-2," "D-3," "A-1," "A-2") and their echoes ("D-1 echo," "D-2 echo," "A-1 echo," "A-2 echo"). Each echo appears approximately 460ms after its corresponding signal. Figure 3.13a is a transcription of the original guitar melody in the first four measures of the song; Figure 3.13b is a transcription of the same

58. Tim Darling, "A Study of The Edge's (U2) Guitar Delay". Available from http://www.amnesta.net/edge_delay; Internet; accessed 10 September 2007.

melody (upward stems) and its echo (downward stems). The echo supplies not only textural complexity and sonic spaciousness, but also rhythmic variety to the guitar line.

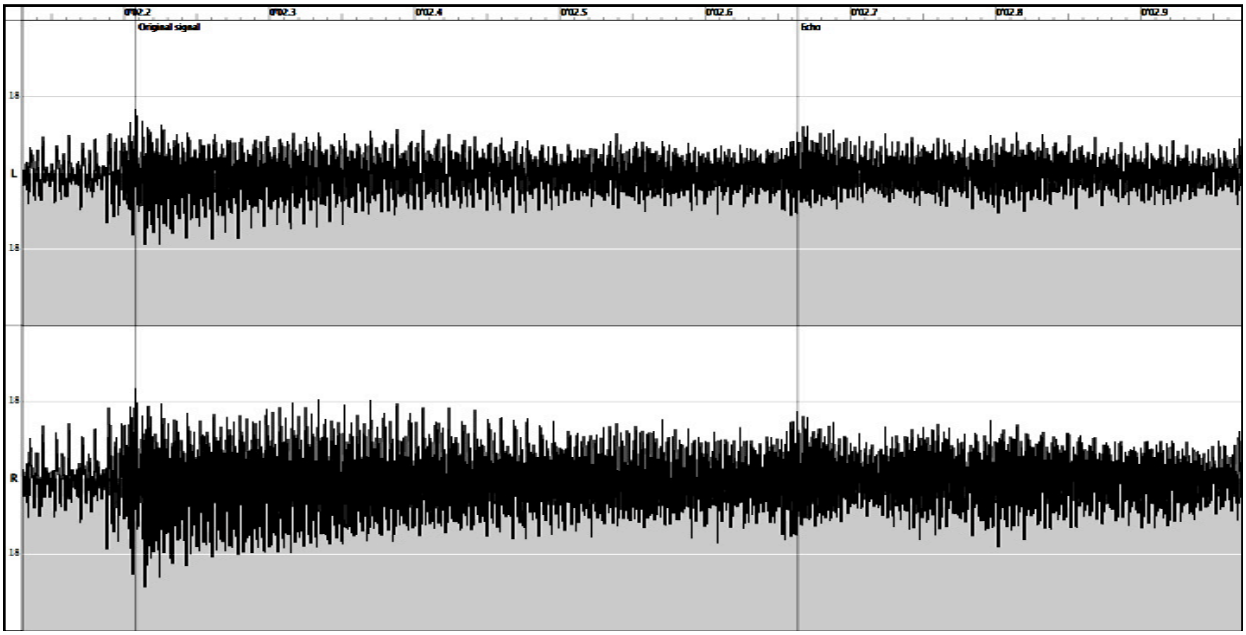


Figure 3.11 Waveform, "Bad," measure 1.

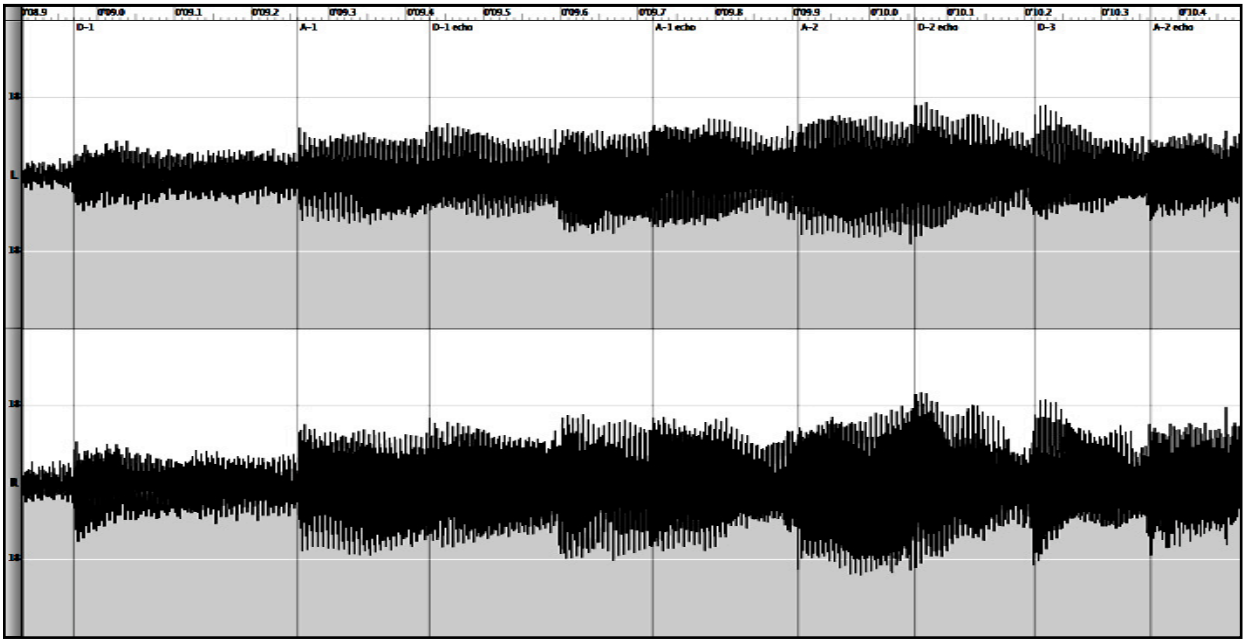


Figure 3.12 Waveform, "Bad," measure 4.

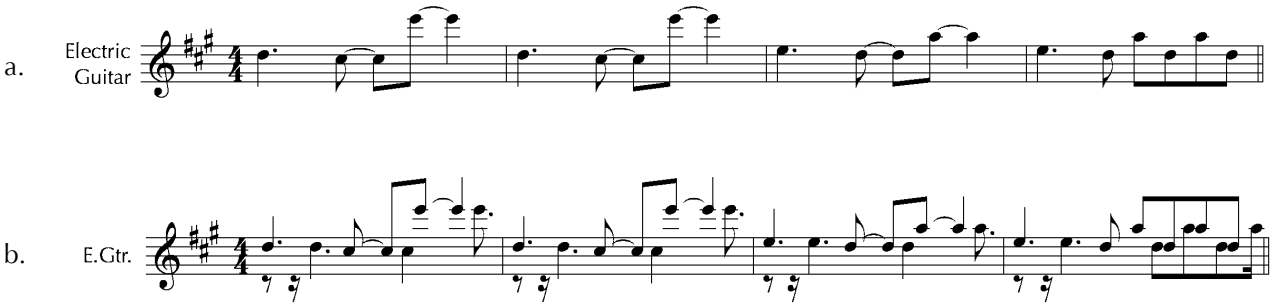


Figure 3.13 "Bad": a. Guitar motive, b. Guitar motive with echo.

"Where The Streets Have No Name" (II:B:1) also features a prominent echo/delay effect. A long, two-part introduction presents the main guitar motives, both of which utilize The Edge's trademark effect. The first part is in $\frac{3}{4}$ meter and uses an eighth-note arpeggiated chord motive, as transcribed in Figure 3.14a; Figure 3.14b is a transcription of the motive (upward stems) with the applied echo effect (downward stems).

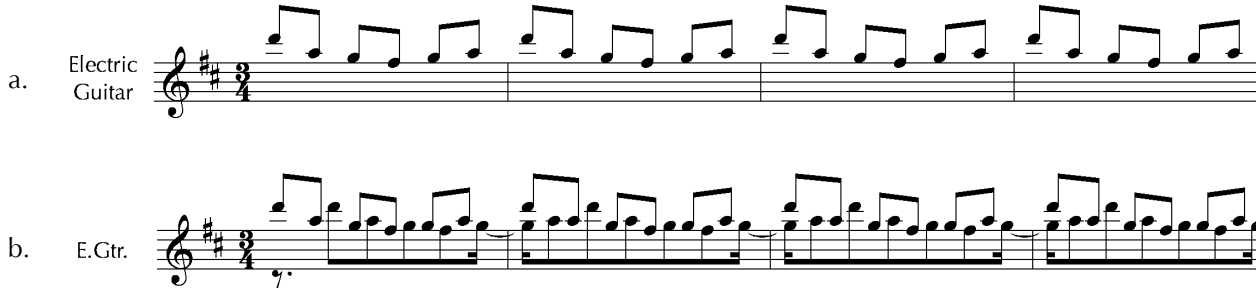


Figure 3.14 "Where The Streets Have No Name": a. Guitar motive 1, b. Guitar motive 1 with echo

In this part of the song, the delay is three sixteenth notes. Unfortunately, the limitations of the Sound Studio software allow for only approximations of the precise timing of the echo. However, relatively simple calculations produce an estimated time of delay in milliseconds. "Where The Streets Have No Name" is played at a tempo of about 124 beats per minutes (bpm). One measure consists of three beats, and thus six eighth notes. Since there are 60 seconds in every minute, then:

$$\frac{1 \text{ minute}}{124 \text{ beats}} \times \frac{1 \text{ measure}}{6 \text{ notes}} \times \frac{3 \text{ beats}}{1 \text{ measure}} \times \frac{60 \text{ seconds}}{1 \text{ minute}} = \frac{.242 \text{ seconds}}{1 \text{ note}}$$

These calculations indicate that each eighth note is 242 milliseconds in duration. Therefore, each sixteenth note lasts 121 milliseconds. The delay is 3 sixteenth notes, or 121ms x 3 = 363ms.

A waveform of "Where The Streets Have No Name" provides visual evidence of this echo/delay timing. Although played at the same tempo as the first part, the second part of the introduction is in $\frac{4}{4}$ meter and includes a strummed-chord motive. Figure 3.15 is a waveform of one beat, at 2x magnification. Four distinct sound signals are visible, each separated by vertical lines for clarification. Each group of waves represents one sixteenth note and is approximately 121ms long, confirming the duration calculated above.

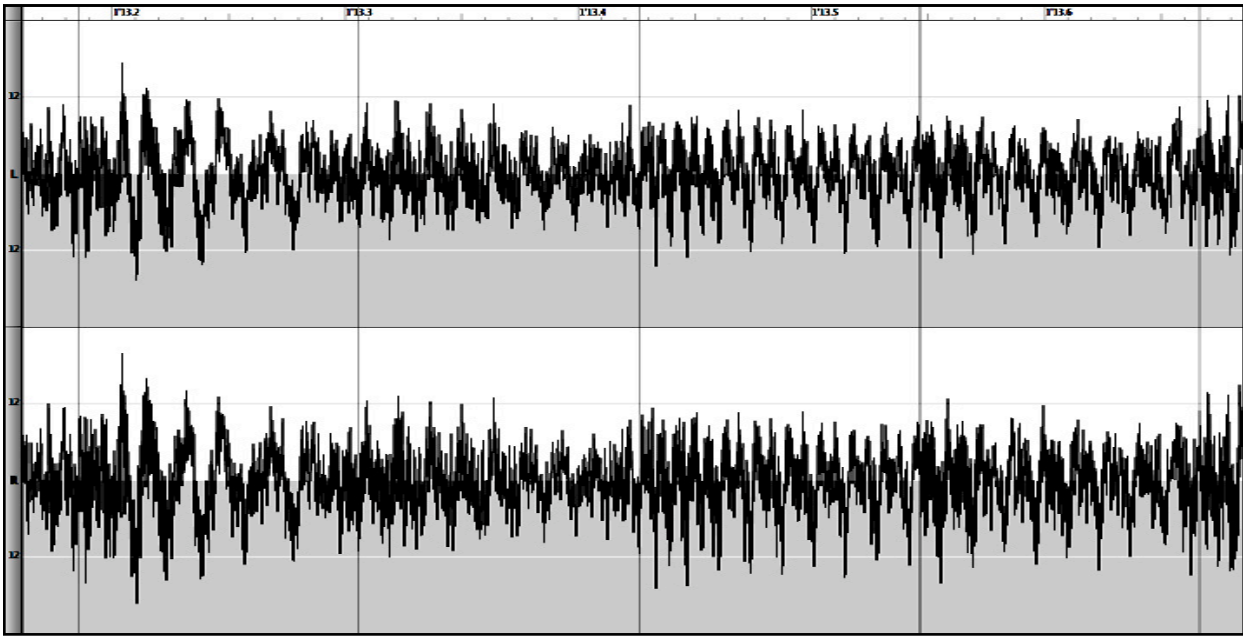


Figure 3.15 Waveform, "Where The Streets Have No Name," one beat.

Figure 3.16 is a four-measure transcription of the motive. Initially, the steady sixteenth-note rhythm makes it sound as if The Edge is using an echo effect in this part of the introduction.

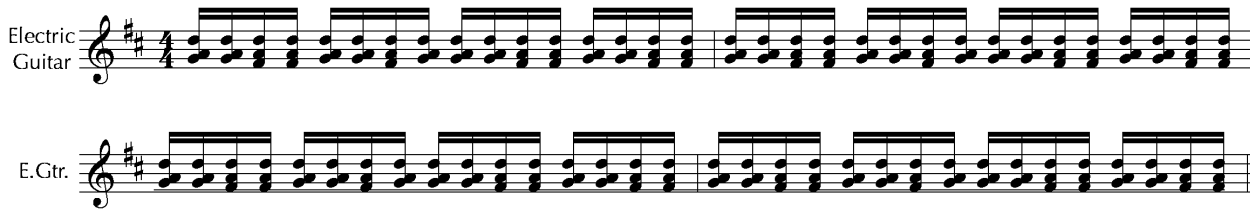


Figure 3.16 "Where The Streets Have No Name," guitar motive 2.

Closer inspection, however, reveals that he is indeed playing all the notes, with the evidence for this fact resting in the first two beats of the pattern. In the previous part of the introduction, the delay timing was three sixteenth notes. The pattern of repetition in the second part—one sixteenth note—does not correspond with the delay timing. Further, the third sixteenth note of the second beat is not repeated at all within the measure, ruling out the possibility of a shortened echo signal—from three sixteenths down to one sixteenth—in this part of the introduction.

Bono describes The Edge's echo/delay effect as taking guitar playing to another place. "Suddenly you're in outer space instead of suburbia."[59] The Edge agrees, saying, "Echo takes a guitar part somewhere else….The biggest difference between me and other guitar players is that I don't use effects to color my guitar parts. I create guitar parts using effects."[60] Indeed, that echo/delay has helped elevate U2 to the ranks of the elite in rock music. Understated yet enormously influential, The Edge's minimalist, Reich-like echoes and delays have become a key component of U2's unmistakable signature.

Dynamic Stereo

U2 certainly has benefited from the rapid technological developments in the recording industry throughout the its career. In addition to the echo/delay effect on The Edge's guitar lines, another characteristic of the band's sound that has benefited from these advancements is its use of the stereo field, a property I call "dynamic stereo," which refers to conscious and deliberate recording and mixing of songs using separate left and right channels. Not all instruments and sounds in U2 songs are mixed exclusively into one

59. McCormick, *U2ByU2*, 72.
60. Joe Bosso, "Memory Man," *Guitar World*, September 2005, 61.

channel or the other. Frequently, the lead vocals, bass guitar, and essential percussion (kick drum, snare drum, hi-hat cymbals) are mixed equally between the left and the right, placing them at the "center" of the sound.

U2 is by no means the first or only group to record and mix songs in distinct stereo channels. Revolutionary bands like The Beatles (e.g. "Helter Skelter," "Come Together") and Led Zeppelin (e.g. "Ramble On," "The Rain Song") employed dynamic stereo long before U2 burst onto the pop music scene. What distinguishes U2's use of stereo from others' is U2's combination of both overt and subtle stereo in a great number of their songs, particularly their commercially successful hits. Overt channel separation applies mainly to foreground instrumentation: the lead guitars or lead vocals confined to one channel, or alternating successively between the two. The band also uses the stereo field more subtly for background textures such as ride or crash cymbals, background vocals, rhythm guitars, and/or various electronic sound effects.

Taking full advantage of modern technology and incorporating stereo recording and mixing help U2 broaden the spatial sensation of its songs. In conjunction with the echo/delay effect, the dynamic stereo technique helps the band sound as if they are playing in a wide-open space. By distributing the various instruments and sound layers between the two channels, U2 creates a vast sonic environment. Dynamic stereo also aids the band in constructing a complex, intricate soundscape, separating the field of sound into three zones (left, "center," right), as opposed to just one (mono) or two (left and right), a kind of three-way "horizontal stratification" in addition to the dichotomy of foreground and background textures. U2's sound is simultaneously concentrated and expansive, focused yet also broad.

Achtung Baby is the first album of U2's third period, the release that ushered in the band's foray into electronic experimentation. "Zoo Station" (III:A:1) boldly announces the style shift at the very outset of the record, with heavily distorted electric guitar bursts sliding among three chords and a distorted percussion line separating these guitar explosions. As Figure 3.17 shows, these guitar entrances take place only in the left channel, represented by the relatively large sonic registers at 0:04, 0:07, 0:11, 0:15, 0:18, while the smaller indications in both the right and left channels at 0:09, 0:13, and 0:16 illustrate the

percussion entrances. The rest of the song's instrumentation, along with a more steady, industrial-sounding percussion line, gradually eases in underneath the guitar riff in both channels. A sudden intensification of the levels at 0:30 and 0:45 indicate two important points in the introduction: the entrances of the bass guitar and lead vocals, respectively.

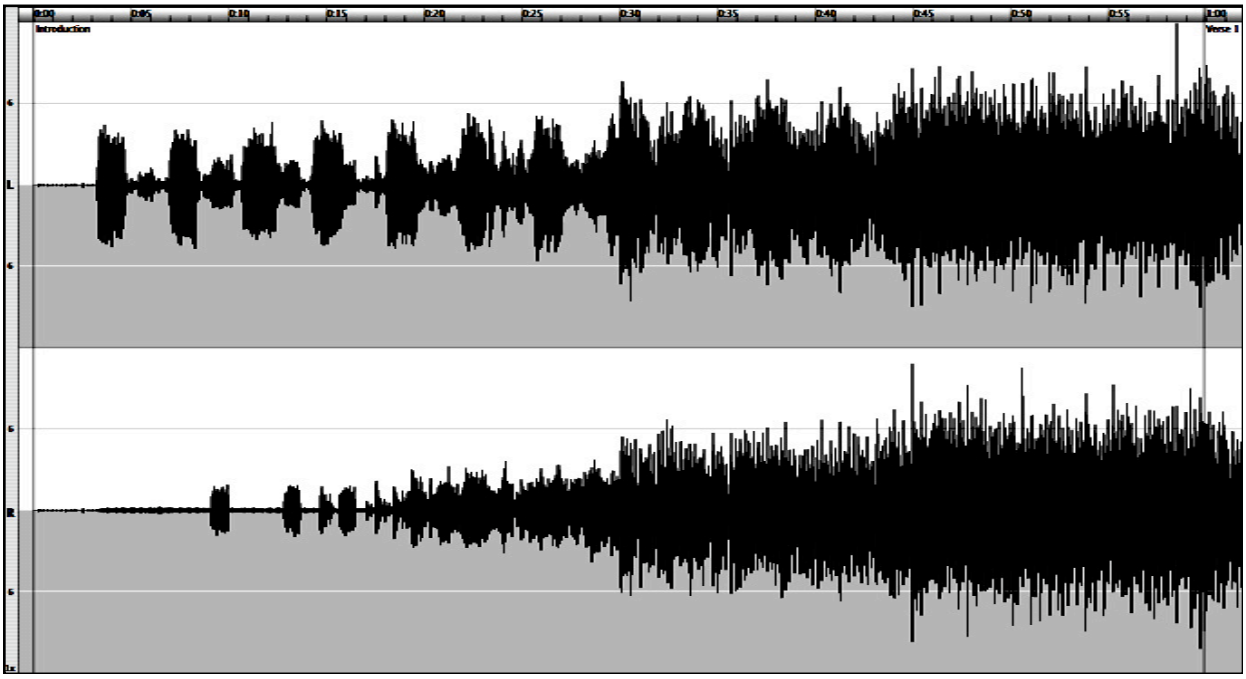


Figure 3.17 Waveform, "Zoo Station," introduction.

The use of stereo in "Zoo Station" is not just for aural effect, but also for interpretative reasons. There is a connection among the lyrics, the band's style shift, and the use of dynamic stereo. Dividing the sonic space into several distinct spaces—left, "center," and right channels, along with foreground and background layers—gives the band a multi-dimensional sonic canvas with which to work, thereby allowing concurrent presentation and development of multiple musical and lyrical ideas. In the case of "Zoo Station," the distorted guitar in the left channel represents a shocking introduction to the "new" sound of U2. On the other hand, the right channel gradually fades in, easing the listener into the new sonic territory that U2 has staked out. In effect, the dynamic stereo allows the band simultaneously to introduce the listener gently to a new era in U2's catalogue while also providing a surprise at this seemingly sudden change.

The two channels achieve this effect by presenting their respective material in opposite ways. The distorted guitar in the left channel starts tightly, beginning and ending each burst definitively. As the introduction progresses, however, the distortion loosens and the riff sounds as if it is unraveling. Subsequent entrances and endings become less clearly defined. The gradual degradation of the riff is clearly illustrated in the waveform: the compact burst initially presented at 0:04 slowly expands over the course of the introduction, and eventually assimilates itself into the rest of the song's texture by the cymbal crash at 0:45. Quite the opposite takes place in the center channel. The percussion line, which first enters at 0:09 as a heavily distorted outburst that is hardly recognizable as a standard snare and kick drum percussion timbre, slowly loses much of the distortion throughout the course of the introduction. By the entrance of the bass line at 0:30, there is minimal distortion on the kick drum and the timbre of the percussion line sounds more like that of the familiar rock percussion trap set. Two sonic spaces (left and center), two parts of the ensemble (lead guitar and percussion), two developments (one breakdown, one refinement), all in one introduction: simultaneous development of this kind would not be as effective without using dynamic stereo.

U2 uses the stereo field in a similar fashion in "Walk On" (IV:A:4) in that the left and right channels contain different instruments. "Walk On," however, exemplifies another intention of the deliberate and obvious use of stereo. Here, the separation of channels functions to create acoustic spatial breadth, as opposed to the thematic and stylistic development in "Zoo Station." In Figure 3.18, I divide the introduction of "Walk On" into two parts, each of which clearly demonstrates the differences in the two channels.

The first part of the introduction, "Introduction 1," primarily consists of lead vocals and percussion in the center, with a piano part confined solely to the right channel. As illustrated in the waveform, the levels in the right channel in Introduction 1 are significantly higher than those in the left channel, indicating the piano's presence only in the right side. The second part of the introduction begins when the lead, rhythm, and bass guitars enter around 0:22, thickening the texture and amplifying the song's overall volume. This is indicated in the waveform by the large spike and general increase in the song's levels after 0:22. Similar to the first part of the introduction, the second part incor-

porates differences between the two channels: the minimalist lead guitar line is mixed into just the right channel, the left channel contains the fully-strummed electric rhythm guitar, and the bass is mixed evenly between both sides. The consistently higher levels in the left channel in "Introduction 2" in the waveform suggest this distribution. By spreading the three guitar parts differently across the stereo field, U2 once again creates the illusion of space and openness: three guitars occupy three different sonic spaces (left, center, right), helping to broaden the sound of the song.

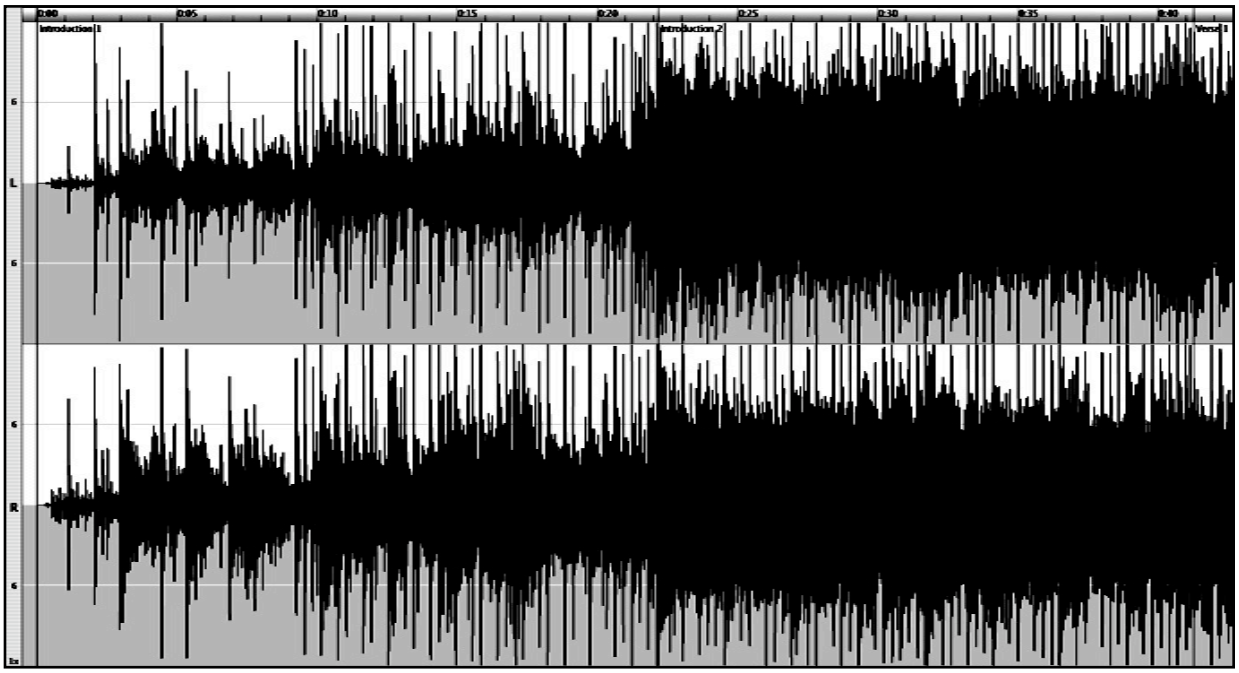


Figure 3.18 Waveform, "Walk On," introduction.

U2's use of stereo is not restricted just to the introductions of songs. "Stories for Boys" (I:A:6) contains examples of both overt and subtle stereo effects in the lead vocals, lead guitar, and percussion. Several distinct peaks in the chorus in the waveform in Figure 3.19 illustrate an alternation between the two channels, beginning in the right channel at around 1:21. Cymbal crashes in the preceding transition alternate between channels (see arrows in Figure 3.20), foreshadowing the chorus lyrics "stories for boys," which alternate between the left and right channels in a similar fashion to the cymbals. These oscillations between channels reflects the general ideas of the song: teenage escapism and the yearn-

ing for new and exciting experiences. The vacillating vocals and cymbal crashes constantly "escape" confinement to just one channel or the sound center.

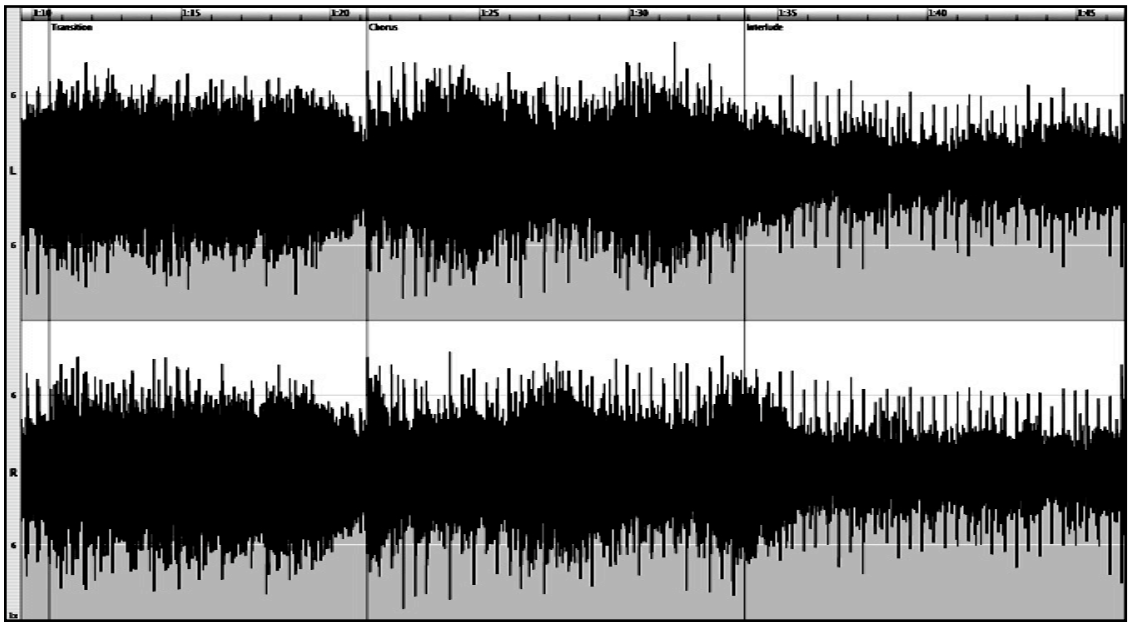


Figure 3.19 Waveform, "Stories for Boys," transition, chorus, first part of interlude.

The interlude of "Stories for Boys" reveals a much more subtle use of dynamic stereo than found in the previous chorus section. It is clear that the lead guitar is mixed almost exclusively through the left channel, but what may not be as readily apparent from a purely aural standpoint is the mixing of the percussion. In the previous two examples, "Zoo Station" and "Walk On," the drums were centered, mixed equally between the two sides; Mullen's percussion in "Stories for Boys" is mixed slightly to the right side, perhaps to balance The Edge's guitar, which is the primary content of the left channel. The waveform detail of the interlude confirms this distribution of instruments. In Figure 3.20, the peak levels of the right channel, which correspond to the quarter note pulse of the kick drum, are consistently higher than those of the left channel, indicating the percussion's mix favoring the right side of the sound field. The undulating pattern of the left channel in this section of the waveform reflects the lead guitar.

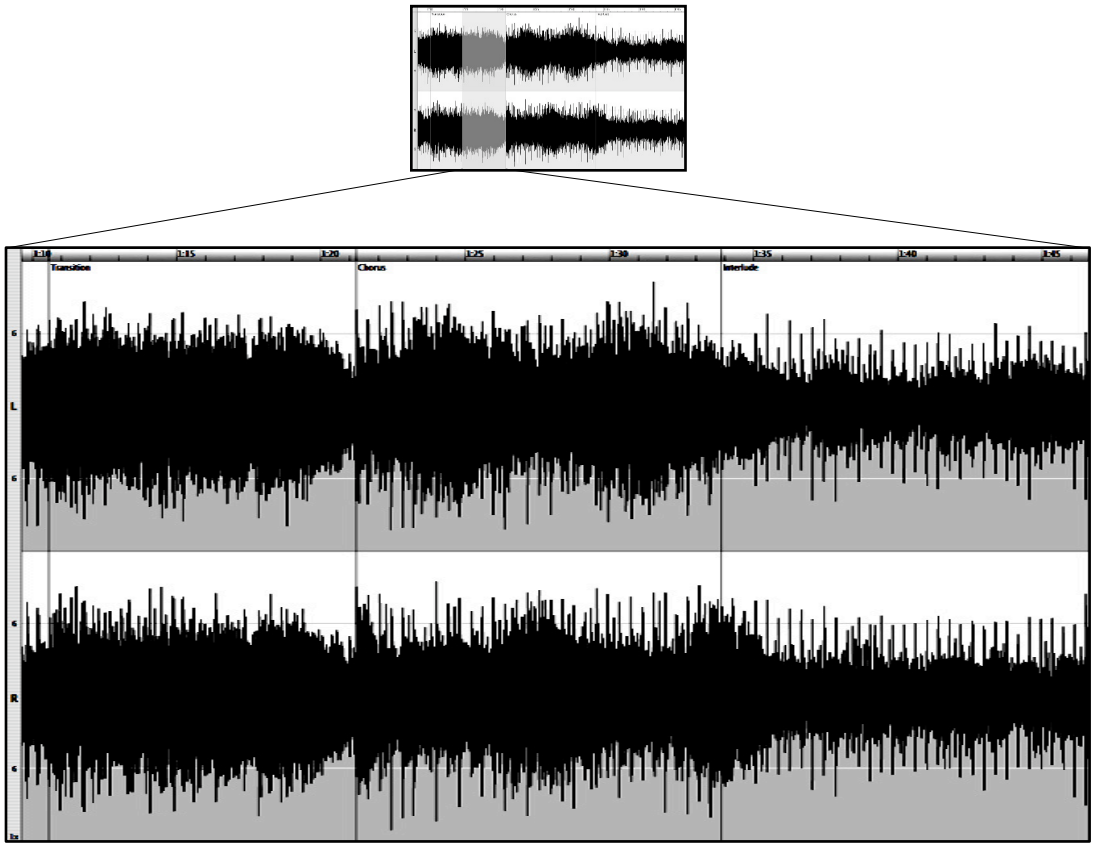


Figure 3.20 Waveform detail, "Stories for Boys," transition.

The waveform presented in Figure 3.21 illustrates an even more subtle use of dynamic stereo. At first glance, the levels in each channel of both parts of the introduction to "Pride (In the Name of Love)" (II:A:2) appear virtually identical. Closer inspection of the waveform, on the other hand, reveals a different mix in each channel: the levels in the left channel are higher than those in the right, as indicated by the overall thicker sound band of the left channel in the waveform. Careful listening to "Pride" confirms the visual evidence. Aurally, the difference is most noticeable in Introduction 1, where the echo effect of the lead guitar is dispersed over the two channels. The left side contains the original tone, with the echo coming through on the right channel, as indicated by the higher overall levels in the left channel waveform. This distribution is much more subtle than in "Stories for Boys." In "Pride," the echo in each channel is adjusted just slightly left and right of center, respectively, rather than fully to each side.

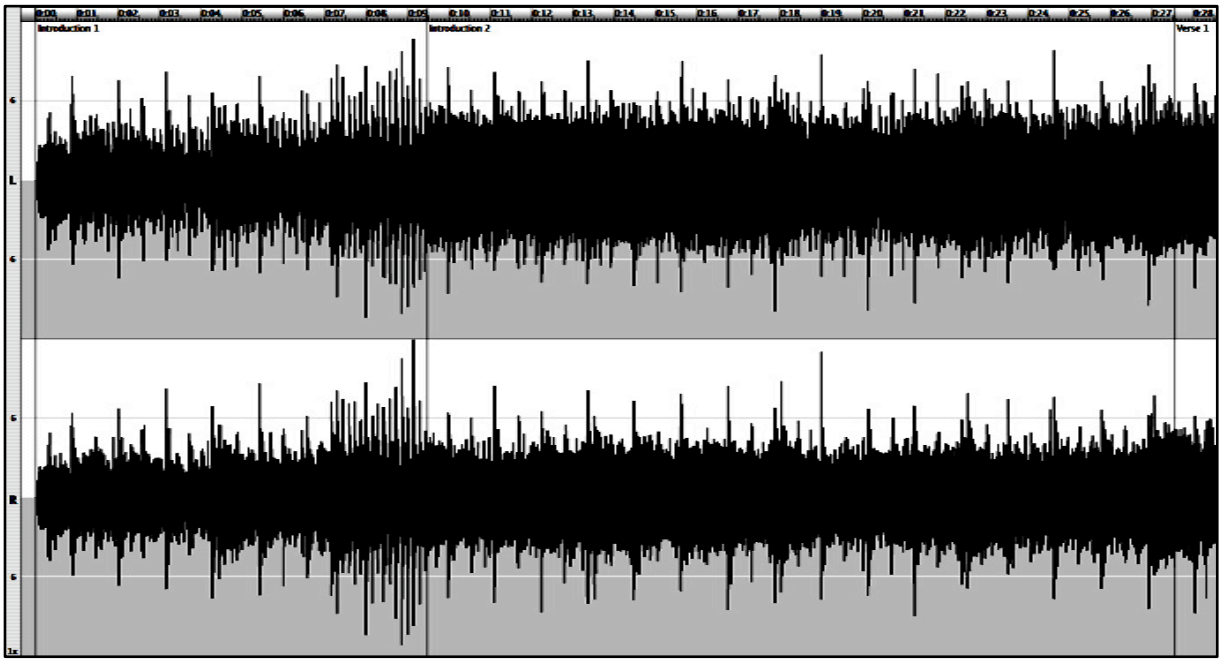


Figure 3.21 Waveform, "Pride (In the Name of Love)," introduction.

The percussion also plays a part in the dynamic stereo in "Pride." Mullen hits a tambourine and a tom drum on the last half the fourth beat of every other measure in the second part of the introduction. These two hits occur in succession, separated by several milliseconds, and each occurs in a different channel: the tambourine in the left and the tom in the right. Arrows mark these events in their respective channels in the waveform and clearly identify the different timings of the instruments in each channel.

Guitar Harmonics

In addition to chord strumming, solo passages, and riffs infused with echo, The Edge frequently incorporates harmonics into a song's texture. The resulting sound has a markedly different timbre from that of a normally fretted string. On an acoustic guitar, harmonics have a ringing, bell-like quality, while on an electric guitar their sound can range from a round and warm tone to a harsh and shrill wail, depending on the amplification and other recording and post-production effects.

The Edge explains that the band's musicial sensibilities resulted from a lack of technical skill: "We replaced virtuosity and songwriting chops with a very good sense of dynamics, [and] being able to create quite different textures in a very simple way. That

was one of our secrets; many of our songs featured breaks and sections where the musical landscape would change completely. And harmonics were one of the ways that we did that. It was a sound that people hadn't really explored much."[61] One example of a "landscape change" occurs on the band's very first album, *Boy*. In "Another Time, Another Place" (I:A:9), The Edge's use of harmonics perhaps is symbolic of the song's title and lyrical content. The first part of the introduction features apreggiations and short scalar passages played with a standard electric guitar timbre. In the second part, beginning at 0:25, the guitar line changes to arpeggiated harmonics, outlining an E♭m, B♭minor, and D♭ triads in a high register (see Figure 3.22 for a transcription). The harmonics add another dimension to "Another Time, Another Place," lending a rounder, ringing tone to the guitar that contrasts the more aggressive, driving sound used in the first 25 seconds of the introduction.

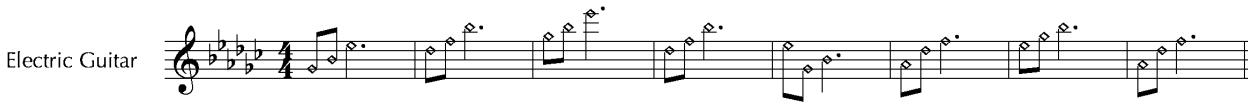


Figure 3.22 Harmonics, "Another Time, Another Place."

"With Or Without You" (II:B:3) features The Edge playing harmonics on an Infinite guitar.[62] The combination of the infinite sustain and the harmonics produces a focused, intense, high-pitched wail, "a beautiful haunting ghost of a guitar sound," one that manages to soar above the rest of the song's texture yet not overpower it.[63] These harmonics, with their slow, sliding changes, contrast with Clayton's heavy, pulsating bass line (see Figure 3.23).

61. McCormick, *U2ByU2*, 72-75.

62. Developed by guitarist Michael Brook, an Infinite guitar is a reconfigured electric guitar that allows for an infinite length of sustain, hence the name of the instrument. He knew U2 through producers Brian Eno and Daniel Lanois, with whom he had collaborated earlier in the 1980's. Brook sent The Edge a prototype of the Infinite guitar during *The Joshua Tree* recording sessions.

63. McCormick, *U2ByU2*, 181.

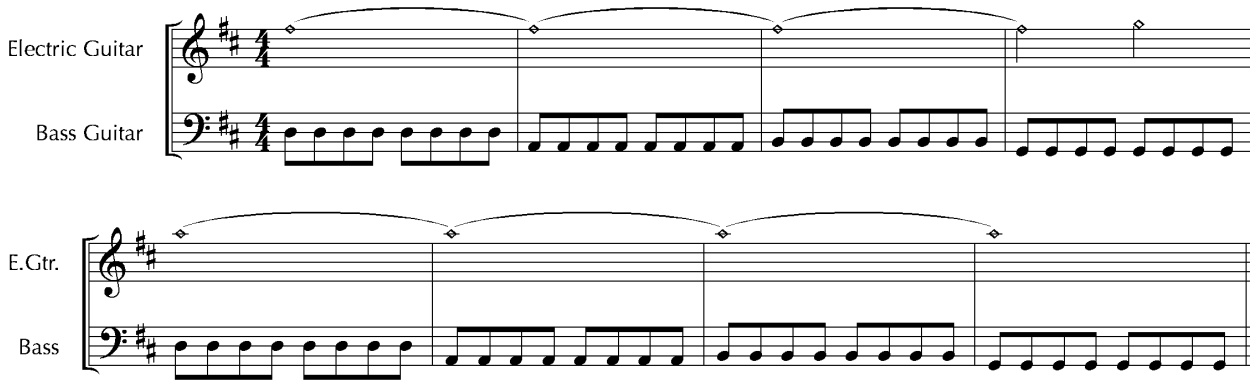


Figure 3.23 Harmonics, "With Or Without You," introduction (0:08-0:25).

Besides contrasting with the bass, the "infinite harmonics" provide U2 with another guitar sound that is distinctively their own and helps define one of the band's signature songs. "It doesn't really sound like anything from [1987] at all. It's not coming from [a 1980's] mentality," explains The Edge. Bono adds that "['With Or Without You'] is a staple on the radio now, [but it] is a very odd-sounding song. It just sounds 'normal' because [it's been played] so many times."[64] Arguably the band's most popular song, it still receives regular airplay across the United States, more than twenty years after its initial release.

"To define [The] Edge by one guitar sound would really be doing him a disservice—he's constantly looking for something new," explains producer Rick Rubin.[65] Indeed, The Edge's reputation for being one of rock music's all-time great guitarists stems from more than just his trademark echo/delay effect. His use of a variety of techniques combined with his continuous search for new tones, timbres, and effects also grants him the titles of guitar innovator and pioneer.

Muted Strum

U2's careful attention to texture and tone separates them from most other bands. As a guitar-based rock band, exploring the potential of the guitar is chief among their creative goals. That is, one of their aims is to push the boundaries of music-making by extract-

64. Interview, "With Or Without You," *Classic Albums* DVD.
65. Rick Rubin, "All of Them Bring Something to the Table," *Q*, March 2007, 85.

ing as many sounds from a guitar as possible. Throughout U2's career, the band and its production team have used technology to their advantage, manipulating, creating, and arranging sounds in original combinations. "I'm fascinated with how sound can be sculpted by using or often abusing the technology of the day, finding ways to make it do things it wasn't really supposed to do," says The Edge.[66] One of these "sculpted" sounds that U2 employs regularly is what Allan Moore calls "rhythmic 'hacking'"; I call this technique the "muted strum." [67] Simpler and less dependent upon technology than the echo/delay effect, this technique allows The Edge to turn the guitar, principally a melodic and harmonic instrument, into an instrument whose primary function is rhythmic support and textural enhancement. Muted strums fill in a song's texture and provide a timbral contrast to the other instruments present. The Edge executes a muted strum by pressing all the strings with his fretting (left) hand; the amount of pressure applied to the strings is enough to absorb *most* of the vibrations from the subsequent strumming, but not enough to cause the strings to meet the neck and frets. The resulting sound is not that of a typically strummed electric guitar, but more of a click that frequently has little or no harmonic and/or melodic function.

"Vertigo" contains a clear example of muted strumming. The instrumentation during the verses is sparse, consisting primarily of the drums and bass guitar. Besides the vocal track, the only pitched part is the active bass guitar, whose undulating, steady, driving line acts as a foil to the choppy, almost monotone melody Bono sings. The Edge's muted strummed lead guitar serves as a background texture here, intermittently clicking throughout each verse and filling the gap between the vocal track and the bass guitar. Figure 3.24 is a transcription of the vocals and lead guitar of the first verse.

"New Year's Day" (I:C:3) also incorporates the muted strum technique, but on slightly more of a foreground level than in "Vertigo," where the muted strum was more of a background texture, sporadically played at almost random rhythmic intervals. In "New Year's Day," The Edge's muted strumming is not at all sparse. Quite the opposite, in fact,

66. McCormick, *U2ByU2*, 227.
67. Moore, "U2 and the Myth of Authenticity in Rock," 22.

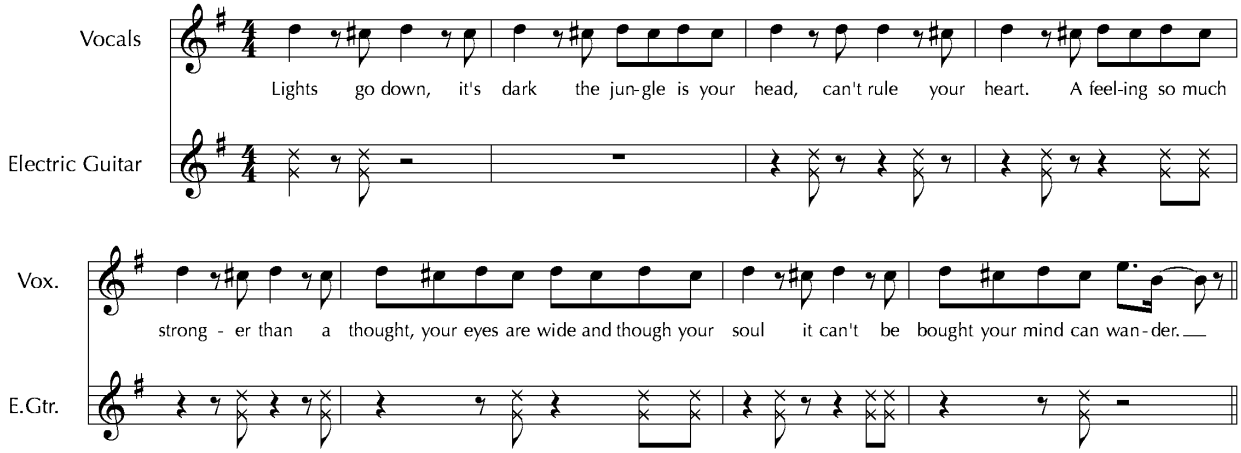


Figure 3.24 "Vertigo," first verse (0:24-0:37).

as can be seen in the transcription in Figure 3.25. In the second verse, he plays a steady stream of sixteenth notes, alternating rapidly between the muted strum (represented by the "X" noteheads) and a more traditional technique (indicated by the slurred standard noteheads). The sheer volume and tempo of muted strum takes this specific guitar part out of the background and bestows it more of a foreground presence, although the bass guitar is the primary melodic instrument in this section.

Of all the great guitarists in rock history, The Edge is one of the most inventive, yet possibly the most understated. "He is a rare and true guitar original and one of the subtlest guitar heroes of all time. He is dedicated to ensemble playing and he subsumes his guitar ego in the group," describes Springsteen.[68] The Edge describes his own playing philosophy. "I've never been one to bash around the guitar for the hell of it; I'm always looking for a more economical way to get a point across. Running my hands really fast up and down the fret board…anybody can do that. I can't think of anything more pointless."[69] The muted strum is far from pointless: it is a simple yet effective technique for filling out a song's texture and adding timbral variance to the mix. The Edge uses it in more than one third of U2's songs, including "Two Hearts Beat As One" (I:C:7), "A Sort Of Homecoming" (II:A:1), "Mysterious Ways," and "Walk On."

68. Springsteen, U2 Rock and Roll Hall of Fame induction speech.
69. Bosso, "Memory Man," 64.

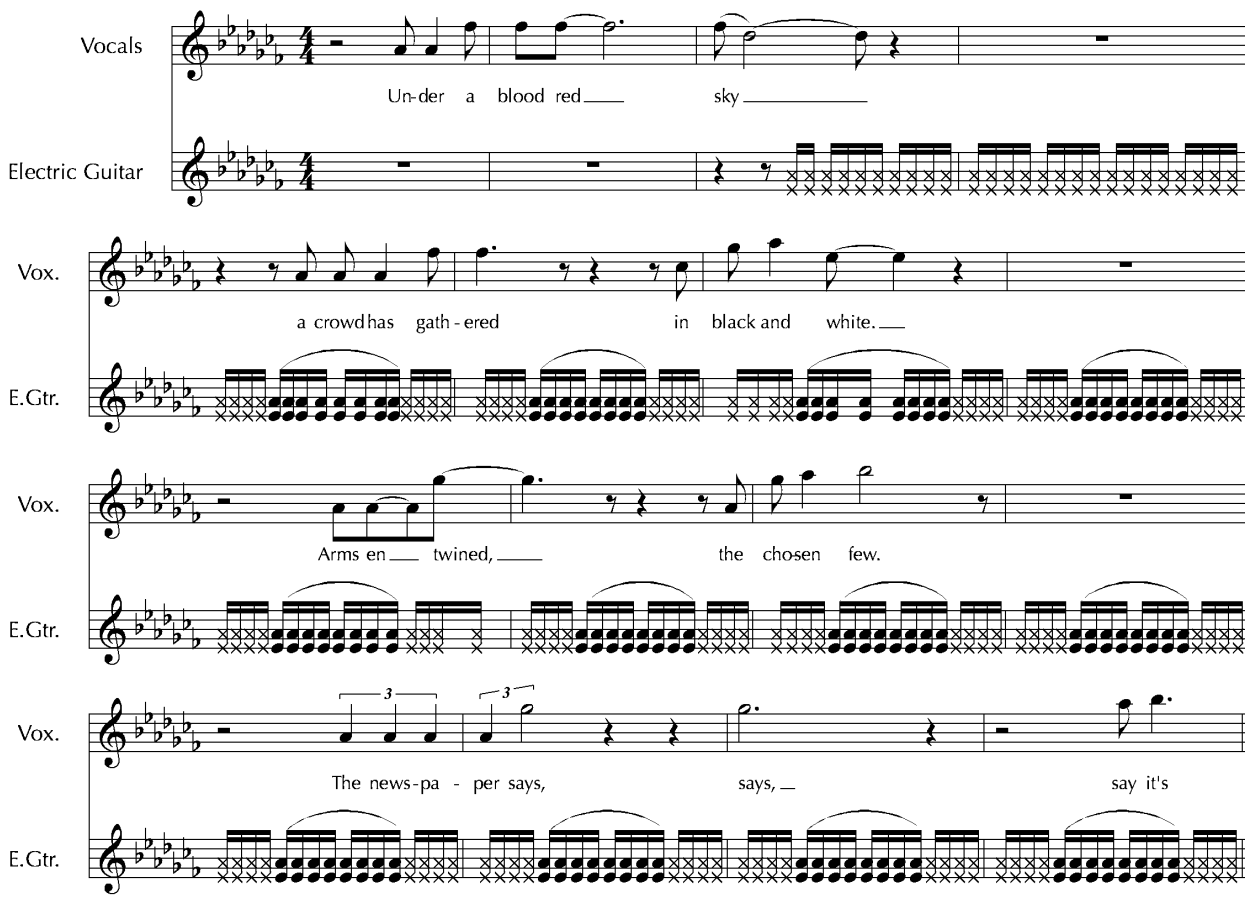


Figure 3.25 "New Year's Day," verse 2 (1:41-2:09).

Arpeggiated Chords

One of the techniques U2 uses to make the texture of a song denser is to arpeggiate chords in the background. Rather than strum the entire chord all at once in one motion, the guitarist (most often The Edge, but occasionally Bono, Clayton, or even one of the producers) will break up the chord and play its constituent notes in any one of a number of patterns. These arpeggiations usually occur during verses or transitions, lending an active quality to the background texture. They also provide harmonic and metric reinforcement, as well as (in some cases) some contrast to the rest of the instrumentation. Their occurrences during the chorus are less common due to the presence of the main guitar riff in this section, which is often either a rhythmically-based strummed pattern or some sort of melodic motive.

In addition to their primary function of bolstering the song's texture, these arpeggiated chords can function as either support for or contrast to other elements of the song. In the first verse of "Electrical Storm," the steady rhythm of the arpeggiations in the lead guitar part serves to contrast with the syncopation in the rhythm guitar and vocal line (see Figure 3.26).

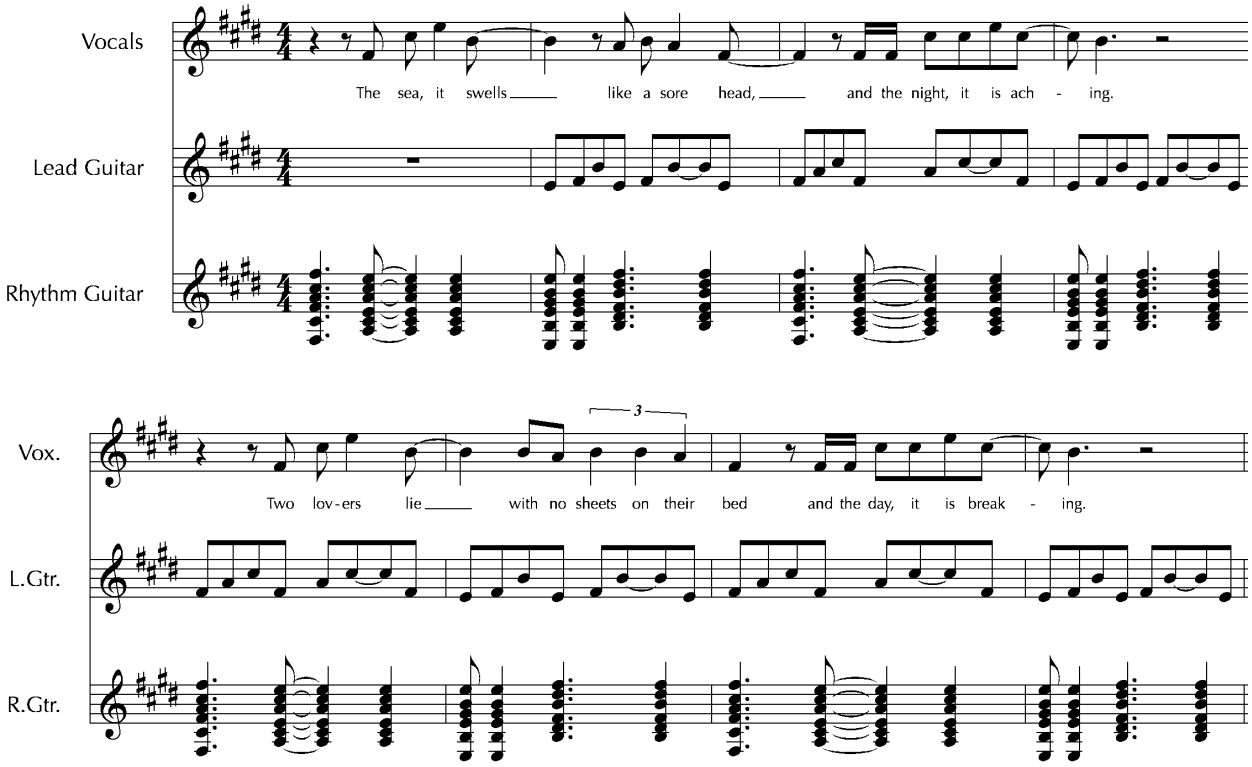


Figure 3.26 "Electrical Storm," verse 1, first part (0:10-0:30).

"Like A Song…" (I:C:4) uses background guitar arpeggiations that function exactly opposite of those in "Electrical Storm." In "Like A Song…," the syncopation is in the guitar part, emphasizing the second half of every beat (Figure 3.27). Coupled with the offbeats in the vocal line, the guitar contrasts sharply with the steady, "regular" pattern in the percussion. In both of these examples, the arpeggiated guitar enhances the song's texture, adding a layer of activity between the drums and bass underneath and the often soaring vocal line above. Other songs that employ this technique are "Where the Streets Have No Name," "Angel of Harlem," and "Until The End Of The World" (III:A:4).

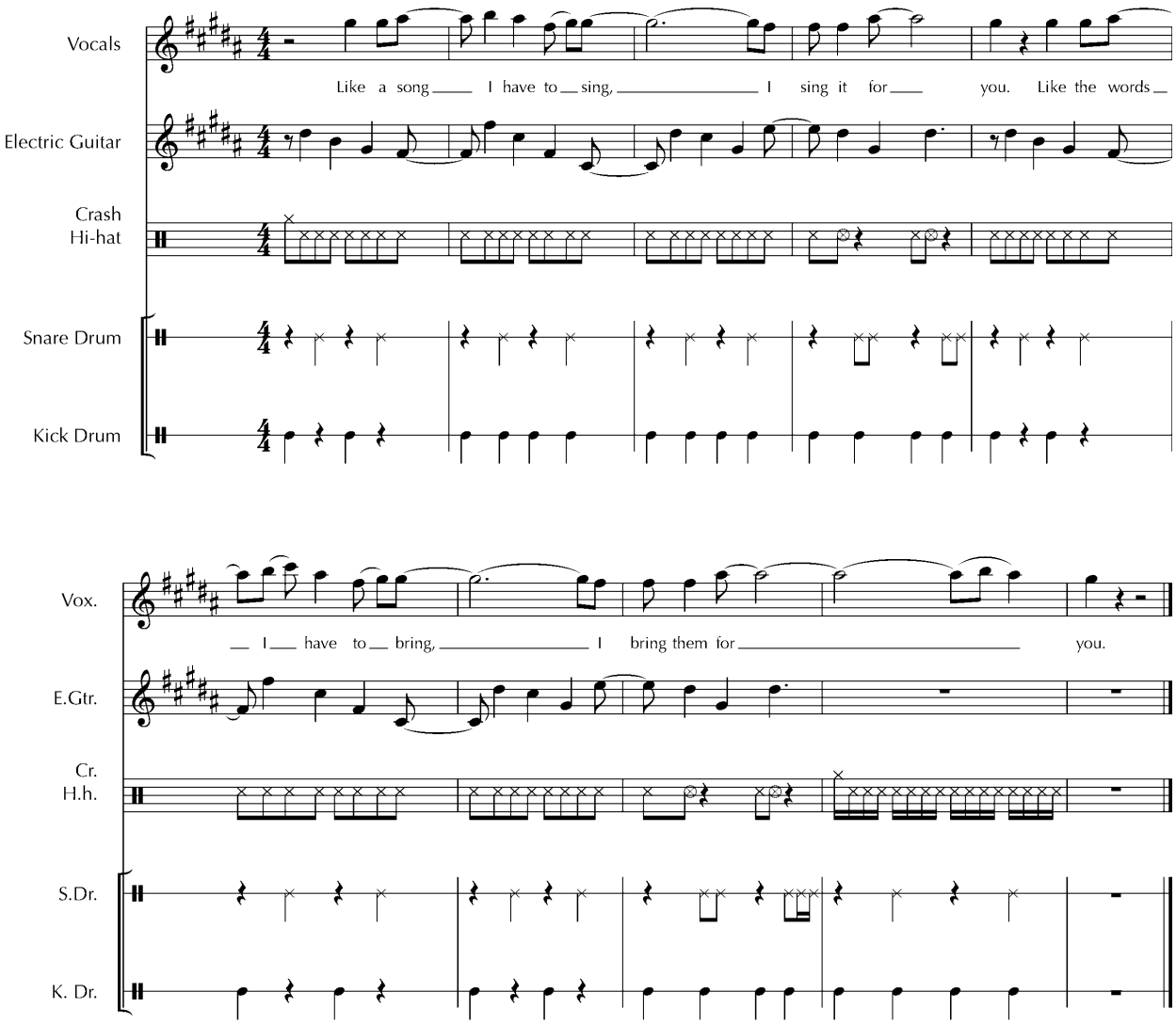


Figure 3.27 "Like A Song…," verse 1 (0:16-0:31).

Layered Vocals

Another technique U2 employs to give the illusion of more than just four band members is layering of the lead vocal track. Rock musicians commonly multi-track the lead vocals. That is, they often record several versions of the same vocal line and use two or more versions concurrently in the final mix of the song. This gives more heft and depth to the vocals, thickening its texture and sometimes giving the illusion of more than one vocalist singing. U2 uses this technique, but they also use a different style of vocal multi-tracking. Instead of merely recording the exact same vocal line several times, Bono records several contrasting versions of the line, frequently in different registers or even spo-

ken versions, often adding electronic effects to the original version, thereby changing the quality and timbre of his voice. The final mix of the song incorporates two or more of these unique renderings; as a result, the vocal track has different strata, with the main melody line layered with one or more other versions.

U2 is fortunate to have a front man with Bono's wide vocal range. His ability to sing well in low, middle, and high registers allows the band to be even more creative with the vocal track. Layering the main vocal line provides a similar effect to the echo/delay on the lead guitar: two or more versions of the melody present simultaneously create a sense of sonic space, as if there are several lead singers in a large room or open space standing at various distances and singing into a single microphone. This is particularly true when a song uses several vocal lines that are in different tessituras.

"Even Better Than The Real Thing," "Discothèque" (III:C:1), and "Crumbs From Your Table" (IV:B:7) all use layered vocals, though each one of these examples does so in a slightly differently manner. "Even Better Than The Real Thing" has a principal vocal line in a lower register, with the layered backing vocals singing the same notes and text an octave above. "Crumbs From Your Table" employs layering in the exact opposite fashion, with the main vocals in a higher tessitura and the backing vocals singing an octave below. In both of these songs, the main vocals are differentiated from the layering vocals by volume, with the primary vocal line mixed at a higher, more readily audible level than the layered vocal line. The vocals in "Discothèque" also employ high and low tessituras, similar to "Real Thing" and "Crumbs." However, the mix is different, in that both registers are mixed seemingly at the same level. Much like the song's beginning, which seems to swirl between the left and right channels, the upper and lower voices seem to alternate prominence, as if they are fighting for the listener's attention.

U2 has layered vocals tracks throughout their entire career, but nowhere is it more significant and more symbolic than on *Achtung Baby*, and, in particular, the first single released from that record, "The Fly" (III:A:7). As the first album of their experimental third period, *Achtung Baby* contains a myriad of stylistic innovations, not the least of which is the character known as "The Fly," Bono's megalomaniacal alter ego, created during the recording sessions and brought to life on the album and on the following ZooTV Tour.

Throughout the entire song, the vocal track consists of multiple voices, all sung by Bono. The verses are in a relatively low register (B3 to G4; see Figure 3.28), especially compared to earlier U2 songs. Layered along with the main vocals in this section is a filtered vocal line that shadows Bono's "normal" voice. The two are mixed slightly off-center, with "Bono" shaded to the left channel and "The Fly" to the right. Clayton describes the voice as "over-driven, which suits this quite demented and almost psychotic delivery."[70] The processing lends a dark, subversive, scheming quality to the voice, reflective of the band's ironic attitude toward its own success.

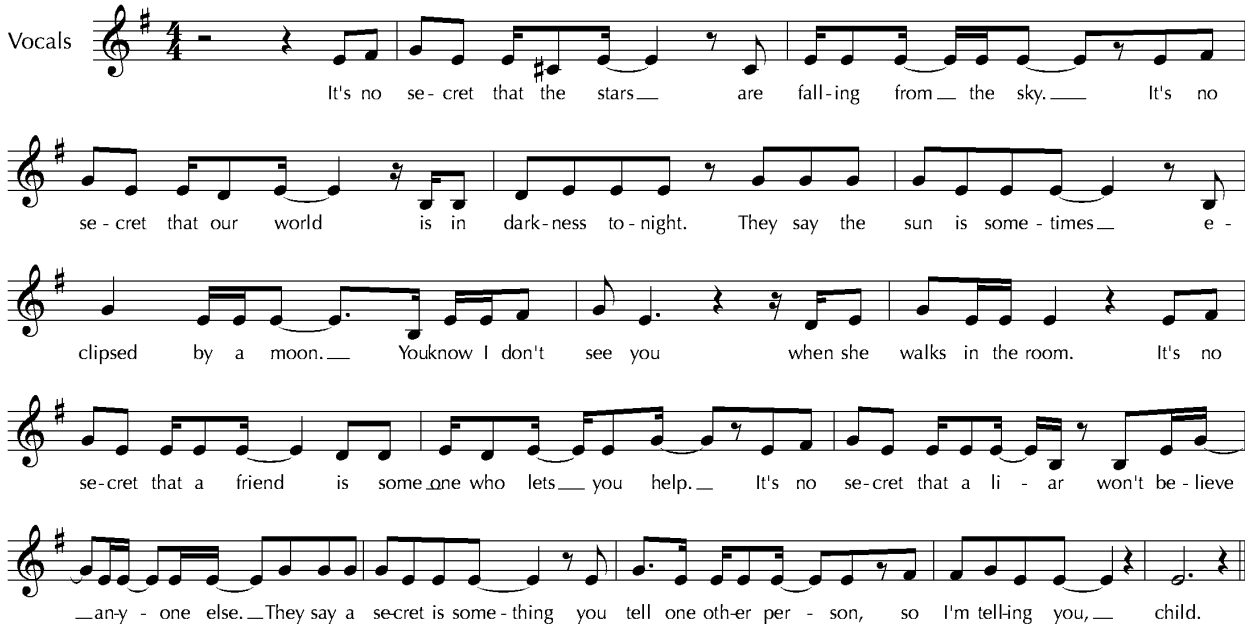


Figure 3.28 "The Fly," verse 1 vocals (0:31-1:06).

A third voice enters in the chorus section, with the entrance of the "Gospel Voice" (labeled as such in the liner notes of the album) singing falsetto more than an octave above Bono and The Fly. As shown in Figure 3.29, every facet of this third voice is different from the other two voices heard in the verse: vocal quality (falsetto), tessitura (more than an octave higher than the vocals in the verse), and articulation (legato). Also new in the chorus is the placement of the gospel voice within the stereo field. Bono and The Fly

70. McCormick, *U2ByU2*, p. 224.

are mixed slightly left and right of center, respectively, while the new gospel voice is mixed directly in the center, as if trying to separate the two alter egos.

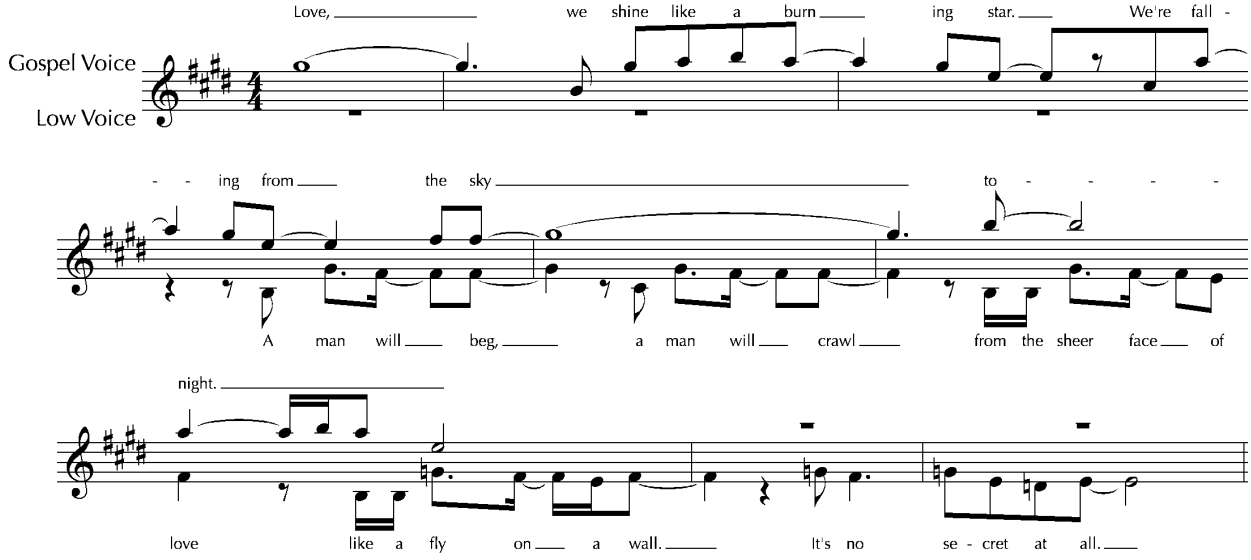


Figure 3.29 "The Fly," Chorus vocals (1:07-1:26).

Described by Bono as the "Fat Lady voice, a kind of campy falsetto," the Gospel Voice" could be heard as a jab at earlier U2 songs that regularly employed Bono's upper range, especially considering it was the first commercially released single from *Achtung Baby*.[71] The falsetto delivery used in "The Fly" cleverly infuses the song with irony, a kind of "campiness" the band had tried so desperately to avoid in the 1980's. Their anti-camp mentality of that decade was one of the subjects the third style period attacked. The camp aspect of "The Fly," however, would be lost if not for the layering of the three voices. Layering them affords the listener an immediate side-by-side—or in this case a channel-by-channel—juxtaposition of the various vocal textures Bono employs. Even the positioning of the voices in the song's mix reflects the band's new musical perspective. By placing the Gospel Voice in the middle and flanking it on either side with the other two voices, U2 is attacking their 1980's righteous, stadium-filling image from all sides, deconstructing both their music and their image simultaneously.

71. McCormick, *U2ByU2*, p. 225.

Many of the characteristics outlined and defined in this chapter are not necessarily unique to U2's music. Other bands use dynamic stereo, guitar harmonics, and arpeggiate chords, for example. U2 uses some of these elements in novel ways. For example, the band uses dynamic stereo not only to create the illusion of broad, open space, but also to develop further themes present in the lyrics. Clayton's bass lines serve both as the band's harmonic foundation as well as another melodic layer, in addition to Edge's guitar and Bono's lyrics. It is the combination of these familiar features with some distinctive elements (e.g. echo/delay effect, vocal layering), along with the band's unsual treatment of form (discussed in Chapter 4), that helps create the distinctive "U2 sound."

CHAPTER 4

CRUMBS FROM YOUR TABLE: Song Sections and Formal Types

In specifically examining the music of U2 and rock music in general, one of the difficulties has been the terminology used to describe the form of rock songs and the fact that, despite the increased attention paid to popular music scholarship, little has been written regarding some general definitions of form in rock music. This chapter attempts to rectify that dilemma by providing one set of terms and their definitions, along with examples of each drawn from U2's catalogue. The first part of the chapter is concerned with the individual sections that constitute a rock song, namely, the introduction, verse, transition, chorus, refrain, interlude, interverse, coda, and conclusion. Included with these definitions and examples are some anomalies, aberrant instances that differ markedly from the prototypical models of each section. Second, I identify two characteristics—irregular section lengths and the extended introduction—that contribute to the unique formal construction of U2 songs. The third part of the chapter lists and illustrates the most common song forms the band uses in order to deduce whether they prefer any one particular structure. In addition, this chapter will show that U2 is a group of meticulous musicians who are cognizant of how they construct songs and produce works that reflect this keen awareness.

According to Ken Stephenson,

> [T]he first problem in the analysis of form (and the fundamental problem for a [project] on general stylistic characteristics) is the discovery of features that delineate sections.…In a musical piece, we must look for formalized musical cues concerning form.…In rock the relevant cues most often appear in the areas of text, instrumentation, rhythm, and harmony. In many cases, the patterns in these areas work together to create a clear form; in many others, changes in one or more areas work against a backdrop of stability in the other areas to create a subtler form. And in yet other cases, lack of alignment in the patterns of change of various areas makes for ambiguity.[72]

In analyzing the music of U2, I take into account all four areas Stephenson lists. There are three aspects of the lyrics that help define a song's form. 1) Repetition: the statement and

72. Ken Stephenson, *What To Listen For In Rock: A Stylistic Analysis* (New Haven: Yale University Press, 2005), 122.

subsequent return of specific text is perhaps the clearest and most readily identifiable formal characteristic. Other elements, such as melodic contour and rhythm, are linked to textual repetition, helping the listener make real-time delineations of form, in addition to retrospective judgments. 2) Location: where and when a particular textual passage is used helps determine both its local relationship to surrounding sections and its place within the song's global formal structure. 3) Grammar: the ordering of words, the construction of phrases and sentences, and the particular emphases placed on certain lyrics contribute to the textual definition of a song's overall formal scheme.

Stephenson states that changes in instrumentation—"the specific combinations of instruments, including vocal lines, performing a piece"—often signal the beginning of a new section in a rock song.[73] These changes include, but are not limited to, the addition or subtraction of instruments or voices as well as the modification of a particular line or motive in one or more of the instruments. Instrumentation changes often lead to textural and timbral differences, which also serve as formal markers. Rock music lacks a formalized set of rules regarding harmonic progressions and cadential formulae, although the use of certain cadences (the IV-I/iv-i "plagal" cadence) and "non-diatonic" harmonies (♭VI and ♭VII in major keys, for example), in addition to conventional cadences and traditional "diatonic" harmonies, is quite common. Despite their non-traditional harmonic nature, "many rock songs use differences in harmonic progressions to help distinguish sections…[And because] repetition of harmonic patterns is so common [in rock], any break in the pattern will likely mark a significant moment in the form."[74]

The majority of the terms in this chapter are not new to the established popular music lexicon. However, some of the definitions and uses of the terms are slightly different from conventional usage, and one term is new. My definitions are based on four factors (in order of relative importance): 1) the section's timbral and textural character in relation to the song's other parts, 2) the section's text content/repetition, 3) the section's harmonic and melodic content, and 4) the location of the section within the song's overall

73. Ibid., 126.
74. Ibid., p. 131.

formal design and with respect to other sections. This system of section labeling and designation is akin to the method used by Ken Stephenson, who considers the text to be of central importance, with the harmonic, melodic, timbral, and textural considerations not necessarily less important, but serving as supporting evidence.[75] Walter Everett and John Covach take the opposite approach in analyzing form in rock music.[76] They begin by defining each section in terms of its harmonic content and function, and use the other elements as secondary factors (though not unimportant). While certainly significant in the determination of local and global function in the music of U2, a specific section's location within the song is not as important the content of the section. One of the key elements that distinguishes U2 from most other rock bands is their penchant for creating sonic landscapes with distinctive timbres, textures, and effects.

Introduction, Coda, and Conclusion

The vast majority of U2's songs begin with an *introduction* (i), which is typically instrumental, with a length that varies from just a few seconds to a minute and half or longer. Establishing the meter, tempo, key, and overall mood of the song is the primary function of the introduction. Frequently, the introduction also presents the "hook," the main theme or motive around which the song based. "The Electric Co.," "Bad," "Staring At The Sun" (III:C:5), and "A Man And A Woman" all utilize prototypical introductions: melodically and harmonically stable instrumental sections of moderate duration (29, 21, 14, and 16 seconds, respectively) that use each respective song's hook to establish a definite tempo and meter. "Walk On" features a rare two-part introduction, the first half of which is highlighted by spoken vocals while the second half is the more customary instrumental passage. It is in the introduction's second half that The Edge presents the musical hook (defined shortly), a solo guitar motive reminiscent of the band's second style period.

Though rare, there are introductions that create a sense of metric, tonal, and/or character ambiguity that is later resolved by either another part of the introduction or by

75. Stephenson, *What to Listen For in Rock*, pp. 124.
76. Covach, "Form in Rock Music," p. 66; Everett, *The Beatles as Musicians*, pp. 15-17.

the entrance of another section entirely. "Ultraviolet (Light My Way)" (III:A:10) provides an example of such an introduction. The entire section can be divided into two parts: the first 47 seconds, characterized by metric and tonal ambiguity, and the following 18 seconds (0:47-1:05), in which the meter and tonal center of the song are firmly established. Bono's vocal line is the main content of the first part, in which he sings of uncertainty and doubt:

> Sometimes I feel like I don't know
> Sometimes I feel like checking out
> I wanna get it wrong
> Can't always be strong
> And love, it won't be long…

Accompanying these lyrics is a melody that gives little indication as to the song's tonality and even less evidence of the song's meter and tempo. Figure 4.1 is an approximate transcription of that melody.

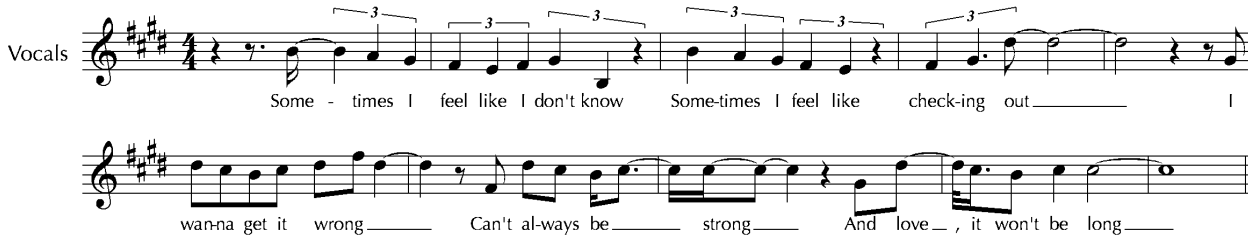


Figure 4.1 Introduction, Part 1, "Ultraviolet (Light My Way)" (0:20-0:46).

A $\frac{4}{4}$ meter and E major key signature have been assigned to the transcription, with the retrospective knowledge that the remainder of the song after the introduction is, in fact, in $\frac{4}{4}$ and in E major, with a tempo of about 107 bpm. However, an examination of the introductory melody's rhythm reveals a lack of a clear internal metrical organization, particularly in the last five measures. The rhythmic liberties Bono takes in this specific introduction create an unstructured melody that places more importance on the emotional underpinnings of the lyrics than on a strict observance of the song's (eventual) meter and key.

The introduction to "Love And Peace Or Else" (IV:B:4) is seemingly straightforward. Figure 4.2 is one possible transcription of the opening 50 seconds. As notated in the transcription, it is clear that the song is in $\frac{4}{4}$ meter, despite the syncopation on the last beat of

the first, third, and fifth measures. This $\frac{4}{4}$ meter, however, is obfuscated by the entrance of falsetto "oohs" and the percussion at 0:21. These additional layers shift the perceived downbeat identified in the first few measures in Figure 4.2. Figure 4.3 shows a revised transcription of the introduction that includes the vocal entrance. Here, the rhythm of the synthesizer at the very beginning of the section has been shifted one beat to accommodate the modified downbeat. "Love and Peace Or Else" is one several of examples from U2's catalogue that employs ambiguity at the very beginning of the introduction only to be retrospectively clarified by subsequent material. "The Unforgettable Fire" (II:A:4), "Until The End Of The World" (III:A:4), and "One Step Closer" (IV:B:9) are other songs that utilize a similar technique.

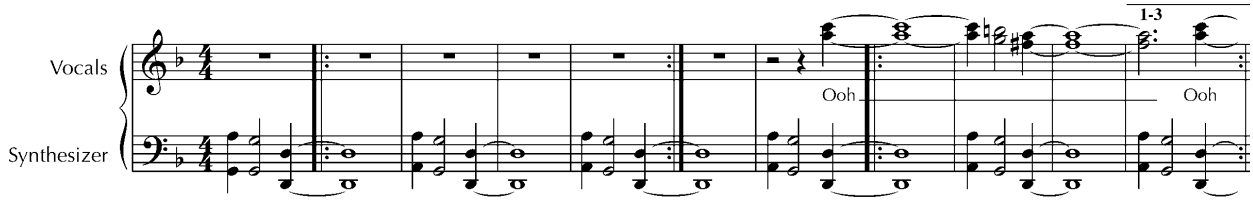


Figure 4.2 Introduction, Part 1, "Love And Peace Or Else" (0:00-0:50).

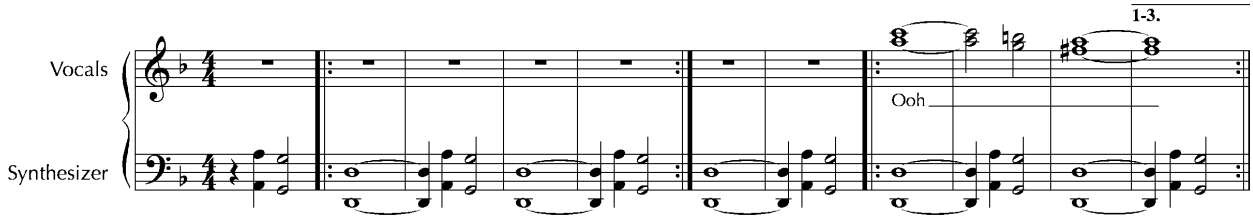


Figure 4.3 Introduction, Part 1 (revised), "Love And Peace Or Else" (0:00-0:50).

"Where The Streets Have No Name" (II:B:1) is one of U2's most enduring and most popular songs, due partly to the fact that it is the opening track on the band's most acclaimed album, *The Joshua Tree*, but also due to its unique introduction. Despite the use of metrical and rhythmic ambiguity in a substantial number of their songs, direct metric changes are not a regular part of U2's musical arsenal. "Where The Streets Have No Name" stands out as the only song to utilize such a technique. This particular introduction is one of the band's longest, lasting 1:47. It begins with a slow-changing, broad organ sound organized in a nearly imperceptible $\frac{3}{4}$ meter. This $\frac{3}{4}$ meter is clarified at 0:41 with

the entrance of The Edge's signature echo-laden guitar (see Figures 3.14a and 3.14b on p. 40). What distinguishes this song from the rest of the collection is that the introduction changes from $\frac{3}{4}$ to $\frac{4}{4}$. This metric shift begins at 1:03 with a change in the lead guitar pattern; two measures later, as illustrated in Figure 4.4, the change is complete, and the song continues in $\frac{4}{4}$ until the beginning of the conclusion (defined below), where the introductory guitar riff returns and the song finishes in $\frac{3}{4}$. The return of the opening hook and the original meter gives the song balance: nearly half the song (2:43 total) is in $\frac{3}{4}$, almost perfectly balancing the 2:54 of $\frac{4}{4}$ meter. The metric transition from $\frac{3}{4}$ to $\frac{4}{4}$ could be transcribed using four measures of $\frac{3}{8}$ meter, as illustrated in Figure 4.5. The significance of these metric shifts is discussed in Chapter 5.

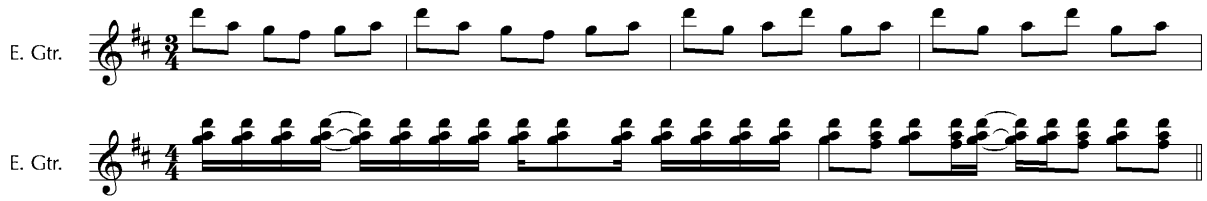


Figure 4.4 Introduction, "Where The Streets Have No Name" (1:01-1:05).

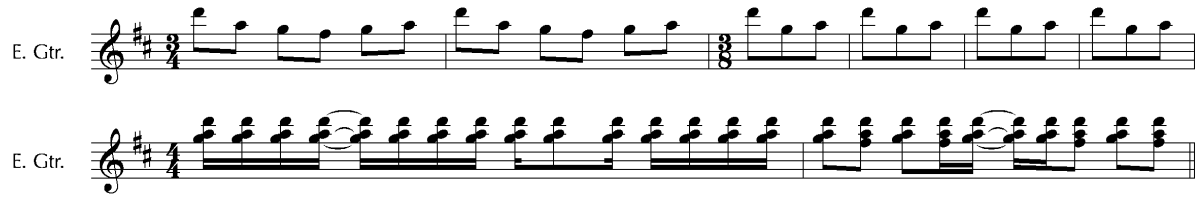


Figure 4.5 Introduction (revised meter), "Where The Streets Have No Name" (1:01-1:05).

The *coda* (D) and *conclusion* (o) serve to end a rock song.[77] Similar to the introduction, the use of either of these sections is not obligatory, as many rock songs end abruptly after the last chorus. "Sunday Bloody Sunday," "Even Better Than The Real

77. "D" designates the coda section because I chose to use "C" to label the chorus section. Since I chose "i" for the introduction, the section that effectively "turns on" the song, I chose the binary opposite "o" to represent the conclusion, the section that "turns off" the song. I elected not to call the conclusion section an "outro," as is practiced by some performers and analysts, because the word "outroduction" does not exist. For consistency, I avoid using the term "intro" and refer to an opening instrumental section as the "introduction."

Thing," and "All Because Of You" (IV:B:6), for example, do not include either a coda or a conclusion; instead, each song ends immediately at the end of its final chorus section. The coda typically consists of music based on material from the chorus, repeating the hook or a set of lyrics from that section. In the majority of rock songs, there is textual, harmonic, and melodic closure in the coda, although there are examples of inconclusive coda sections. Often these inconclusive codas are either those that end on non-tonic harmonies with open-ended thoughts in the lyrics or fade out. The conclusion section may be appended to the end of a rock song after the coda. It is instrumental in nature and, much like the coda, is an element that may serve to end the entire song, either with a cadence (frequently on tonic, but not necessarily) or with a fade out. A song may contain both a coda and a conclusion. However, if both sections are used, the conclusion will usually follow the coda in an effort to complete the song's overall organization: an instrumental conclusion would balance the (typically) instrumental introduction.

Verse, Transition, and Link

Typically, the material heard after the introduction is the first of several *verses* (V). Throughout the rest of the song, verses usually occur between chorus sections, which will be defined shortly. The term "verse" is linked to both the music as well as to the text. Recurring several times during a given song, verses usually have different lyrics set to the same music. Each verse has a similar melody, rhythm, harmonic progression, and instrumentation accompanying different text, although slight variations in the melodic contour and rhythmic patterns of the lyrics are quite common. "'40'" (I:C:10), "Silver And Gold" (II:C:8), "Stay (Faraway, So Close!)" (III:B:5), and "Wild Honey" (IV:A:7) all use archetypal verses.

A *transition* (T) in a rock song is frequently an unstable passage that connects two other sections of relative stability, usually, but not limited to, a verse and the subsequent chorus. Changes in musical material, most notably the harmonic progression and rhythmic intensity, along with its placement (typically, but not always, between a verse and a chorus), characterize this section. In U2's transitions, non-tonic tension-producing harmonies become the focus in order to drive toward another upcoming harmony—

frequently tonic—that begins the next section. Also aiding this push toward tonic resolution is an augmentation of the instrumentation, a thickening of the texture by adding other layers of instruments (e.g. rhythm guitar, strings, or keyboard), or by modifying one of the instruments already playing. Many times, artists incorporate both techniques. This section may recur several times throughout the song; the text content may be either similar or identical, or different each time. Model examples of transition sections, those that function as a bridge between a verse and either a chorus or refrain, can be heard in "An Cat Dubh" (I:A:3), "Desire" (II:C:3), "Last Night On Earth" (III:C:6), and "A Man And A Woman" (IV:B:7).

Some rock scholars use the term "pre-chorus" to describe what has been defined in this dissertation as the "transition" section.[78] While a reasonable description, this term is adequate only when the transition directly precedes a chorus. Not all transitions serve "pre-chorus" function. In fact, in U2's catalogue, there are a number of songs in which transition sections do *not* precede chorus sections. "I Fall Down" (I:B:2), "Until the End of the World" (III:A:4), "The Playboy Mansion" (III:C:9), and "When I Look At The World" (IV:A:9) all use refrains (defined below) preceded by transition sections. In "Another Time, Another Place" (I:A:9), "Dirty Day" (III:B:9), and "Discothèque" (III:C:1), the transition section that comes after the first verse and precedes a link (defined below). Transitions can also function to connect a verse to another verse ("Like A Song…" (I:C:4), "Whose Gonna Ride Your Wilde Horses" (III:A:5), "Numb" (III:B:3), and "Stay (Faraway, So Close!) (III:B:5)), or to connect a chorus to an interlude (also defined below), as in "Vertigo" (IV:B:1). In other words, transition sections are versatile and can have multiple functions, depending on their location within the song's overall organization. For the purposes of this dissertation, any section that contains lyrics and bridges two other sections will be called simply a "transition."

A short *instrumental* passage that is used between two major sections is called a *link* (L). A link has transitional function, but, unlike a typical transition section, it is pri-

78. John Covach (among others) uses the term "pre-chorus" to identify a transitional section that precedes the chorus section. He uses is specifically in his formal outline of Michael Jackson's "Thriller" and Sheryl Crow's "All I Wanna Do" in his book, *What's That Sound?*

marily instrumental. Often, a link uses the song's hook to connect or transition back to a verse from a chorus, although a link may be used in other locations. Prototypical examples of links can be found in "New Year's Day" (I:C:3), "Wire" (II:A:3), "Electrical Storm", and "In A Little While" (IV:A:6).

Refrain and Chorus

The *chorus* (C) is a section comprised of several lines of text that is distinct from the verse and transition, and returns several times throughout the song with the same or similar lyrics. Frequently, the title of the song, or some variation of it, is included as a line in the chorus as a lyrical hook. From a musical standpoint, the harmonies, texture, and timbre in the chorus are different from the material that comes before it, which is usually either a verse or a transition. Generally, the chorus emphasizes the tonic or the pitch center, which serves to resolve any harmonic or melodic tension created in the preceding transition or verse. Additionally, the chorus contains the "hook," lyrical and/or musical material that serves as the main motive or theme around which the song is based. "Out Of Control" (I:A:5), "When Love Comes To Town" (II:C:12), "Daddy's Gonna Pay For Your Crashed Car" (III:B:6), and "All Because Of You" (IV:B:6) utilize standard chorus sections.

The chorus sections in "One" (III:A:3) stand out in that the lyrics change each time the section appears. Slight variations to the melody and rhythms of the vocal line accompany the textual differences, although the general contour and overall harmonic language in each of the occurrences of the chorus remain the same. Transcriptions show that lyrics, while an important factor in determining formal sections within a song, are not the only element to be considered. Figures 4.6a through 4.6d present transcriptions of each chorus vocal line and the associated lyrics. Despite the difference in lyrics among the four passages, two factors distinguish these passages as *chorus* sections and not verses. First, the harmonic progression is different from that in the verse: I-vi-IV-I (C-Am-F-C) in the chorus as opposed to vi-II-IV-V (Am-D-F-G) in the verse. The progression reveals a focus on C, with tonic harmonies bookending the progression, further characterizing the function of the sections as choruses. Second, the title word "one" appears (and is repeated) only in

these sections. The word “one” is a common thread among these passages, helping to assign them chorus function.

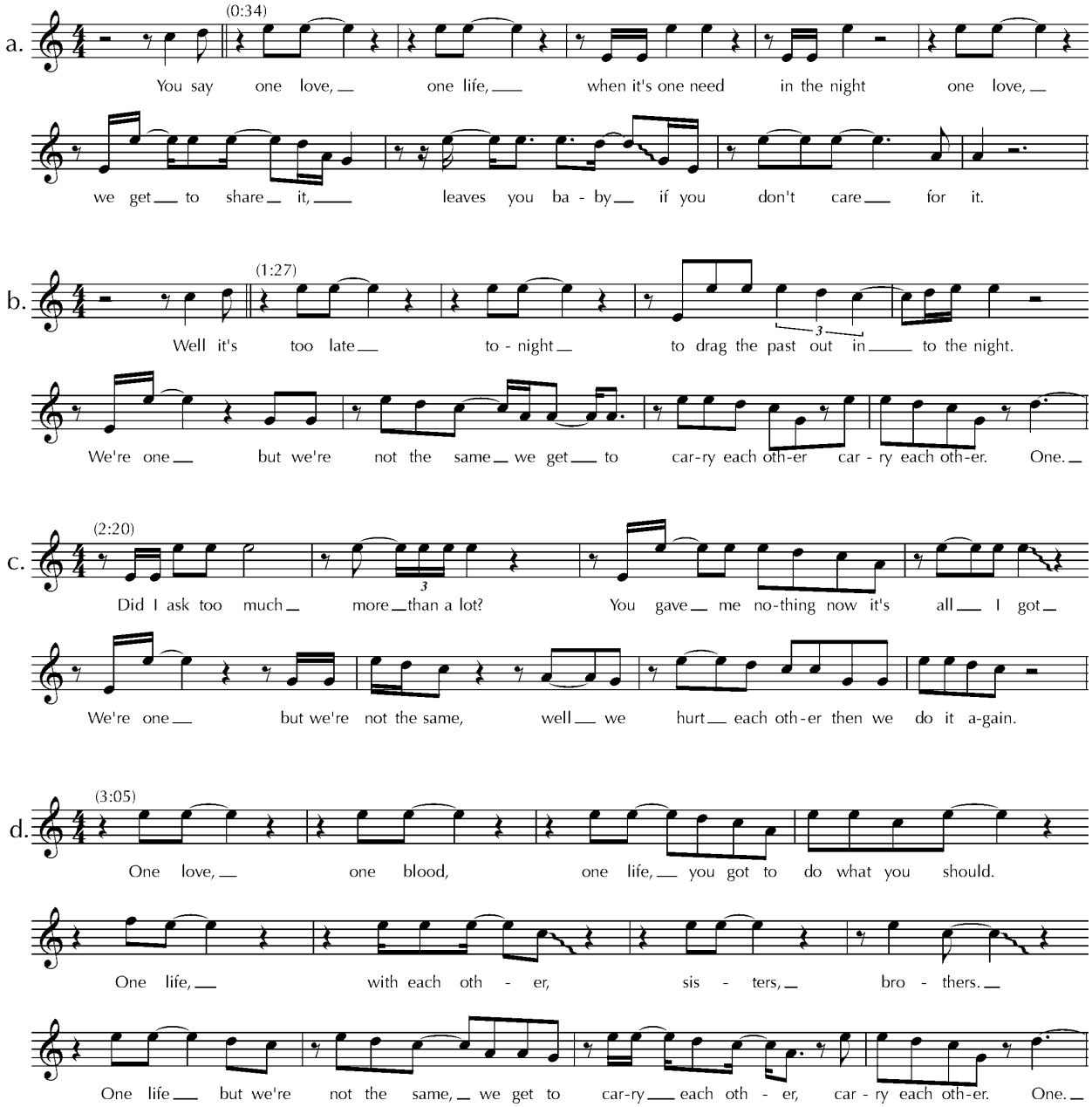


Figure 4.6 Chorus sections, “One.”

Overall, the effect of changing the lyrics between chorus sections is an increased sense of variety. In a sense, the lyrical differences impart verse-like qualities onto the chorus, thereby increasing the internal variety within the song. While this is true for “One,”

there is another reason for the variations. The lyric changes between each chorus are reflexive upon the lyrics themselves. That is, the different lyrics in each chorus not only reflect the sentiments the song's protagonist intends to espouse, but they also comment on the sections themselves. "We're one, but we're not the same." All the chorus sections function similarly (they are one), but do so with melodic, rhythmic, and, perhaps most notably, lyrical differences (but they are not the same). This self-reflexivity in "One" is directly in keeping with the whole aesthetic of the *Achtung Baby* album on which it appears. One of the central themes of this record—and the two other records in this style period, *Zooropa* and *Pop*—is self-criticism. Much of the lyrical content of U2's 1990's output was a commentary on the band itself, the members' own mindsets, artistic goals, and their reactions to fame and the limelight.

A line, or pair of lines, of text—usually the title of the song or some derivative thereof—repeated throughout the verse or at the end of each verse or transition is called the *refrain* (R). The refrain is not a separate section, but rather the concluding part of the verse or transition, typically incorporating lyrical and musical resolution to the tension created in the preceding material. That is, it resolves any grammatical, melodic, and harmonic open-endedness present in a verse or transition. A refrain may be repeated immediately after its initial statement; however, more than one repetition (i.e. three or more successive statements of the line) most often changes the designation from a refrain to a chorus section.[79]

"Hawkmoon 269" (II:C:4) uses a straightforward example of a refrain. The lyrics "I need your love" function as the refrain, repeated at the end of each verse and interverse. As the independent clause, it provides the necessary grammatical closure to the dependent clauses in the preceding lines that begin with "Like…." Below are the third and fourth verses of "Hawkmoon 269":

Verse	Like a rhythm unbroken, Like drums in the night, Like sweet soul music,	(1:08)

79. I adopted, and subsequently modified, Ken Stephenson's definition of a "refrain", found in *What to Listen For In Rock*, 135.

	Like sunlight,	
Refrain	I need your love.	(1:17)
Verse	Like coming home,	(1:23)
	And you don't know where you've been,	
	Like black coffee,	
	Like nicotine,	
Refrain	I need your love (I need your love).	(1:32)
	I need your love (I need your love).	

"A Day Without Me" (I:A:8), "Love Rescue Me" (II:C:11), "The First Time" (III:B:8), and "Grace" (IV:A:11) are among other songs that incorporate a "standard" verse-ending refrain.

"Until The End Of The World" uses a different kind of refrain, one that follows a transition rather than ending a verse. The song's title functions as the refrain. It closes each "overall A section" (defined later), which is composed of an eight-measure, four-line verse, a five-measure, two-line transition, and the one-measure, one-line refrain, as labeled below:

Verse	Haven't seen you in quite a while	(0:36)
	I was down the hold just passing time	
	Last time we met was in a low-lit room	
	We were as close together as a bride and groom	
Transition	We ate the food, we drank the wine	(0:55)
	Everybody having a good time, except you	
Refrain	You were talking about the end of the world	(1:05)

This structure is repeated two more times during the course of the entire song. The transition/refrain section is not a chorus section for several reasons. First, the lyrical hook, "You were talking about the end of the world," comes at the end of the section. It is only at the very end of the refrain that melodic resolution of the open-ended verse is reached, on the word "world," which is sung on the final beat of the refrain. This melody note, however, is accompanied by a non-tonic harmony (A). There is no harmonic resolution within these six measures; it comes after the refrain, during the link, which serves as a kind of instrumental replacement for the chorus. "Desire" (II:C:3), "The First Time" (III:B:8), "The Playboy Mansion" (III:C:9), and "When I Look At The World" (IV:A:9) exhibit structural similarities to "Until The End Of The World" in that they all use "transition-ending" refrains.

In most songs with a refrain, that line takes the place of the verse. Of the 125 songs analyzed for this project, 20 (16%) incorporate refrains, and of these 20, five use both a refrain and a chorus. The refrain in "Tryin' To Throw Your Arms Around The World" (III:A:9) repeats every third line in the verse, with a chorus separating the verses:

Verse	Six o'clock in the morning	(0:16)
	You're the last to hear the warning	
Refrain	You've been trying to throw your arms around the world	(0:21)
	You've been falling off the sidewalk	
	Your lips move but you can't talk	
Refrain	You've been tryin' to throw your arms around the world	(0:32)
Chorus	I gonna run to you, run to you, run to you…	(0:37)
	Be still	
	I gonna run to you, run to you, run to you…	
	Woman I will	

The refrain in "I Fall Down" (I:B:2) retrospectively functions as a kind of "false chorus":

Verse	Julie says, "John I'm getting nowhere.	(0:22)
	I wrote this letter,	
	Hope to get to some place soon.	
Transition	I want to get up	(0:36)
	When I wake up.	
	But when I get up,	
Refrain	I fall down."	(0:46)
Link		(0:50)
Verse	Julie wake up, Julie tell the story.	(0:57)
	You wrote the letter, said you were gonna	
	Get there someday.	
Transition	Gonna walk in the sun	(1:10)
	And the wind and the rain,	
	Never walk back again.	
Chorus	Now you fall down.	(1:20)
	You're falling down.	
	You fall down.	
	You fall down.	

Similar to "Until The End Of The World," this refrain follows a transition. It is only one line long (and therefore not a chorus), provides grammatical closure to the preceding lyrics, and is followed by a four-measure link. Following the second transition, however, the refrain is expanded to its own eight-measure, four-line chorus section. The other songs

that use both a refrain and a chorus are "With a Shout" (I:B:8), "Where The Streets Have No Name" (II:B:1), and "Some Days Are Better Than Others" (III:B:7).

Interlude and Interverse

An *interlude* (I) features instrumental solos, lacks texted vocals, and usually includes dramatic variations in texture and timbre from previous material. "Texted vocals" refers to actual lyrics—real words instead of syllables, intonations, or scat-like vocalizations such as "oh," "ah," "ooh," and the like. The harmonic progression in the interlude frequently is based either on the verse or the chorus; however, interludes with different harmonic progressions are also common. Usually, there is just one interlude per song, which appears after the second statement of the chorus or before the final chorus section.

Typically, a rock interlude is the part of the song where the musicians display their virtuosity, particularly the lead guitarist. Jimmy Page's solo in Led Zeppelin's "Immigrant Song" and Slash's passage in Guns N' Roses' "You Could Be Mine" serve as classic examples of a rock interlude, which often has been referred to as an "instrumental bridge." That terminology, however, is problematic due to the implications of the term "bridge." These implications and the associated difficulties will be detailed later in this chapter.

The interlude in a U2 song is also instrumental, but the typical U2 interlude differs from more traditional interludes in that it is used primarily to present and develop a musical idea rather than flaunt guitar-playing skill. In "Sunday Bloody Sunday," The Edge's solo passage functions more as counterpoint to Clayton's bass line than as a display of guitar prowess. The interludes in "Even Better Than The Real Thing" and "Kite" (IV:A:5) serve to contrast the vocal lines in each song, and the solo in "Some Days Are Better Than Others" (III:B:7) is a simple melody played on an overdriven guitar.

The *interverse* (N) is the section previously referred to as the "bridge." I have renamed the section due to the semantic implications of the term "bridge," which suggest connecting or transitional function. Grove Music Online defines a "bridge" section in music as:

> A passage in which a formal transition is made. In popular music, [the term] is used of the penultimate section in the refrain of a popular song, leading to the final repeat of the opening section (section *b* in the form *aaba*); the bridge provides contrasts, often tonal as well as

> harmonic and melodic, with the opening section…Rock musicians may call any different section that appears once within an otherwise repeating form the bridge.[80]

This section in modern rock songs, though, is often *not* transitional in nature: the label inadequately describes the function of the section. Frequently, there are no harmonic and/or melodic associations to surrounding material; the "bridge" section does not necessarily connect two other sections. The descriptor "bridge" has been misapplied to the "b" section in rock songs, likely because there are no definitive criteria for what constitutes the section this dissertation identifies as an "interverse." The following definitions and examples provide such criteria.

I chose the term "interverse" because of the word's constituent parts. The prefix "inter-" is for the fact that the section occurs *between* two other sections: the interverse does not begin or end a song; and the suffix "-verse" for the fact that there are lyrics in the interverse. The interverse can function similarly to the previously defined "interlude," the primary difference between the two sections is that the interverse includes texted lyrics while the interlude is instrumental. It is not uncommon for rock songs to incorporate both an interlude and an interverse. Artists typically distinguish the interverse from other sections by stark changes in texture, instrumentation, timbre, harmony, melody, lyrics, or any combination thereof. However, as some of the following types of interverses prove, this contrast is *not* a requisite condition of the section. The interverse tends to provide a formal break in the song as well as to build tension that is eventually resolved in the subsequent material. That is, it serves as a kind of push toward the end of the song.

There are four types of interverses, each one distinguished from the others by its relationship to preceding and succeeding material. The following definitions borrow some terminology from the analysis of classical formal structures, particularly Douglass Green's discussion of small forms. The *independent continuous interverse* (N_C^i) is the most common type of interverse in U2's catalogue, appearing in 25 of the 125 songs analyzed in this dissertation, or 20%. New musical material, such as a new chord progression, dif-

80. Grove Music Online, "Bridge (ii)"; available from http://www.grovemusic.com.proxy.lib.fsu.edu/shared/views/article.html?from=search&session_search_id=837779107&hitnum=3&section=music.49255; Internet; accessed 5 November 2005.

ferent instrumentation, or a change in texture provides the "independent" quality, while an opened-ended, non-tonic harmony and/or melody note at the end of the section supplies the "continuous" quality.

"Sometimes You Can't Make It On Your Own" (IV:B:3) demonstrates some prototypical qualities of an independent continuous interverse. Figure 4.7 is a reduction of this interverse and the surrounding chorus sections. The strip of letters above the reduction represents a condensed formal overview of the song. Each letter is an abbreviation for the corresponding song section (i = introduction, V = verse, T = transition, C = chorus, etc.).

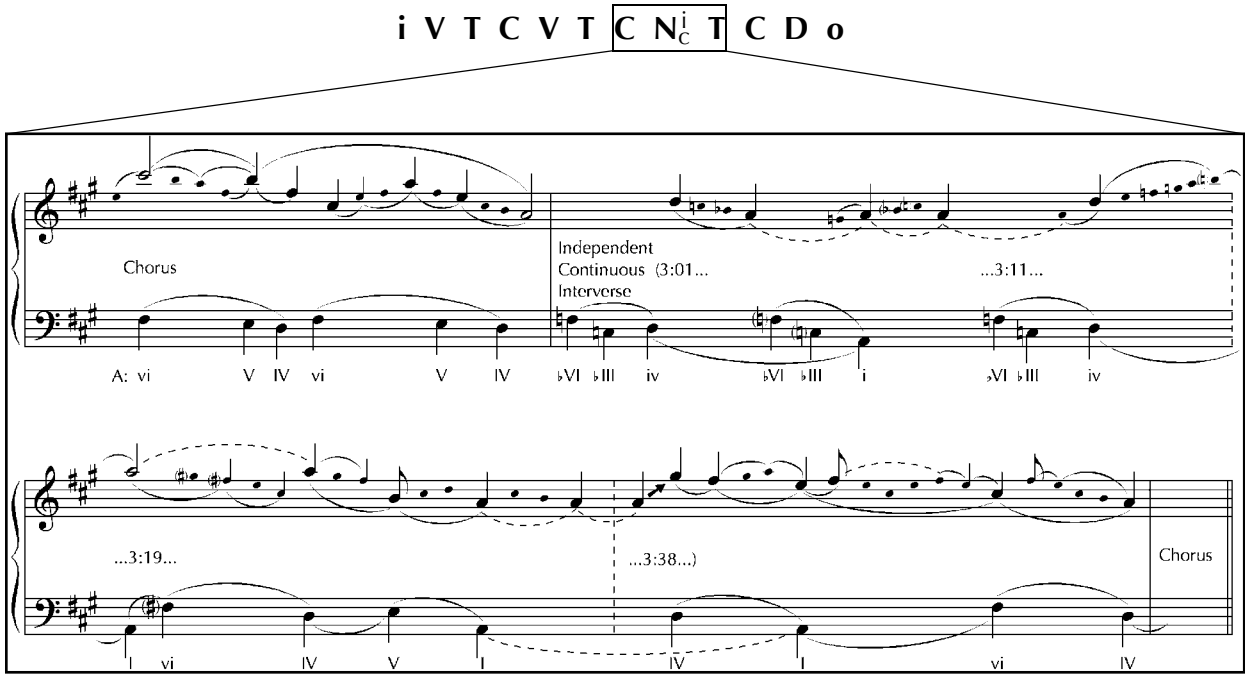


Figure 4.7 Reduction, "Sometimes You Can't Make It On Your Own" (2:40-3:57).

The F, C, Dm, and Am harmonies in this interverse's first seven measures are new to the song's harmonic language. They constitute a new harmonic progression and a faster harmonic rhythm than in previous sections, thus contributing to this particular example's "independent" property. These new harmonies are part of a brief mode shift from A major to A minor, rather than a short key change or tonicization; the "home" key of A major returns in the eighth measure of the section. Supplementing these new harmonies is a new melody and a one-time syncopated rhythm in the lead vocals that sets up the song's climax, a

high A that Bono holds for almost two measures. The "continuous" qualities of the interverse in "Sometimes" stem from both the music and the lyrics. Despite the almost scalar descent in the vocal line over the last seven measures, there is a lack of finality at the end of the section due to the non-tonic D major harmony and the lyrics "Don't leave me here alone…" The subsequent chorus and coda sections are needed to bring the song to an appropriate close.

Figure 4.8 is a reduction of part of "Mysterious Ways." This independent continuous interverse is slightly different from the one in "Sometimes You Can't Make It On Your Own" in that the harmonies used in the section are not new to the song's harmonic collection. The harmonies in the interverse of "Mysterious Ways" are the same as those in the chorus, but used in a different order.

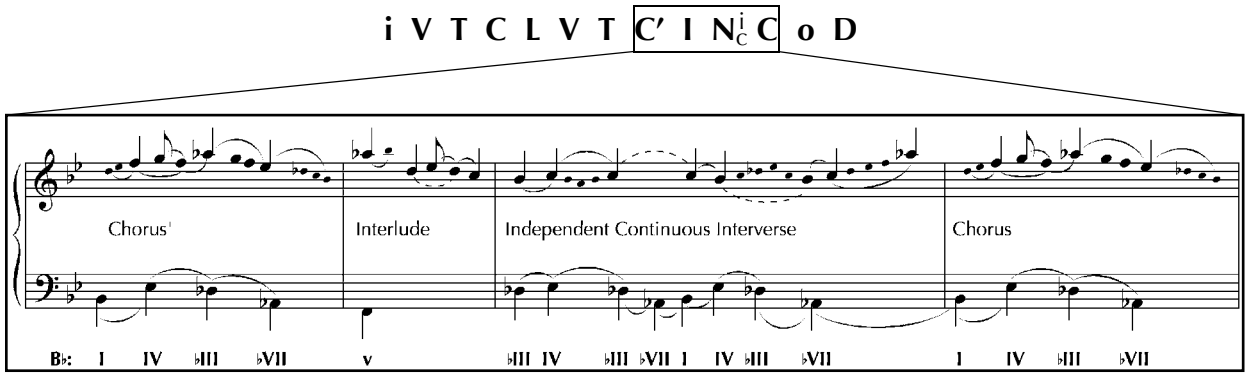


Figure 4.8 Reduction of "Mysterious Ways" (1:43-3:16).

A change in the harmonic progression, in conjunction with a new lead guitar pattern, a new vocal melody, and a different texture renders this particular interverse "independent," while the final A♭ harmony is inconclusive, eventually ascending in stepwise motion to the tonic B♭ harmony that begins the next section. Hence, the continuous label. I chose not to interpret the new progression as a key change or tonicization of A♭ because of the length of the new progression—only four measures that lasts a scant nine seconds—and because of the function of the A♭ harmony in the interverse. It is not a destination, but serves as a lower neighbor to the tonic B♭ harmony that enters after the lyrics "how by this love."

Figure 4.9 is a reduction of several sections of the song "Elevation" (IV:A:3), which represents an example of an *independent sectional interverse* (N_S^i). This type of interverse is characterized by new musical material as well as by a conclusive tonic harmony ending. The interverse in "Elevation" introduces a new harmony, D, and features a drastically different texture, vocal register, and melody from previous sections, thereby qualifying this specific interverse as "independent." The harmonic structure of this interverse reveals its "sectional" quality: a tonic ending closes the section harmonically, thereby negating any transitional function the section may have had.

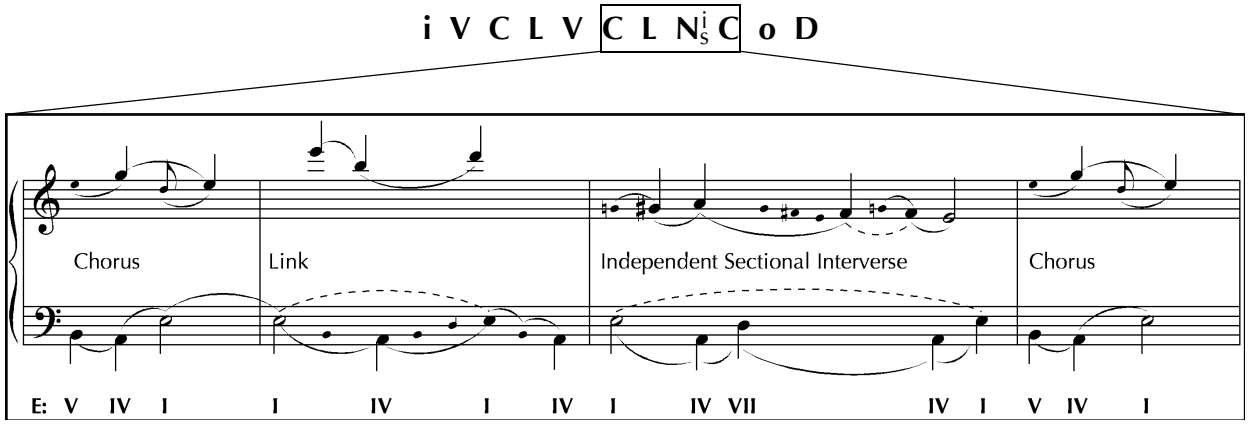


Figure 4.9 Reduction of "Elevation" (1:36-2:52).

In addition to being harmonically and melodically conclusive, this interverse is lyrically terminative, ending with the line "I believe in you…." Because of the conclusive melody and harmony, the interverse does not flow smoothly into the third chorus. No real connection exists between the two sections, which recalls the deficiency of the term "bridge." In this particular example, this section does *not* have transitional function; therefore, it cannot be called a "bridge" because it does not connect or transition between the two surrounding choruses. Theoretically, the interverse could have been left out altogether, and the second and third choruses could just as easily have been stated successively, consequently changing the overall form of the song from an AABA′ to and AAA′. This edited version (*edited a*) is listed in the middle column of Figure 4.10. A second edit changes the form of the song even more radically by splicing out the second link, the interverse, and the third chorus. The bold and italicized lyrics in each column represent the section(s)

that have been spliced out to create the respective edited versions. Overall, the form of the song would radically change with each edition, as listed in Figure 4.11.[81]

"Elevation" (*studio version*)		"Elevation" (*edited a*)		Elevation" (*edited b*)	
Verse 1	High, higher than the sun You shoot me… I need you… At the corner… As the orbit…. Eclipse, you…	Verse 1	High, higher than the sun You shoot me… I need you… At the corner… As the orbit…. Eclipse, you…	Verse 1	High, higher than the sun You shoot me… I need you… At the corner… As the orbit…. Eclipse, you…
Chorus	I've lost all self-control Been living… Now going… I and I… You make me… So high…	Chorus	I've lost all self-control Been living… Now going… I and I… You make me… So high…	Chorus	I've lost all self-control Been living… Now going… I and I… You make me… So high…
Link		Link		Link	
Verse 2	A star lit up like a cigar Strung out… Maybe you could… Explain all… I can't sing… The goal…	Verse 2	A star lit up like a cigar Strung out… Maybe you could… Explain all… I can't sing… The goal…	Verse 2	A star lit up like a cigar Strung out… Maybe you could… Explain all… I can't sing… The goal…
Chorus	A mole, digging in a hole Digging up… Now going… I and I… You make me… So high…	Chorus	A mole, digging in a hole Digging up… Now going… I and I… You make me… So high…	Chorus	A mole, digging in a hole Digging up… Now going… I and I… You make me… So high…
Link		***Link***		Coda	Elevation... Elevation... Elevation... Elevation…
Independent Sectional Interverse	***Love, lift me out of these blues Won't you tell me something true I believe in you***	***Chorus***	***A mole, digging in a hole Digging up my soul Now going down, excavation I and I in the sky You make me feel like I can fly So high, el…e…va…tion***	Conclusion	
Chorus	A mole, digging in a hole Digging up… Now going… I and I… You make me… So high…	Coda	Elevation... Elevation... Elevation... Elevation…		
Coda	Elevation... Elevation... Elevation... Elevation…	Conclusion			
Conclusion					

Figure 4.10 Three versions of "Elevation": *studio*, *edited a*, *edited b*.

81. By no means do I mean to imply that taking out an independent sectional interverse makes this or any other song better or worse; qualitative judgments of form are not the subject of this project. This revision is meant merely to show the lack of transitional function, from a purely melodic and harmonic standpoint, in an interverse with sectional qualities.

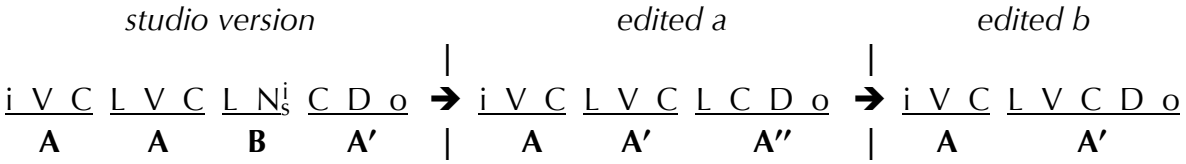


Figure 4.11 Overall forms of three versions of "Elevation."

The third type of interverse is the *dependent continuous interverse* (N^{d}_{c}). This type differs from the first two previously mentioned in that it borrows musical material from other sections within the song, hence the "dependent" label. It is "continuous" because of harmonic and/or melodic open-endedness. "City Of Blinding Lights" contains a clear example of a dependent continuous interverse. This particular interverse uses the exact same bass line and harmonic progression and has the same instrumentation and timbre as the chorus, qualifying it as "dependent." As shown in the reduction in Figure 4.14, slurs connecting the interverse to the succeeding chorus as well as to the preceding transition indicate the section's "continuous" function.

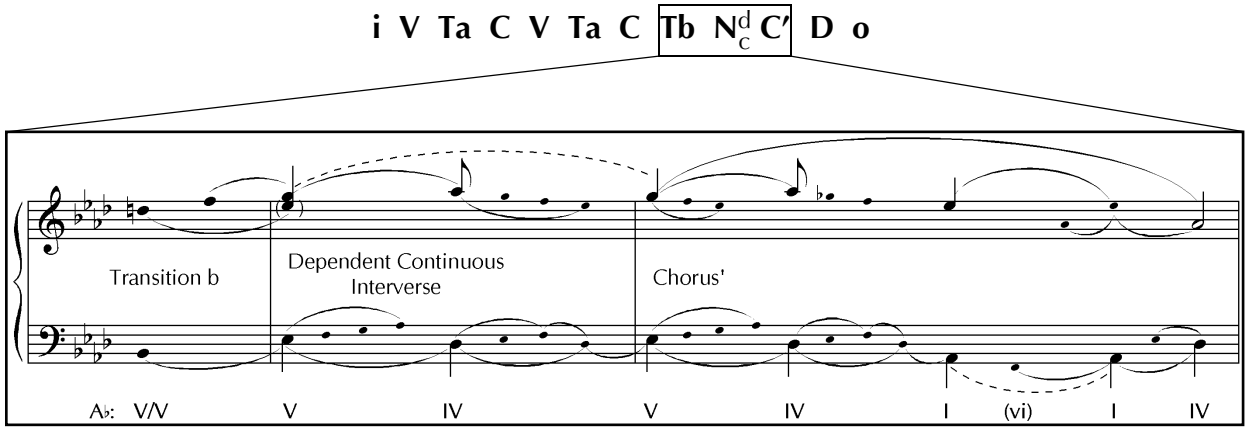


Figure 4.12 Reduction of "City Of Blinding Lights" (3:56-4:58)

The *dependent sectional interverse* (N^{d}_{s}) is the fourth type of interverse. It borrows material from other song sections but is harmonically and/or melodically closed. Figure 4.13 present a reduction of part of "Original Of The Species" (IV:B:10). Here, the harmonic progression is drawn from the previous transition, lending the "dependent" quality to the section, while the tonic endings in both the melody and supporting harmony contribute to

this interverse being "sectional." In similar fashion to "Elevation," the sectional nature of this interverse allows for a hypothetical revision that changes the song's form by removing the interverse. The right column of Figure 4.14 lists the lyrics for this edited version, in which the last two lines of the second chorus, the second link, the interverse, and the first two lines of the chorus' are taken out and the remaining material is spliced together.

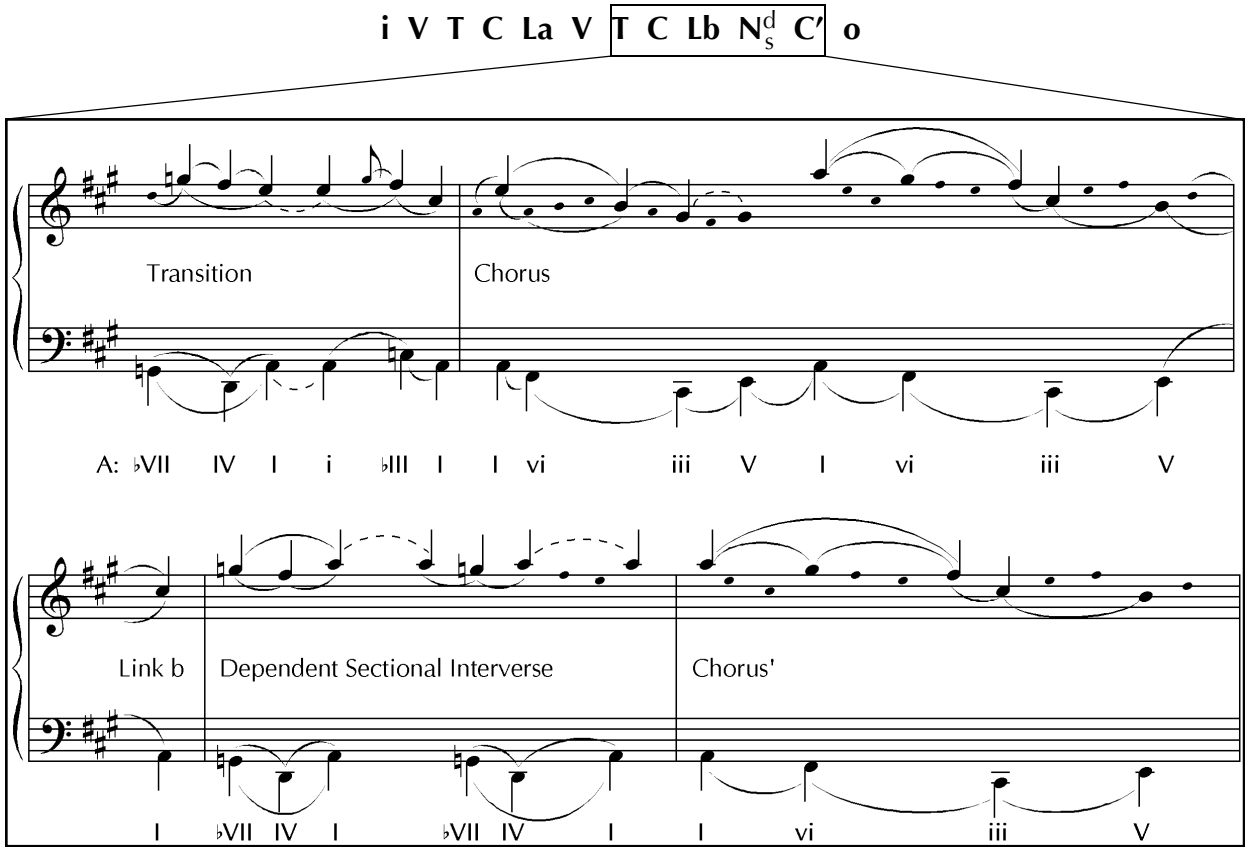


Figure 4.13 Reduction of "Original Of The Species" (2:01-3:51).

Much like the interverse in "Elevation," the transitional function of the passage is countered by the fact that the interverse is sectional. Neither does the section fulfill the requirement of "contrast" set forth in the Grove definition of a "bridge" due to its dependent quality. Describing this portion of "Original Of The Species" specifically as a dependent sectional interverse instead of a general, vague, and inaccurate "bridge" identifies particular musical characteristics of the section as well as identifies how the section functions in relation to surrounding material.

"Original Of The Species" (*studio version*)	
Verse 1	Baby slow down The end is… Please stay a child…
Transition	I'll give you everything you want Except the thing… You are the…
Chorus	And you feel like no one before You steal… I kneel… I want the lot… And I want nothing… Everywhere you go… You don't…
Link 1	
Verse 2	Some things you shouldn't get too good at Like smiling,… Some people got…
Transition	I'll give you everything you want Except the thing… You are the…
Chorus	And you feel like no one before You steal… I kneel… I want the lot… And I want nothing… Everywhere you go… You don't…
Link 2	
Sectional ***Dependent*** ***Interverse***	***Do di, do di, do di, do di*** ***Sugar come on, show your soul*** ***You've been keeping you love under control***
Chorus'	***Everywhere you go you shout it*** ***You don't have to be shy about it*** Everywhere you go… Oh my my
Coda	And you feel… You steal… I kneel… I want you… I want you…

"Original Of The Species" (*edited*)	
Verse 1	Baby slow down The end is… Please stay a child…
Transition	I'll give you everything you want Except the thing… You are the…
Chorus	And you feel like no one before You steal… I kneel… I want the lot… And I want nothing… Everywhere you go… You don't…
Link 1	
Verse 2	Some things you shouldn't get too good at Like smiling,… Some people got…
Transition	I'll give you everything you want Except the thing… You are the…
Chorus'	And you feel like no one before You steal right under my door I kneel 'cos I want you some more I want the lot of what you got And I want nothing that you're not Everywhere you go you shout it You don't have to be shy about it, no Everywhere you go you shout about it Oh my my
Coda	And you feel… You steal… I kneel… I want you… I want you…

Figure 4.14 Two version of "Original Of The Species": *studio* and *edited*.

The primary objective behind replacing the descriptor "bridge" with "interverse" is specificity of function. A term was needed that describes the function of the section more accurately than "bridge." This system also necessitates in-depth examination of formal relationships within rock songs. As can be deduced by the interverse definitions, not all interverses function the same way, so their labels should reflect these differences. Using

the term "interverse" and its various qualifiers specifies the section's content and function, thereby clarifying how it relates to other sections and to the entire formal organization of the song.

Extended Introductions

Much the same way the precedent for "regular" section lengths was set by the sheer number of songs that use certain durations, a precedent has been set for the average length of a pop song. A study by Mohiri, Moreno, and Weinstein involving music identification used a collection of almost 15,500 songs and reported the average duration of each song to be 3:54.[82] The Economic Times reports that the average length of popular songs "is falling or has stabilized at around [3:30]."[83] For the purposes of this study, I will assume the average length of pop and rock songs to be between these two estimates, roughly 3:45.

The average length of an introduction section in the songs analyzed for this dissertation is approximately 28 seconds. Therefore, an extended introduction refers to an opening section that is longer than the average section, that is, 29 seconds or longer. I chose to use time duration instead of measure length (as in the previous discussion of section length) because of the vast range of tempos in rock music. Using 3:45 as the average length of a rock song, an introduction lasting 29 seconds would constitute 12.8% of the song's overall length, which is a substantial portion of the song. Of the 125 songs reviewed in this project, the average length is 4:27. More than one-third of them (47/124, 37.6%) have introductions of at least 29 seconds, with durations ranging from 0:29 ("Indian Summer Sky," II:A:8) to 2:22 ("Zooropa," III:B:1). These extended introductions last an average of 49.3 seconds, which translates into approximately 18.5% of an average U2

82. Mehryar Mohri, Pedro Moreno, and Eugene Weinstein. "Robust Music Identification, Detection, and Analysis," *Austrian Computer Society*, 2007.

83. Pravin Pralande, "The long and short of music"; available from http://economictimes.indiatimes.com/ET_Features/Special_Pages/The_Big_Story/The_long_and_short_of_music/rssarticleshow/2493914.cms, 27 October 2007; Internet; accessed 7 November 2007.

song. When compared to the general average overall length of 3:45, the percentage jumps to a staggering 21.9% of the song's entire duration.[84]

Some of U2's most popular and commercially successful singles include extended introductions, hits like "New Year's Day" (0:43), "Where the Streets Have No Name" (1:48), and "City Of Blinding Lights" (1:17). Opening sections of this length are used for dramatic effect, to build a sense of anticipation as to when the verse will begin. Several of these long introductions slowly fade in. The legendary echo-drenched guitar motive in "Where the Streets Have No Name" does not enter until 0:42 into the song and is preceded by a slow-changing chordal organ part. In "City Of Blinding Lights," the first verse enters after a long introduction in which the volume of the percussion steadily fades in, starting at 0:40. Gradually, parts are added until the full texture is achieved. Extended introductions also provide ample time for musical ideas to be presented and developed. "New Year's Day," for example, begins with a 35-second piano part that precedes the guitar entrance and first verse and serves as the main musical hook for the entire song.

"Zoo Station" and "Zooropa" both use extended introductions for more that just thematic presentation and development. These songs are the first tracks of *Achtung Baby* and *Zooropa*, respectively, which are the first two albums of the band's experimental third period. "Zoo Station" opens with heavily distorted guitars and percussion, sonically debunking the band's righteous, honest, and straightforward image that they earned on *War* tour and that peaked with the release of *The Joshua Tree*. Only about halfway through the introduction, at 0:30, does a characteristically U2 sound enter: Clayton enters with his signature driving bass line and Mullen's percussion slowly becomes less distorted. "Zooropa" continues the trend with the band's longest introductory section of their entire collection. A slow piano and bass passage underneath a garbled mix of voice clips and sound effects fades in over the course of 1:47. The Edge enters with a signature echo-drenched guitar line, finally giving some hint that this is indeed a U2 song. However, even after 1:47, this second part of the introduction is itself extended in length, lasting another 35 seconds. An introduction this long is symbolic of the band's unwillingness to

84. Further research is needed to determine the average length of pop and rock songs in general.

depart from the world of electronic effects and signal processors into which they ventured on the previous album.

"Discothèque" carries the band even further into the electronic world. It is the first track on *Pop*, the last of album of the third period, and while its 28-second introduction technically is not an extended introduction by a scant one second, the near-extended length serves the same purpose as the introductions in "Zoo Station" and "Zooropa." The distorted electric guitar swirls between the left and right channels, sounding as if it is spinning around the listener's head, perhaps the sonic equivalent to a light siren. Much like the first parts of "Zoo Station" and "Zooropa," the introduction of "Discothèque" does not incorporate "signature" U2 sounds. It is only at the start of the first verse that Clayton's driving bass line enters accompanying Bono's vocals. Delaying the entrances of "traditional" U2 elements gives the band time to explore other sounds and effects, which is particularly important to the band on these three albums.

Irregular Section Lengths

The expectation for "regular" section length is based on the precedent set forth by the multitude of rock songs that are in $\frac{4}{4}$ meter and have sections that are four, eight, sixteen, or thirty-two measures long. Figure 4.15 lists the sectional organization and corresponding section lengths of popular rock songs from four different decades in the twentieth century. Each section is either four or eight measures long or some even multiple of four or eight. Songs with these kind of "regular" section lengths create a sense of balance and symmetry, and (perhaps more importantly) particular expectations regarding form. The songs listed in Figure 4.15 are what Leonard Meyer would deem "ideal types," in that, because of their extreme formal regularity, songs of this nature "become the basis for expectations."[85] He uses the concept of a fugue as an example when defining an ideal type: "The concept [of an ideal fugue] is not of this or that particular fugue but is based upon our experience of a multitude of fugues. As we listen to a particular fugue we com-

85. Leonard Meyer, *Emotion and Meaning in Music* (Chicago: The University of Chicago Press, 1956), 57.

pare its special progress with the progress expected on the basis of our normalized concept of fugue." This discussion specifically about fugues leads to a conclusion about form and style in general:

> [I]t is not only important to know, in a general way, what style a piece of music is so that the responses brought into play will be relevant ones, but it is also important to know what formal procedures are being employed. For our opinions as to form modify and condition our expectations….Hence form is always specified with reference to style, just as style should be particularized with reference to form.[86]

In light of Meyer's assertion, and taking into account that U2 is a rock band, the formal expectations established by the rock songs outlined in Figure 4.15 may not necessarily apply to other genres of popular music, e.g. country, hip-hop, electronica. For the purposes of this dissertation, the identification and application of "irregular section lengths" applies specifically to the rock music genre.

"All Along the Watchtower" by Jimi Hendrix (1968)		"Blitzkrieg Bop" by The Ramones (1978)		"Every Rose Has Its Thorns" by Poison (1989)		"Hold My Hand" by Hootie & The Blowfish (1994)	
i	8	i1	16	i	4	i	4
V	16	i2	8	V	8	V	8
I	8	V	8	C	8	T	4
V	16	V	8	I	4	V	8
I	32	N	8	V	8	T	4
V	16	V	8	C	8	C	8
I	16	V	8	N	4	L	4
		N	8	I	8	V	8
		V	8	L	4	T	4
		V	8	V	8	C	8
		D	8	C	8	I	8
						C	8
						C	8
						o	4

Chart Legend

i = introduction	T = transition	L = link	N = interverse
V = verse	C = chorus	I = interlude	o = conclusion

Figure 4.15 Four songs with "regular" section lengths**.**

86. Meyer, *Emotion and Meaning in Music*, 58-59.

U2 frustrates these expectations by using sections that are not only odd multiples of four and eight (twelve, twenty, twenty-four, for example), but also sections that are not at all multiples of four or eight, e.g. five-, seven-, nine-, and eleven-measure sections. These "irregular section lengths" serve several purposes, not the least of which is to accommodate extra lines of lyrics or a particular guitar motive. They also serve an aesthetic purpose, adding an element of uncertainty to the songs, keeping them sounding fresh.

There are three sections of irregular length in "Mysterious Ways," all of which are listed in Figure 4.16 along with the some of the song's lyrics and section labels. The first four sections—introduction, first verse, transition, and chorus—are conventional lengths: eight, eight, four, and eight measures, respectively. The link occurring between the first chorus and second verse is the first aberrant section in the song, lasting three measures. One possible explanation for this irregularity could be that the last measure of the link serves as a kind of introduction to the second verse, a scaled-down version of the introduction. A cymbal crash at the beginning of this measure effectively divides the link into two parts: a two-measure tag followed by a one-measure miniature introduction. Another possible reason for the odd section length could be tied to the title of the song. U2 is comprised of savvy musicians, well aware of even the smallest details of their songs. Incorporating unusual section lengths in a song entitled "Mysterious Ways" is not such a far-fetched notion.

Of all the recurring sections in a rock song, the chorus is the section that typically changes the least between occurrences, if at all. It often centers around the instrumental and lyrical hooks that form the basis of the entire song, so drastic changes to this section could disrupt the aesthetic and affective goals of the song. The first chorus of "Mysterious Ways" establishes the length of the chorus to be eight measures, so an experienced listener would expect subsequent chorus sections to be the same length. While this is true for the third (and final) chorus, the second chorus does not fulfill this expectation. Four extra measures are added to the end of the section to accommodate the additional lyrics "It's alright, it's alright, it's alright / Lift my days, light up my nights, love," thereby increasing the overall length of the section from the expected eight measures to twelve measures.

Section	Lyrics	Length
Intro	{none}	8mm
Verse	Johnny, take a walk… Let her pale light in… You've been living underground… You've been running away…	8mm
Transition	She's slippy… She'll be there…	4mm
Chorus	It's alright… She moves… It's alright… She moves…	8mm
Link	{none}	3mm
Verse	Johnny, take a dive… Let her talk about… To touch is to heal… If you want to kiss the sky… (On your knees, boy!)	8mm
Transition	She's the wave… She sees the man…	4mm
Chorus′	It's alright… She moves… It's alright… She moves… It's alright… Lift my days…	12mm
Interlude	{none}	11mm
Interverse	One day you'll look… Where you… How by this love… You could move… Follow…	8mm
Chorus	It's alright… She moves… It's alright… She moves…	8mm
Coda	It's alright… (Love) We move through… It's alright… (Move you, spirit… Spirit moves… (Yeah, move, yeah… It's alright… (You move with it… Lift my days…	12mm

Figure 4.16 Form chart of "Mysterious Ways."

The interlude of "Mysterious Ways" is perhaps the most intriguing section from the perspective of section length. Initially, its unusual eleven-measure duration could be thought of as a three-measure tag and eight-measure instrumental passage, or even vice

versa. The interlude, in fact, is divided into two parts, but even more unconventionally than the three/eight or eight/three divisions. The Edge plays an echo-laden oscillating motive for five measures, which is followed by a six-measure instrumental solo passage. Eleven total measures is strange in itself, but subdividing it further into two more irregular lengths makes this section stand out as one of the most anomalous in U2's entire catalogue.

Overall Forms

Tables 2 through 5 in Appendix A catalogue the formal layouts for all 125 songs examined for this dissertation. Each chart is an inventory of a specific style period, listing the album titles in chronological order, song titles in the order they appeared on the albums, and song constructions. The column labeled "Specific Form" provides a detailed, section-by-section arrangement of every song's design; the "Overall Form" column lists the general formal layout of each song.

In the "Specific Form" column, sections designated with the same upper-case letters but with different primes (′, ″, ‴, etc.) have identical functions, but slight differences in length. For example, the first three sections of "Bad" (II:A:7) are all verses, but each is a different length. Verse 1 (V) is 20 measures, verse 2 (V′) is 16 measures, and verse 3 (V″) is 12 measures. Similarly, the three chorus sections of "Miracle Drug" (IV:B:2) are all different lengths: 12 measures, 14 measures, and 17 measures, respectively. Those sections labeled with the same upper-case letter but different lower-case letters (a, b, c, etc.) have the same function but use different material. "Electrical Storm" has three verses. The first verse (Va) uses a different melody from second and third verses (Vb and Vb′), which are only different in their measure lengths. The transcriptions in Figures 4.17a through 4.17c illustrate the variations among verses 1 through 3, respectively. "With Or Without You" (II:B:3) employs a similar technique. Here, the first and second verses use the same basic melody but differ in length; correspondingly, they are labeled Va and Va′. The third verse uses a different melody from the first two verses, and therefore is labeled Vb.

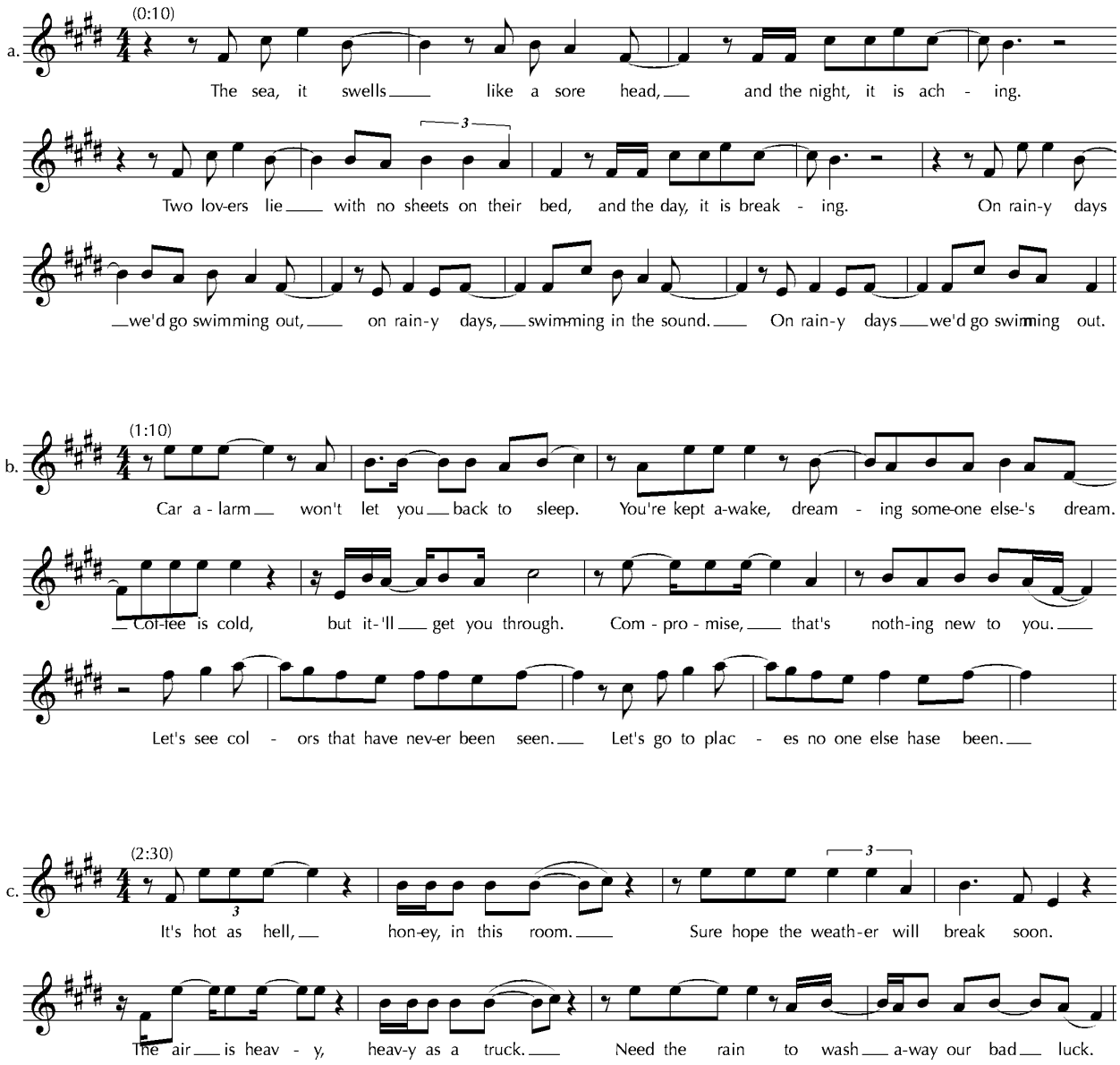


Figure 4.17 "Electrical Storm": a. verse 1, b. verse 2, c. verse 3.

I derive the overall forms in Tables 2 through 5 from grouping sections within the specific forms. Verses, refrain, and chorus usually form a group, with transitions included in these groups only if they bridge a verse and chorus. Interludes and interverses usually form another group. Links often serve as truncated introductions to the following sections or as an instrumental tag emanating from the previous material. The same system of prime designations used to decide specific forms is used for the overall forms as well. Figure 4.17 illustrates both the specific and overall forms for "Running To Stand Still" (II:B:5).

Here, the second and third A sections are labeled A′ and A″, respectively because of the slight differences in their constituent verses.

i V C	L V′ C	I	V″ C′ o
A	**A′**	**B**	**A″**

Figure 4.18 Formal outline, "Running To Stand Still."

The listing of both specific and overall forms of each song in Tables 2 through 5 provides a clear overview of just how much U2 varies their songs' constructions. Perhaps the most telling statistic from this data is that not one specific form is used more than once: 125 songs, 125 different *specific* formal organizations. The overall forms are also quite varied, although not nearly as multifarious as the specific forms. A general AABA organization is used the most: 54/125 (43%) songs use some variation of this form, with 23 (18%) arranged in an AABA′ format, 24 (19%) in AA′BA″, and 8 (6%) in either AABA, AA′BA, or AA′BA′. The next most common overall form is AAA, with 11/125 (9%) using AAA or some variation of this arrangement, followed by 9/125 (7%) using a two-part AA or AA′.

One of the objectives in defining, demonstrating, and differentiating the various sections of a rock song is function identification/specification and terminological consistency. Defining these terms precisely and consistently necessitates in-depth examination of formal relationships within rock songs. As can be deduced by the above definitions, there are several ways to utilize each section. Identifying the specific function of a song section can clarify its relationship to the other passages, in turn affecting the meaning and interpretation of the song as a whole. Using the detailed classification system described in this chapter leads to better, more complete stylistic comparisons among U2's songs, with the potential for application within and across popular music genres. Ultimately, this system allows for a more thorough understanding of formal processes and song construction in U2's music specifically, and popular music in general.

CHAPTER 5

LIKE A SONG: Complete Analytical Examples

This chapter will use the methods and terms outlined and defined in Chapters 2, 3, and 4 to present complete analyses of five U2 songs. I consider details of harmony, melody, motivic presentation and development, counterpoint, rhythm, meter, dynamics, instrumentation, timbre, recording and production, and text/music relationships using a number of different techniques analyzing each song, including:

- *waveform* and *spectrum analysis*, for visual representation of volume intensity, sonic density, and formal divisions;
- *linear reductive analysis*, to show melodic and harmonic connections, as well as formal similarities or differences;
- *lyric interpretation*, to offer insight into each song's meaning and also to examine any connections between the text and the music;
- *transcriptions*, to show interactions between and among the various instruments and effects;
- *arch-maps*, for simple visual comparisons of section lengths and proportions of specific forms and overall forms;
- *lyric* and *form charts*, to show section labels, lyrics, measure lengths, and bass line/harmonic progressions.

The five songs used in this chapter—"Sunday Bloody Sunday" (I:C:1), "Where The Streets Have No Name" (II:B:1), "With Or Without You" (II:B:3), "Discothèque" (III:C:1), and "Vertigo" (IV:B:1)—represent output from each of the four style periods, and therefore contrast in many ways. However, I hope to show that, although each song is unique in its own right, they all share certain formal and stylistic traits that identify them as distinctively U2. Of the ten sonic and formal elements identified in the previous two chapters—the eight aural characteristics in Chapter 3 and the two formal attributes in Chapter 4—the songs used for the examples in this chapter all use at least seven. For each song, I give a brief history of its background, and then explain the formal and stylistic characteristics based on the criteria in the third and fourth chapters.

"Sunday Bloody Sunday"

War was the band's third full-length studio album, and the first to garner the band widespread acclaim. This was U2's hardest-sounding, most politically charged offering up to this point in their brief career, headlined by the military-inspired "Sunday Bloody Sunday" as its first track. Although only commercially released in Europe, the song attracted a great deal of attention in America and helped label U2 as one of pop music's next big rock bands. The inspiration for the song comes from two separate tragic events in Irish history stemming from the conflict between Irish Catholics and Protestants in Northern Ireland. Early in the morning of 21 November 1921, members of the original Irish Republican Army broke into the houses of several British undercover agents and assassinated them in their beds. In a retaliatory gesture of unspeakable brutality, members of an auxiliary police force known as the "Black and Tans" and soldiers from the Regular Royal Irish Constabulary fired upon spectators attending a football match. Twelve people were killed and sixty wounded, along with hundreds of others who were injured during the subsequent stampede. That day came to be known as "Bloody Sunday." Just over fifty years later, on 30 January 1972, another massacre took place, as members of an elite British paratrooper core opened fire on a group of unarmed civilian protesters in Derry, Ireland, killing fourteen and wounding fourteen others. It was another "Bloody Sunday."

These two events serve as the backdrop for one of the band's most explicitly political songs, although admittedly, it takes no sides. "This is not a rebel song," Bono would declare at the band's Red Rocks concert in 1983; rather, it is a song of peaceful protest, not just against those two horrific Sundays, but also against using violence, in general, as a means of conflict resolution. The non-partisan stance is easily identified in the lyrics, with the line "I won't heed the battle call / It puts my back up, puts my back up against the wall." Violence, Bono sings, is a no-win proposition, never a solution, but a course of action that only promotes more trouble: "There's many lost, but tell me who has won?" and "Mothers, children, brothers, sisters torn apart." Adopting this position was rare for musicians in 1983. "U2 [doesn't] pretend to have the answers to the world's troubles." Rather than insult those in power or choose a side to support, "they [instead] devote their ener-

gies to letting us know that they are concerned and to creating an awareness about those problems."[87]

The militant character of the song is established at the outset by Mullen's drumming. He uses his boyhood band experience to "[hammer] out a martial rhythm reminiscent of the nationalist marching band material he'd played in that more regimental setting."[88] Characteristically, he incorporates a fair amount of syncopation into his percussion line. Eighth-note hi-hat and quarter-note kick drum hits maintain the forceful, driving pulse of the song, symbolizing a marching military troop. So rigid is the kick drum that its quarter-note rhythm remains unchanged throughout the duration of the entire song: it maintains its steady pulse for all 114 measures. Mullen contrasts the uniform hi-hat and kick drum with syncopated snare hits, in effect simulating the sound of random, indiscriminant gunfire. These syncopated snare hits seem even more random after The Edge's guitar enters with the song's first melodic material: eighth-note arpeggios that sound calm and composed compared to the percussion, perhaps representing the steadiness and nonviolence advocated in the lyrics.

In addition to the syncopated percussion and guitar arpeggios, "Sunday Bloody Sunday" uses five more of the aural and form characteristics detailed in Chapters 3 and 4, for a total of seven out of ten. The element most conspicuously absent is The Edge's trademark echo/delay effect. It was a conscious decision by the band to not use the effect on the album in order to produce a more focused sound to parallel the pointed, political lyrics. There is, however, one instance of an echo in the vocal part, on the last two words of the line, "And mothers, children, brothers, sisters torn apart," at the end of the third verse (approximately 1:55). The effect symbolizes the relationships affected by violence, how senseless killings separate family members from each other. The other two traits not present in "Sunday Bloody Sunday" are an extended introduction and a multi-layered vocal line.

---

87. Rolling Stone, "Artist/Album Reviews"; available from http://www.rollingstone.com/artists/u2/albums/album/210489/review/6067451/war; Internet; accessed 13 December 2007.

88. Stokes, *Into the Heart*, 38.

The song's use of dynamic stereo is evident mainly in the percussion, where the hi-hat and cymbals are mixed right of the center. Figure 5.1a, a general waveform of the entire song, shows a thicker plot in the right channel (the lower graph), especially between 2:15 and 3:15, indicating that that the levels are higher here than in the left channel. A nine-measure independent continuous interverse that appears twice (0:29-0:50 and 2:06-2:28), along with a twelve-measure C'' (3:15-3:44) and a twelve-measure V'' (4:22-4:40) constitutes the sections of irregular length. Clayton's bass line is active throughout the entire song, mainly shadowing The Edge's chordal riffs and providing a lower harmony to Bono's vocals in the second inteverse. The Edge uses his muted strum technique at various points throughout the song, but it is most apparent in the dependent interverse (2:57-3:15) to give the timbre of the song an even sharper feel, and also perhaps to mimic gunshots, much the same way as Mullen's drumming. Finally, harmonics can be heard in the second part of each chorus and chorus''. They accompany texture and harmonic changes in this passage, which has a softer, more gentle character, perhaps representative of a peaceful resolution that can result from non-violent actions.

The lyrics to "Sunday Bloody Sunday" employ several poetic devices. Aside from an AABB rhyme scheme throughout the majority of the song, the second verse features a clever use of alliteration. In the span of twenty seconds, Bono sings a "b" consonant seven times, on the words "broken," "bottles," "bodies," "but," "battle," and "back." The "b" sound is a hard consonant, naturally imparting an emphasis to the syllable on which it falls and creating a sharply sung vocal line. In this particular song, however, the alliteration serves another function: it relates to the song's title. The word "bloody" is descriptive, evoking graphic images of violence and horror, so it stands out from most other words, and particularly when sandwiched between two instances of the word "Sunday," the holy day of the week for Christians, a time associated with worship, gentility, and propriety. In effect, by singing several times the "b" consonant, U2 is saying that the victims of those two fateful Sundays should be in our memories always, serving as constant reminders of how NOT to go about settling disputes.

a.

b.

c.

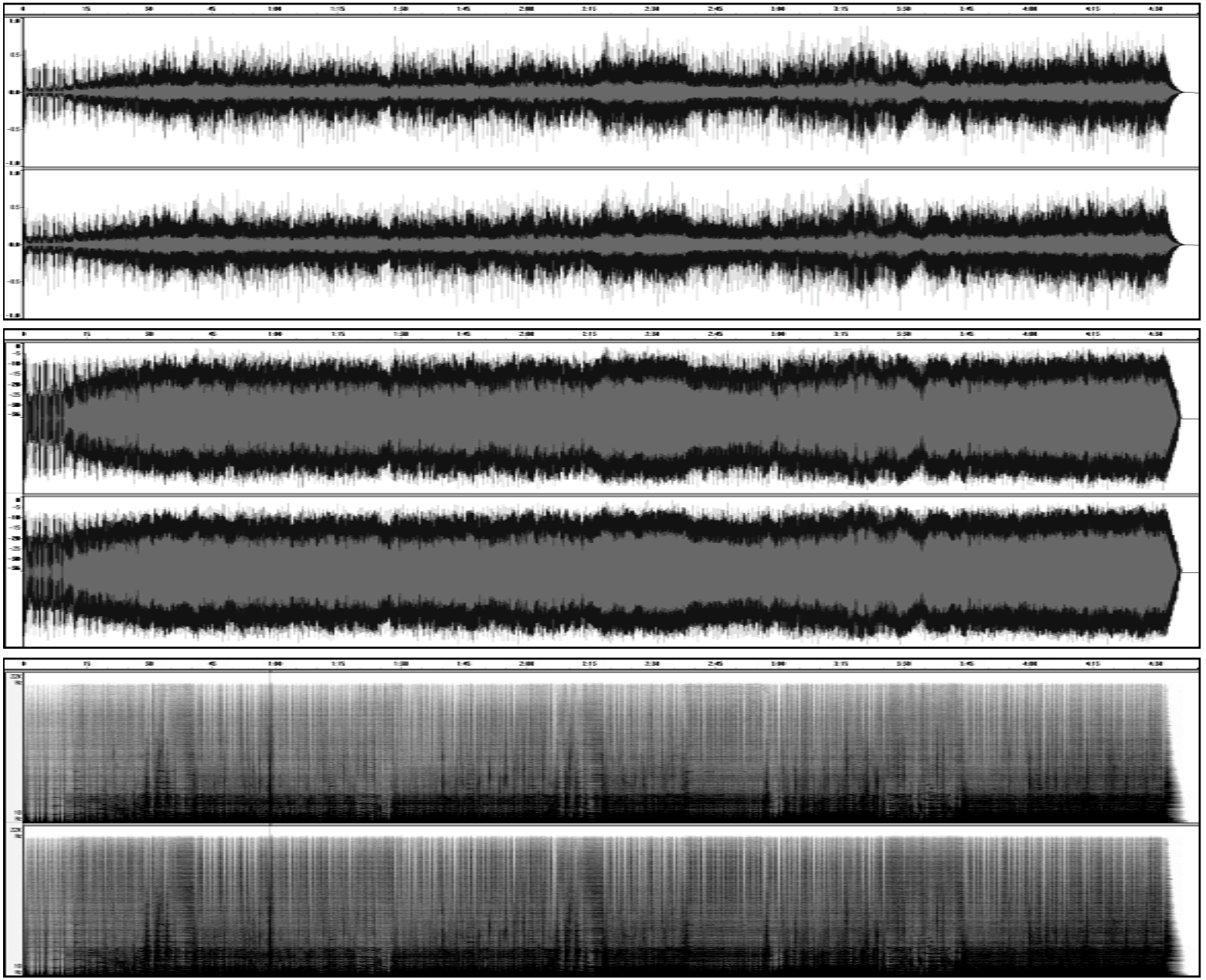


Figure 5.1 "Sunday Bloody Sunday": a. General waveform, b. dB waveform, c. Spectrograph.

I have identified the specific and overall form of "Sunday Bloody Sunday" in Figure 5.2 below. These forms are illustrated in arch-map form in Figure 5.3, which is drawn to scale. Arch-maps provide a clear visual illustration of the song's form, along with the various sections' proportions in relation to each other and to the whole song. Figure 5.4 is a form outline of the song that catalogues the its sectional divisions, lyrics, bass lines, measure lengths for each section, and sectional time markers.

overall:	**A**	**A′**	**B**	**A″**
specific:	i V N_c^i V′ C	L V′ C′ N_c^i C′	I N_c^d C″	L V″ C

Figure 5.2 Overall and specific forms, "Sunday Bloody Sunday."

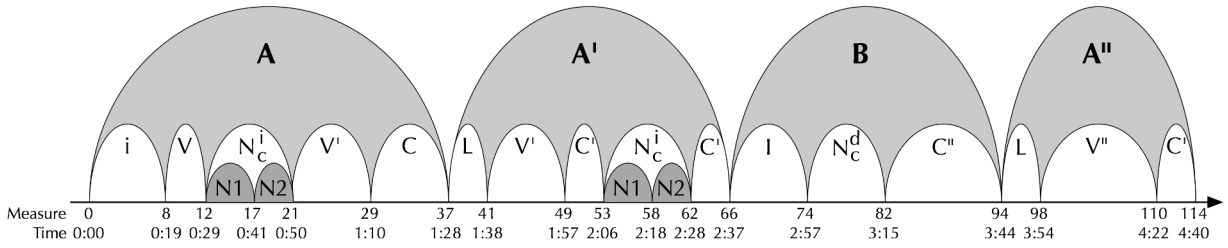


Figure 5.3 Formal arch-map, "Sunday Bloody Sunday."

The overall form of the song is obscured by the seemingly inconsistent placement of individual sections. Moreover, the sheer number of specific sections (identified as the white arches) obfuscates the form even more because each of these sections is small compared to the song as a whole, and can be easily moved and used in a variety of different places. Typically, changes in the harmonic progression indicate a new section; in "Sunday Bloody Sunday," however, this is not necessarily the case. Both the independent continuous interverses and chorus sections use two different bass lines, changing approximately halfway through each respective section. Similar to harmonic progressions, differ-ences usually play important roles in section differentiation. The case remains true for this song, especially between the interverses and the other sections. For example, the guitar in the first verse is arpeggiating chords, but changes to strummed chords in the subsequent interverse. Mullen's percussion also changes in the interverse. His use of the crash cymbal in this section sets it apart from the verses and choruses in which the cymbal is not used.

Section	Lyrics	Bass line (repetitions)	Measure Length	Time (mm:ss)
Introduction	[none]	[none]	8	0:00-0:19
Verse	I can't believe the news today I can't close my eyes…	[none]	4	0:19-0:29
Independent Continuous Interverse	How long, how long must we sing this song How long…	D♭-E♭ (2)	5	0:29-0:41
	'Cause tonight We can be as…	B♭-D♭-G♭ (2)	4	0:41-0:50
Verse′	Broken bottles under children's feet, Bodies strewn… But I won't heed… I puts my back… Puts my back up...	B♭-D♭-G♭ (4)	8	0:50-1:10
Chorus	Sunday, bloody Sunday. Sunday… Sunday… Sunday…	B♭-D♭-G♭ (2) E-E♭-D♭ (2)	8	1:10-1:28
Link	[none]	B♭-D♭-G♭ (2)	4	1:28-1:38
Verse′	And the battle's just begun. There's many lost… The trenches dug… And mothers, children…	B♭-D♭-G♭ (4)	8	1:38-1:57
Chorus′	Sunday, bloody Sunday. Sunday…	B♭-D♭-G♭ (2)	4	1:57-2:06
Independent Continuous Interverse	How long, how long must we sing this song? How long…	D♭-E♭ (2)	5	2:06-2:18
	'Cause tonight We can be as…	B♭-D♭-G♭ (2)	4	2:18-2:28
Chorus′	Sunday, bloody Sunday. Sunday…	B♭-D♭-G♭ (2)	4	2:28-2:37
Interlude	[none]	B♭-D♭-G♭ (4)	8	2:37-2:57
Dependent Continuous Interverse	Wipe the tears from your eyes. Wipe the tears… I'll wipe… I'll wipe…	B♭-D♭-G♭ (4)	8	2:57-3:15
Chorus′′	Sunday, bloody Sunday. (I'll wipe your bloodshot eyes). Sunday… Sunday… Sunday…	B♭-D♭-G♭ (2) E-E♭-D♭ (4)	12	3:15-3:44
Link	[none]	B♭-D♭-G♭ (2)	4	3:44-3:54
Verse′′	And it's true we are immune When fact is fiction… And today… We eat and drink… The real battle… (Sunday, bloody Sunday.) To claim the victory… (Sunday, bloody Sunday.) on…	B♭-D♭-G♭ (6)	12	3:54-4:22
Chorus′	Sunday, bloody Sunday. Sunday…	B♭-D♭-G♭ (2)	4	4:22-4:40

Figure 5.4 Form outline of "Sunday Bloody Sunday."

These marked texture changes are clearly illustrated in the waveforms and spectrograph in Figure 5.1. Figure 5.1b is a decibel waveform that shows overall volume of the track. In these two graphs, the taller the spike, the more intense or louder the sound is at that particular moment of the song. Figure 5.1c is a grayscale spectrograph, which illustrates the presence of certain frequencies in the song. This graph ranges from the 10Hz up to 22,000 Hz (22K Hz) and indicates those certain frequencies by grey vertical lines: dark areas signify the presence of more frequencies in that range. Thus, the darker the coloration, the more dense sound in that specific range of frequencies. In each example, the top graph represents the left channel and the bottom illustrates the right side. I placed all three graphs in close proximity to each other for convenient visual comparison of the same points in time.

Each major section in "Sunday Bloody Sunday" is readily identifiable in the graphs. Just as they each begin with an instrumental section, every section also ends with a slight reduction in sound levels. For example, in the general waveform, Figure 5.1a, there is a brief decline in levels around 1:27, which corresponds to the end of the first chorus section as labeled in Figure 5.4. This reduction in levels is also present in Figure 5.1b, the dB waveform: a drop in the levels of the instruments creates a drop in the overall volume of the song at that particular point, represented by the noticeable gap in the graph. The section break is more difficult to see in the spectrum analysis of Figure 5.1c. A slight lightening of the lower part of the graph reveals that Clayton is not playing the bass as forcefully here, but resumes his aggressive line at the beginning of the next section, as indicated by the nearly-black band at the bottom of the graph.

Similar clues as to the rest of the song's form can be found in the waveforms and spectrum analysis. For instance, the second independent interverse and second chorus are the last parts of the second overall section, **A′**. These portions of the song are easily recognized on the waveforms by their dramatically higher peaks lasting from around 2:18 to 2:37, followed by a relatively sharp decline. The final overall section, **A″**, can be identified not only by a sudden drop in levels just before its beginning, but also by its sustained levels throughout its duration, visible in all three graphs from around 3:44 to the end of the song. In this last section, Mullen uses an open hi-hat cymbal generously, the sound of

which covers a wide range of frequencies and is quite loud in comparison to the rest of the instruments. This portion of the song occupies the tallest area on the dB waveform and is the darkest section of the spectrograph.

The lyrics and vocal melody are the primary elements that establish the specific form of "Sunday Bloody Sunday," while the instrumentation primarily determines the overall form. That is, each overall section begins with an instrumental passage, so the use of an instrumental section—the introduction, a link, or the interlude—indicates the beginning of a new large-scale song division, and a chorus marks the end of a section. The vocal melody and rhythm beginning each specific section is unique, therefore making it easy to detect section changes. As indicated in the transcriptions of Figure 5.5, the verses use a syncopated ascending and descending melodic contour; the independent continuous interverses use an essentially descending melody sung on more straightforward rhythms, while the dependent continuous interverse descends first, followed by a slight rise in its contour.

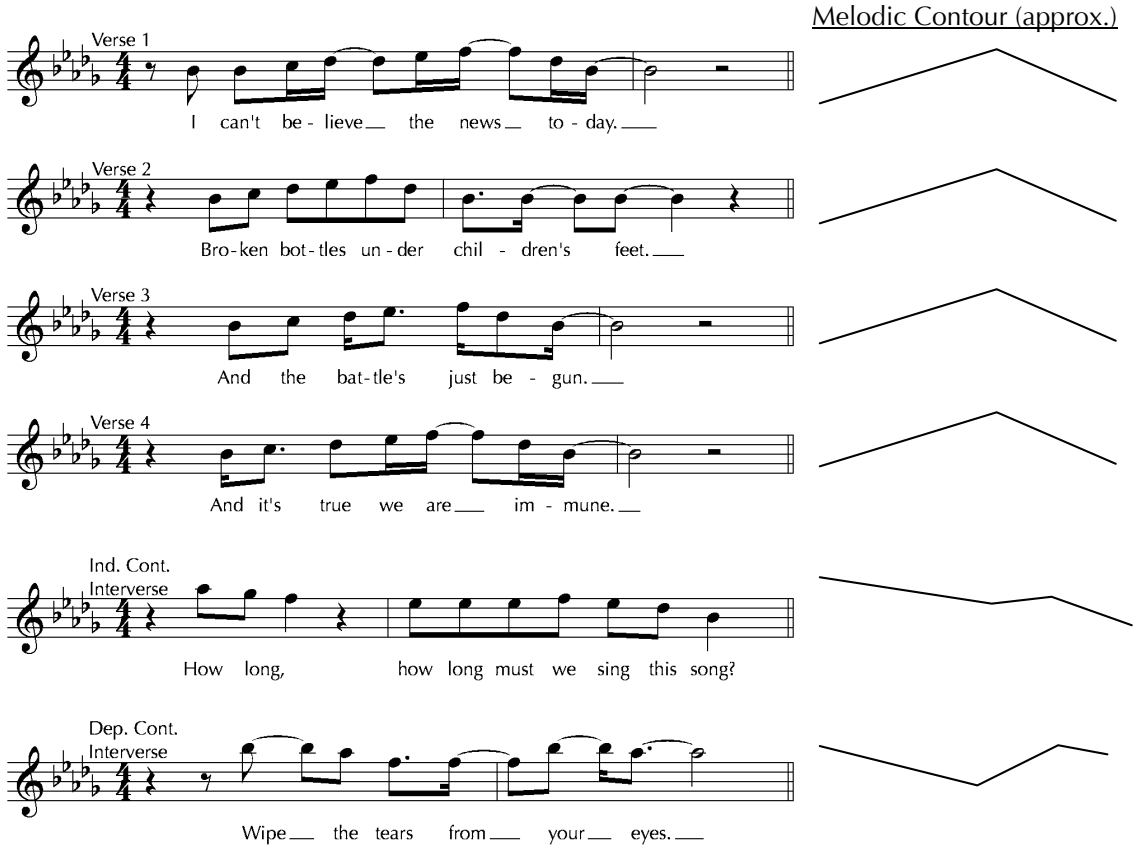


Figure 5.5 Section openings and contours, "Sunday Bloody Sunday."

In addition to the melody, the lyrics are also determinants of section beginnings. Each independent sectional interverse starts with the words "How long." The choruses repeat the title, "Sunday Bloody Sunday," while the verses begin with different lyrics each time. The the one instance of the dependent continuous interverse repeats the phrase or some variation of "Wipe the tears away. In other words, each section has a distinct dramatic function within the song's overall scheme.

"Where The Streets Have No Name"

In 1985, Bono and his wife, Ali, spent several weeks in Ethiopia as volunteers, helping with food distribution, health initiatives, and education in the poverty- and famine-stricken nation. What they saw there changed their perspective on contemporary life in the Western world. Bono describes the Ethiopian spirits as "very strong. There's no doubt that, even in poverty, they had something we didn't have. When I got back [to Ireland], I realized the extent to which people in the West were like spoiled children."[89] Naturally, Bono wrote a song based on his experiences in Africa, which was eventually titled "Where The Streets Have No Name."

"Where The Streets Have No Name" is the first song on U2's landmark album *The Joshua Tree* and has become a staple in the band's live concerts. According to Bono, "No matter how [bad] a U2 show gets, we can be sure the gig will [end well] if we play this song."[90] Ironically, as much importance as the group has placed on this song in performance contexts, the original master tape was nearly deleted during the recording process. The band was having a difficult time agreeing on the song's lyrical, sonic, and formal arrangement. "It took forever to get that song," recalls co-producer Daniel Lanois. "We had this giant blackboard with the arrangement written on it. I felt like a science professor, conducting them. To get the rise and fall, the song's dynamic, took a long time."[91] The time was almost too long for co-producer Brian Eno, who was tempted to erase the progress the band achieved in order that they could and start anew, *tabula rasa*. His rationale

89. Stokes, *Into the Heart*, 64.
90. Jann S. Wenner, "Bono: The Rolling Stone Interview," *Rolling Stone* 986, 3 November 2005, 58.
91. Stokes, *Into the Heart*, 63-64.

was that a fresh perspective might be more beneficial than trying to force what was already a painstaking song. Luckily, an assistant engineer convinced Eno to keep the master multi-track and the band completed what would become one of their signature songs.

"Where The Streets Have No Name" is arranged in a fairly straightforward AA′ overall form, as illustrated below in Figure 5.6 and also in the proportionally drawn-to-scale arch map in Figure 5.7. Figure 5.8 is a form outline of the song.

overall: **A** **A′**
specific: i V R V R C L V R C D o

Figure 5.6 Overall and specific forms, "Where The Streets Have No Name."

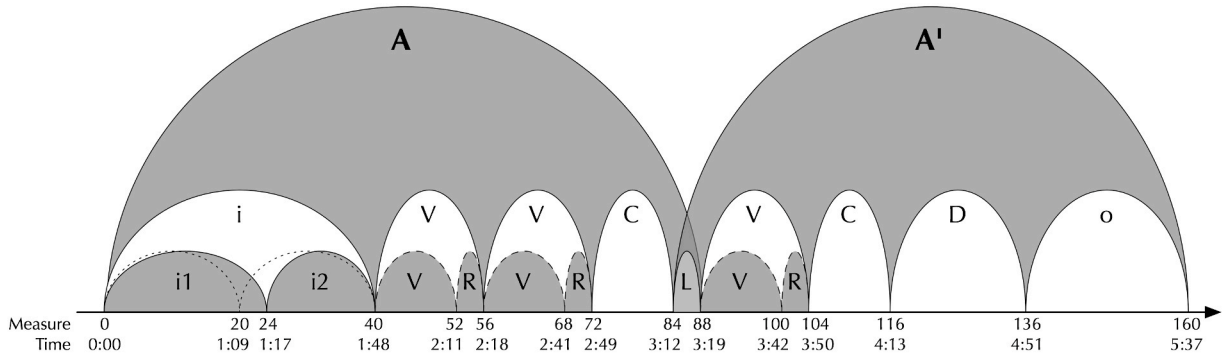


Figure 5.7 Formal arch-map, "Where The Streets Have No Name."

One of the reasons "Where The Streets Have No Name" is a rarity in U2's catalogue is the fact that the song uses both a refrain and a chorus. The lyrics, "Where the streets have no name" stand out for several reasons. By virtue of being the title of the song, it automatically gains importance, which is augmented by the line's frequency of use. It appears at the end of every verse as a refrain; Bono also sings it twice at the beginning of each chorus. Further emphasis is placed on the line by the associated harmony at each refrain. Melodically, the refrain is conclusive, ending on a tonic D. The supporting harmony, however, does not end on the corresponding D harmony, as the melody implies or as the previous dominant A harmony would suggest. Instead of resolving the A harmony to D, the harmony surprisingly changes to ♭VII (C), which not only frustrates the ex-

Section	Lyrics	Bass line (repetitions)	Measure Length	Time
Introduction	[none]	D-G-D-G-B-A-D (2)	24	0:00-1:17
		D-G-D-G-B-A-C	16	1:17-1:48
Verse	I want to run. I want to hide. I want to tear… that hold… I want to… and touch…	D-G-B-A	12	1:48-2:11
Refrain	Where the streets have no name.	C	4	2:11-2:18
Verse	I want to feel sunlight on my face. I see the dust… Without… I want to… from the…	D-G-B-A	12	2:18-2:41
Refrain	Where the streets have no name.	C	4	2:41-2:49
Chorus	Where the streets have no name Where the streets… We're still building… Burnin…. And when I… I go there… (It's all I can do.)	D-G-B-A	12	2:49-3:12
Link	[none]	D	4	3:12-3:19
Verse	The city's a-flood, and our love turns to rust. We're beaten and… trampled… I'll show you… high on the…	D-G-B-A	12	3:19-3:42
Refrain	Where the streets have no name.	C	4	3:42-3:50
Chorus	Where the streets have no name Where the streets… We're still building… Burning… And when I… I go there… (It's all I can do.)	D-G-B-A	12	3:50-4:13
Coda	Our love turns… We're beaten and… Blown by… Oh when I… See our love… Oh we're beaten… Blown by… And when I… I go there… (It's all I can do.)	D-G-D-G-B-A	20	4:13-4:51
Conclusion	[none]	D-G-D-G-B-A-D	24 + fade	4:51-5:37

Figure 5.8 Form outline, "Where The Streets Have No Name."

pected A-to-D resolution, but also creates a dissonance with the melody. This dissonance worksto push the song forward into other sections, which finally achieve the D resolutions predicted by the A harmonies.

There are two points of interest in this song's formal scheme, both having to do with the overlapping arches in the arch-map. The first is during the introduction, just after the meter shifts from $\frac{3}{4}$ to $\frac{4}{4}$, from 1:09-1:17. These four measures can be interpreted as either the last part of i1, the first introductory section, or as the first part of the second half of the introduction, i2. At 1:09, the percussion and bass guitar enter, changing the texture. Entrances like these, along with the shift in meter, usually serve as section markers. However, the harmony at this juncture does not change: i1 ends with two measures of tonic D harmony, while the harmony from 1:09 through 1:17 remains D. This interpretation is indicated on the arch-map by the empty dotted arches underneath the white arch labeled "i."

Despite this evidence, I interpret these four measures as the last part passage of i1 rather than the first part of i2. The cymbal crash at 1:17 is perhaps the most telling aural evidence for this interpretation. Because of the distinct timbre of a crash cymbal, it frequently is used to mark important points in a song. "Where The Streets Have No Name" is no exception. Although the drums enter at 1:09, Mullen plays the first crash four measures later at 1:17. Accompanying the crash cymbal at this point is a change in the voicing of the harmony played by the background organ. At 1:09, the organ plays a D major harmony with the root (D) in the highest voice; at 1:17, that voicing moves up and replaces the D in the upper voice with the A five steps higher. Additionally, from a formal perspective, interpreting the passage from 1:09-1:17 as part of i2 gives the song balance. Not only does this interpretation make i2 an even 16 measures long, but it also causes both i1 and the conclusion to be the same length: 24 measures each.

An examination of the waveforms and spectrographs in Figure 5.9 reveals visual support for this interpretation as well. On both the general waveform and dB waveform (Figures 5.9a and 5.9b, respectively) the levels for these four measures steadily increase

a.

b.

c.

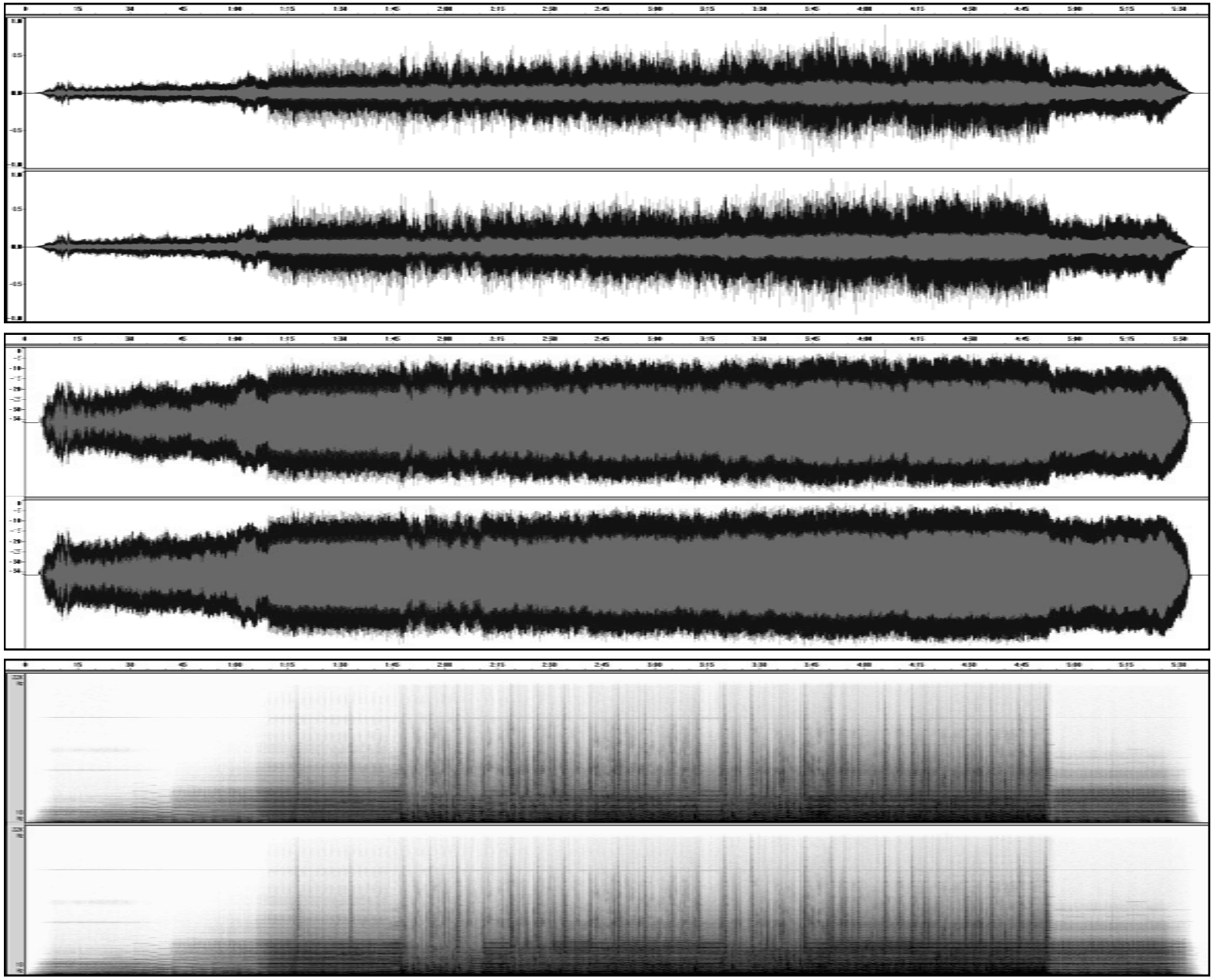


Figure 5.9 "Where The Streets Have No Name": a. General waveform, b. dB waveform, c. Spectrograph.

over their durations, indicating that the true beginning of the i2 section is at the peak at 1:17. The peak represents the cymbal crash, and is easily visible in both waveforms and depicted in the spectrograph (Figure5.9c) by the first tall, thin dark grey band at the same time marker. On the spectrum analysis, it is easy to see when the various instrumental layers in the introduction enter, as these points are clearly distinguished by the darkening of the graph. Figure 5.8 and the solid grey arches in Figure 5.7 reflect this analysis.

A similar situation arises in the middle of the song, between the **A** and **A′**. The link separating the first chorus from the third verse can be interpreted as the concluding passage of first **A** section or as the introductory segment for the **A′** section, as indicated by the double underlined L in Figure 5.5. The argument for attaching it to the first A section is threefold: 1) harmonically, the D harmony in the link resolves the dominant A harmony at the end of the Chorus; 2) lyrically, the two sections are elided by the carry-over of the text, "(It's all I can do)," at the end of the chorus into the link; and 3) the link creates a perfectly balanced text section. That is, the portion of the song that includes text is 96 measures long, from the first verse to the coda. The 96 measures would be evenly divided into two 48-measure halves if the link was considered part of the A section.

On the other hand, there are several reasons that support the link's attachment to the A′ section. From a formal perspective, beginning the **A′** section with the link would parallel the **A** section in that both overall segments would begin with an instrumental passage. Secondly, there are changes in the guitar parts that indicate a new section has begun, which also parallel the beginning of the **A** section in that there are differences in the guitar lines between the end of the introduction and the beginning of the first verse. Thirdly, similar to the first interpretation, there is textual overlap, as the lyrics for the third verse start two and half beats before the section begins. Figure 5.6 reflects the dual function of the link with overlapping **A** and **A′** arches at the map's highest level. Regardless of which **A** section lays claim to the link, it is unambiguous from the spectrum analysis that the link divides the song into two distinct halves. The break that the link provides between the two overall sections is represented by a lightly-shaded band around the 3:15 time marker.

One of the strengths of "Where The Streets Have No Name" is its ambiguity, formally (evidenced above) as well as lyrically. Stokes states that "it is never quite clear where the streets with no name are, or precisely what the phrase is intended to mean. [Bono] could be talking about Heaven. Maybe even offering us a glimpse into some kind of private hell."[92] Is it a song of hope and optimism, or one about isolation and destruction? It is unclear whether the song refers to an existentialist philosophy ("I want to run. I want to hide. / I want to tear down the walls / that hold me inside"), an actual place on earth ("I want to take shelter / from the poison rain / Where the streets have no name"), or a romantic destination ("And when I go there / I go there with you.") Does the "poison rain" refer to poisonous, corrosive "acid rain," or are those lyrics more metaphorical, alluding to bullets "raining" down form the sky, perhaps in an area suffering through war or some sort of civil strife? Even Bono himself is unsure as to exactly what the lyrics intend to espouse:

> "Where The Streets Have No Name" is more like the U2 of old than any of the other songs on [*The Joshua Tree*], because it's a sketch—I was just trying to sketch a location, maybe a spiritual location, maybe a romantic location. I was trying to sketch a feeling. I often feel very claustrophobic in a city, a feeling of wanting to break out of that city, and a feeling of wanting to go somewhere where the values of the city and the values of our society don't hold you down.[93]

What *is* clear is that the song is the ideal opening track to *The Joshua Tree*, the liner notes of which are comprised of black-and-white pictures of the band in the various desolate desert locations around the southwestern United States. The lyrics "I'll show a place / high on the desert plain" tie in with the imagery portrayed in the album notes. Figure 5.10 shows the album's cover: the sullen-looking band members standing at a high point that overlooks a barren landscape, with the whole experience depicted in shades of grey.

The image of a desert is deceptively complex. Initially, it seems to be a dry, lonely, desolate place, but it is also simultaneously uninhibited, open, and simple. The song expresses this paradoxical duality in the lyrics, but also in its use of two meters. "Where The

92. Stokes, *Into the Heart*, 64.

93. U2, "Singles"; available from http://www.u2.com/music/index.php?album_id=31&type=all_singles; Internet; accessed 18 December 2007.

Streets Have No Name" is one of only a handful of U2 songs that incorporate multiple meters, so the change from $\frac{3}{4}$ to $\frac{4}{4}$ and back again is significant. The use of two meters could also signify a juxtaposition of two vantage points. Most pop songs are in $\frac{4}{4}$ meter, and the $\frac{4}{4}$ segment of the song could represent the claustrophobic city to which Bono alludes, while the $\frac{3}{4}$ introduction and conclusion sections, a much more rarely used meter in pop music, signify the song's protagonist breaking free of the constraints imposed upon him by the "values of society."

Figure 5.10 *The Joshua Tree* album cover.

Beginning on *The Unforgettable Fire* album and perfected on *The Joshua Tree*, one of the quintessential U2 characteristics is the band's creation of vast sonic spaces. They accomplish this in part not only with The Edge's echo effect, but also with other layers that contrast the rapid movement of the echo. Allan F. Moore describes this process as "the creation of the illusion of space by a divergence between fast, intricate surface movement and slow, underlying harmonic change."[94] Nowhere is this better exemplified than in "Where The Streets Have No Name." The imagery of the vastness of the desert is easily

94. Allan F. Moore, "U2 and the Myth of Authenticity in Rock," *Popular Musicology* 3 (1998), 21.

conveyed by the slow-moving introductory organ part contrasting the frenetic pace of the lead guitar and its accompanying echo.

"Where The Streets Have No Name" uses eight of the ten style and formal characteristics; only layered vocals and the use of guitar harmonics are not among those traits included in the song. At almost two minutes long, the introduction is one of U2's longest and easily qualifies as an extended introduction. During the course of this long opening section, several other of the traits are used. The Edge's guitar echo/delay is the most obvious one, as this particular example of the effect helps immediately identify this song and this album as a signature U2 contribution. (Please refer to the transcriptions and waveforms in Figures 3.12-3.14 in Chapter 3.) In addition to the echo, The Edge's two riffs in the introduction satisfy two more stylistic criteria, namely, the arpeggiated chords and muted strum. During the first part of the introduction, while the song is still in its original $\frac{3}{4}$ meter, he plays a D major arpeggio (with an added 4^{th}). In the second part, after the metric shift, he uses his muted strum technique as an additional rhythmic layer underneath a more melodic, oscillating chordal guitar line. All three of these guitar characteristics are also used in later sections of the song.

The rhythm section also does its part to contribute to the characteristic U2 sound in "Where The Streets Have No Name." Mullen provides a driving percussion part infused with some syncopated accents on the snare and tom drums, while Clayton's forceful active bass line is present starting from the meter shift at 1:09 through the end of the song. The Edge layers several guitar lines on top of each other, most noticeably in the verses. Each layer occupies a different space within the stereo mix of the song, helping to create the vast landscape described in the lyrics. Each chorus section and the coda qualify as sections with irregular lengths, with measure lengths of 12 and 20 measures, respectively.

Dynamic stereo is used throughout the song, except in the conclusion. In the first two measures of the section, the arpeggiated guitar riff from the introduction re-emerges, and is mixed mainly in the right channel as a continuation of the guitar line in the coda, which is also mixed right of center. At the start of the third measure, at the time marker 4:54, there is a distinct shift in the stereo field: the arpeggio moves from the right channel

to the center of the stereo space, occupying both left and right channels almost equally. Examining the waveforms in Figures 5.7a and 5.7b (shown on page 123) reveals exactly where and when this stereo shift takes place. Prior to the 4:55 time marker, there is a noticeable drop in levels in the left channel, which signifies a difference in sound content between the two sides. They increase shortly thereafter, to levels about equal to those in the right channel, indicating that the sound—in this case the guitar arpeggios—were first mixed exclusively in the right side, then moved to the center. Mixing the main guitar motive in the center during the conclusion, rather than keep in mixed to the right, places the emphasis squarely on the riff. In the conclusion, the guitar line is the primary melodic line; in the introduction, however, the organ serves as the primary melodic line, over which the guitar slowly fades in. Throughout the rest of the song, the lead guitar parts are divided between the left and right sides of the stereo field in order to emphasize the vocal line, with the muted strum occupying the left channel and the short riffs mixed in the right.

"With Or Without You"

The late-1980's was a dynamic, perhaps even turbulent, time in pop music. Radio airwaves were being flooded with an assortment of different sounds and musical stylings. The mainstream emergence of the rap and hip-hop genre (Run DMC, LL Cool J, Beastie Boys), the re-emergence of hard rock and heavy metal (Guns 'n Roses, Metallica, Motley Crüe), the popularity of new wave (Erasure, Eurythmics, Depeche Mode), and the rise of the female pop star (Madonna, Debbie Gibson, Tiffany), for instance, made it difficult for pop musicians to establish a unique identity. U2, however, was on a mission. In February of 1987, with the release of their fifth full-length studio album, *The Joshua Tree*, just a few weeks away, U2 wanted to make a statement, to justify all the hype surrounding them and their upcoming record and to carve out their own particular niche in the cluttered world of popular music. "With Or Without You," the first single from the album, did just that.

Clayton describes the band's philosophy at the time: "The thing is to challenge radio. To get 'With Or Without You' on the radio is pretty good. You don't expect to hear it

there."[95] This unexpected challenge worked in the band's favor, rocketing the single to number one all over the world and catapulting U2 into the rarified air of superstardom. "It doesn't really sound like anything from [1987] at all. It's not coming from [a 1980's] mentality," adds The Edge. Arguably the band's most popular song, "With Or Without You" still receives regular airplay across the United States, more than twenty years after its initial release. Contributing to the song's timelessness is a combination of aural and formal elements that helps it sound "sonically sophisticated," like no other song before it and like few, if any, after it.[96]

One of the elements that contributes to the song's unique sound and proves it worthy of study is its formal organization. The song is arranged in a somewhat unusual ABC format, illustrated in Figure 5.11, below, and in the arch-map in Figure 5.10; Figure 5.13 outlines the song's form.

overall: **A** **B** **C**

specific: i Va C Va′ C′ L N_c^i Vb N_c^i C′ I C′ D o

Figure 5.11 Overall and specific forms, "With Or Without You."

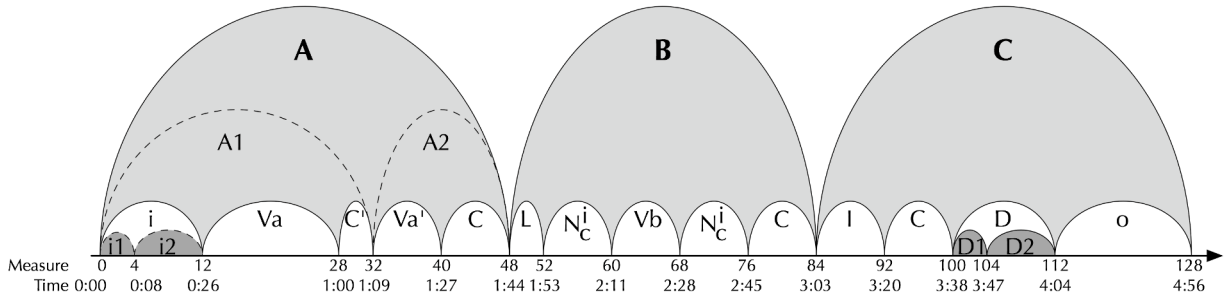


Figure 5.12 Formal arch-map, "With Or Without You."

As indicated in the arch-map, the A section can be divided into two related subsections, A1 and A2. "With Or Without You" is organized into a nearly symmetrical ternary form, with the A section 48 measures long, the B section 36 measures, and the C section consisting of 44 measures.

95. Stokes, *Into the Heart*, 66.
96. Wenner, "Rolling Stone Interview," 60.

Section	Lyrics	Bass line (repetitions)	Measure Length	Time
Introduction	[none]		4	0:00-0:26
		D-A-B-G (2)	8	
Verse a	See the stone set in your eyes See the thorn… I'll wait… Sleight of hand… On a bed of nails… And I wait…	D-A-B-G (4)	16	0:26-1:00
Chorus′	With or without you With or…	D-A-B-G	4	1:01-1:10
Verse a′	Through the storm we reach the shore You gave it all… and I'm waiting…	D-A-B-G (2)	8	1:10-1:27
Chorus	With or without you With or… I can't… With or…	D-A-B-G (2)	8	1:27-1:44
Link	[none]	D-A-B-G	4	1:44-1:53
Independent Continuous Interverse	And you give yourself away And you give… And you give…. And you give…	D-A-B-G (2)	8	1:53-2:11
Verse b	My hands are tied, my body bruised She got me with… And nothing left…	D-A-B-G (2)	8	2:11-2:28
Independent Continuous Interverse	And you give yourself away And you give… And you give… And you give…	D-A-B-G (2)	8	2:28-2:45
Chorus	With or without you With or… I can't… With or…	D-A-B-G (2)	8	2:45-3:03
Interlude	Oh, oh, oh, oh…	D-A-B-G (2)	8	3:03-3:20
Chorus	With or without you With or… I can't… With or… With or…	D-A-B-G (2)	8	3:20-3:38
Coda	[none]	D-A-B-G	4	3:38-3:47
	Ooh, ooh, ooh, ooh…	D	8	3:47-4:04
Conclusion	[none]	D-A-B-G (4 + fade)	16 + fade	4:04-4:56

Figure 5.13 Form outline, "With Or Without You."

In a typical rock song, the harmonic progression plays an important part in determining the form. "With Or Without You" is far from a typical. Clayton plays an unchanging bass line throughout virtually the entire song, only deviating from the D-A-B-G pattern (I-V-vi-IV in D major) in the second part of the coda, D2. Consequently, each overall section is distinguished from the others by differences in lyrics, texture, instrumentation, and melody. The waveforms in Figures 5.14a and 5.14b do not illustrate the form as clearly as the spectrum analysis in Figure 5.14c, although close examination of the two waveforms reveals the form. A linear increase in the levels beginning at 1:44 marks the beginning of the **B** section, and sharp peaks at 3:03, especially in the general waveform (Example 5.14a) signal the beginning of **C**. The song's form is more readily recognizable in the spectrograph, with a slight lightening of the shading at 1:44 indicating the instrumental link at the beginning of **B** and the thin, tall dark grey line at 3:03 signifying the cymbal crash at the beginning of **C**.

A steady increase in levels and frequency content illustrated in the graphs of Figure 5.14 reflects the regular addition of instruments and layers throughout the song's duration. Some of these additions are quite subtle, such as the tom toms and kick drum levels in the very first chorus. Here, the levels for these particular parts of Mullen's trap-set increase slightly, almost imperceptibly, to place more emphasis on the first and third beats of each measure. A higher gain on The Edge's infinite guitar line, the addition of a tambourine in the percussion, and even more emphasis on the tom toms set A2 apart from A1. Figure 5.14c clearly illustrates these texture augmentations with a taller, darker grey area beginning just after 1:10.

The next important texture and instrumentation change takes place at the beginning of **B**, with the accentuation of the snare drum on beats two and four, indicated on the spectrum analysis by the tall thin dark grey lines. Supplementing the increased snare drum emphasis is a new echo-laden guitar riff, which contributes to the intensification of the frequency spectrum at 1:53. A number of other subtle texture changes occur throughout the **B** section before a major shift at the beginning of **C** at 3:03. In the second interverse, The Edge uses harmonics without the infinite sustain for the first time in the song.

a.

b.

c.

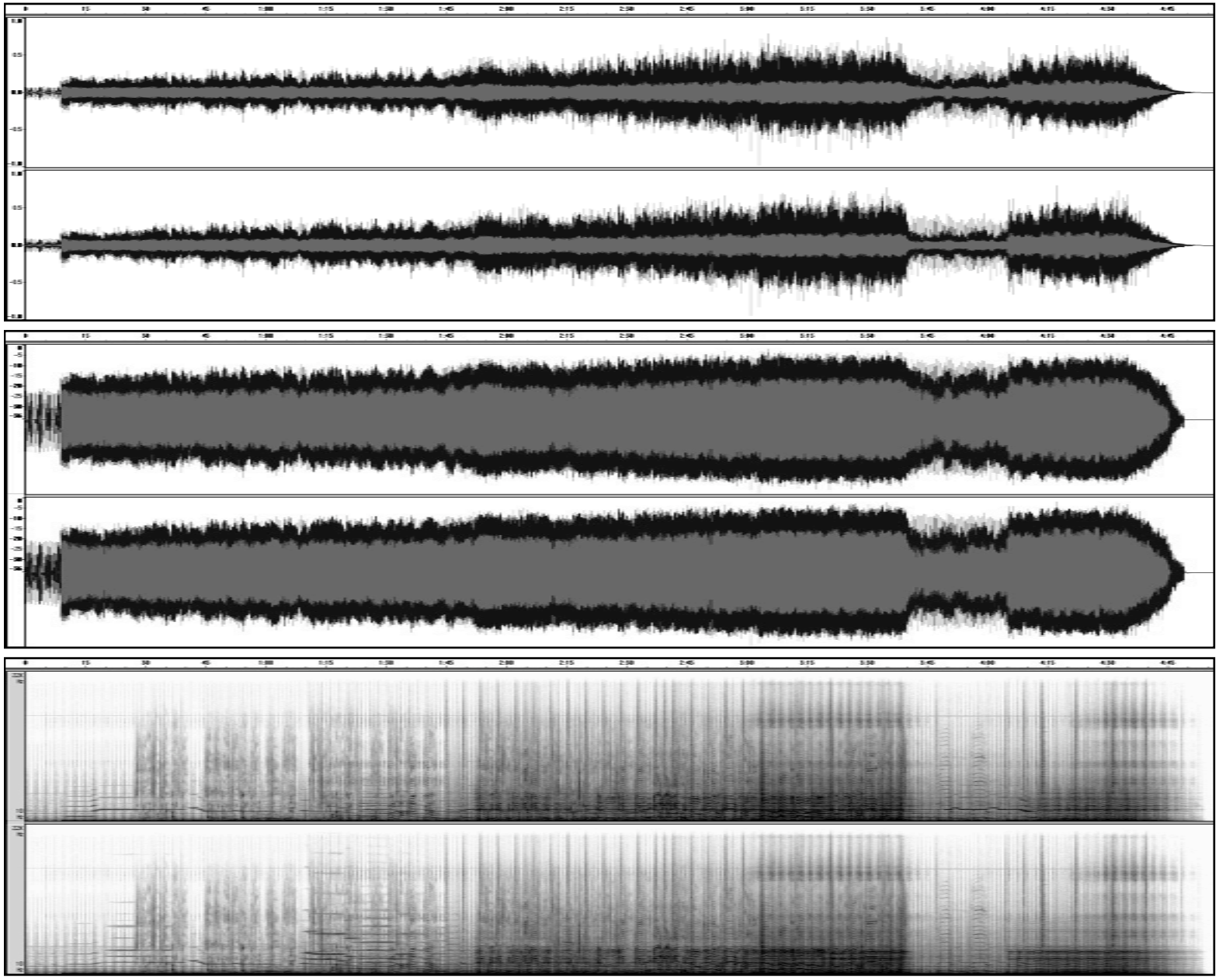


Figure 5.14 "With Or Without You": a. General waveform, b. dB waveform, c. Spectrograph.

Before this point, any harmonics were played using the perpetual sustain. The text from the interverse, "And you give yourself away," is reflective: he is singing about himself here, how he has to let go of his inner turmoil in order to carry on.

Bono describes "With Or Without You" as a song about

> Torment, sexual but also psychological, about how repressing desires makes them stronger….One of the things that was happening at that time was the collision in my own mind between being faithful to [my] art or being faithful to [my] lover. I was at least two people: the person who is so responsible, protective, and loyal, and the vagrant and idler in me who just wants to run from responsibility. I thought [this] tension [was] going to destroy me, but actually…that tension, it turns out, is what makes me an artist.[97]

Introducing a new timbre at the point, just before the song's cathartic climax, signals the beginning of the protagonist's emotional release. The infinite effect symbolizes the lingering anguish suffered by the narrator, and playing harmonics without the sustain indicates he is starting to break free of this tension. In addition to the harmonics, the second interverse introduces a vocal harmony on the last line of the section, as illustrated in Figure 5.15.

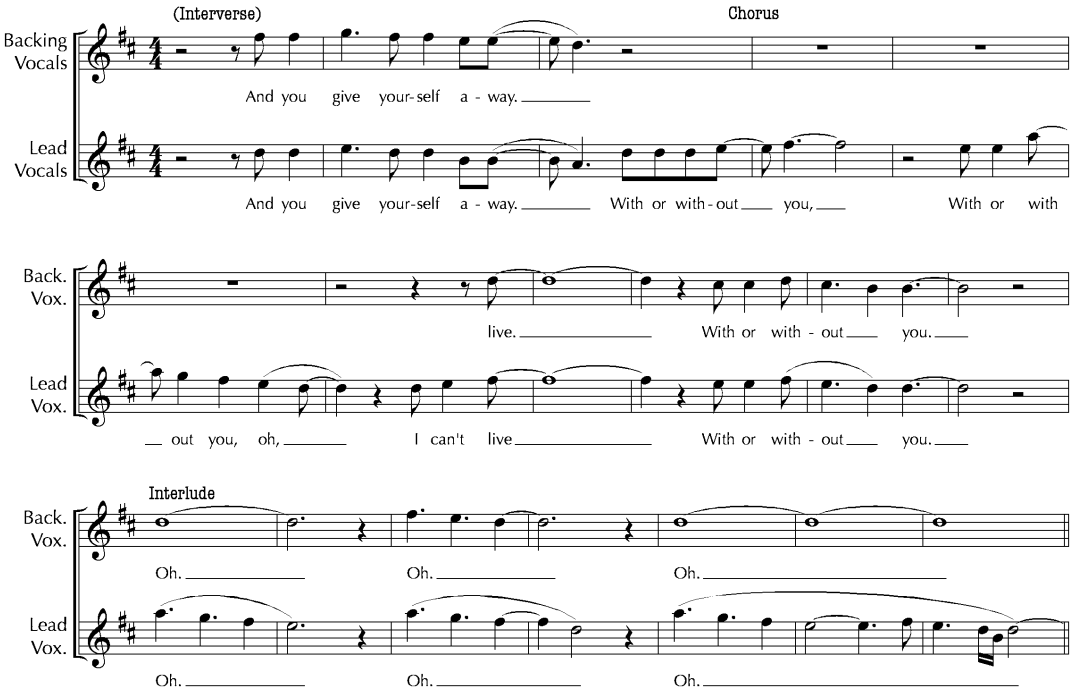


Figure 5.15 Vocal harmonies, "With Or Without You," 2:40-3:18.

97. McCormick, *U2ByU2*, 181.

Although there is a vocal harmony present in each subsequent section that includes texted lyrics, the harmony in the second interverse is different because it is the only instance in which the harmony is higher than the lead vocals. All other vocal harmonies are lower than the lead vocals.

Another subtle change takes place in the chorus section of **B**. Here, Mullen alters his percussion pattern yet again, playing the tambourine on every eighth note instead of concurrently with the snare drum on the second and fourth beats. This places more emphasis on beats two and four, which lends a syncopated feel to the percussion line as well as provides another layer driving the song forward toward the dramatic high point.

In the overall design of the song, **B** is perhaps the most interesting section. It is an odd section in terms of both the specific sections of which it is comprised and the order in which these specific sections appear. A song with two interverse sections is quite rare, and one with two interverses in such close proximity (only eight measures apart) is exceptional. Allan F. Moore discusses the listener's expectations related to the form of the early part of a song:

> A structure consisting of two verses and half-length [chorus] is very common, and may be expected to continue with a third verse and [chorus], possibly an instrumental [interlude], and finally repeating the [chorus] to a fade. At least, a competent listener might expect this, although she will equally be aware that such a pattern might be unlikely, owing to the brevity of the verse.[98]

Indeed, the length of the specific sections (the white arches in Figure 5.12) is brief, at a scant eight measures each. Even the 16-measure first verse can be divided into two eight-measure halves, as there is a two-measure duration without vocals after the line "I'll wait for you," which is indicated on the spectrograph by the light area at 0:40-0:45. The shortness of the individual sections is what enables the unique organization of **B** to be successful. As stated in Chapter 4, a verse following an interverse in not uncommon, as is the case in "With Or Without You." This particular example is exceptional for two reasons. First, a new melody is introduced after the interverse, which differs from a typical song in

98. Moore, p. 16

which a familiar melody follows the interverse. Secondly, the chorus does *not* follow the third verse as expected, rather another instance of the interverse.

The brevity of the individual sections also has an effect on the labeling and interpretation of specific passages and of the song's overall affect. In particular, the chorus sections, C and C′, are identified as such because of their respective lengths. Upon first listening, the listener may label the C′ section in **A** as a refrain, because of its short four-measure length and lack of any major textural, instrumental, or timbral differences from the previous verse. In light of the subsequent eight-measure C sections, however, it is clear that these four measures are an abbreviated "half-length" chorus section. Also, the fact that the eight-measure section is used three times and the four-measure section used only once indicates that the eight-measure chorus is the "real" chorus; the section used in the first overall section is a modified version. Therefore, I retrospectively labeled the section at 1:01 C′ (chorus′) and the sections at 1:27, 2:45, and 3:20 as C (chorus). As Moore observes, the shortness of each section affects the specific and, consequently, overall forms of "With Or Without You." Because the majority of the specific sections have the same (short) length, the listener's expectations of the song's form are thwarted. If the song was organized into a more "standard" form—an AABA′ scheme, for example—while still retaining the same section lengths, the "With Or Without You" would be dramatically shorter than its original length of 4:56, probably between 2:30 and 3:00. At this brief duration, the song would not adequately convey the emotional depth expressed by the lyrics and music. Essentially, U2 *had* to write a formally complex song in order to articulate sufficiently the complex emotions woven into the lyrics.

Typically, a song's climax comes at the end of the interverse, which often coincides with the beginning of the last chorus. The climax in "With Or Without You" certainly does not take place at 2:11, nor does it occur at 2:45, which is the end of the second interverse and the beginning of the second chorus. It is delayed twice, and ultimately positioned at the start of the interlude, after the second chorus. Postponing the song's peak symbolizes the narrator's prolonged torment. The tension through **B** is palpable, and is made even more dramatic by the delayed climax. Bono's "Oh's" in the interlude is arguably the band's most powerful moment in the band's entire catalogue, and the poign-

ancy of the moment is heightened by its placement. In the overall scheme of the song, the location of the climax (3:03) is where the listener expects it to be, almost two-thirds of the way through the song. Although the combination of the overt and subtle textural changes up to that point definitely contributes to the dramatic effect of the climax, the unique formal organization of the song makes it even more compelling.

The lyrics and their associated vocal melody also contribute to determining the song's form. Each major section begins with a passage that either does not have text (**A**: introduction, **B**: link), or has non-texted lyrics (**C**: interlude). Formally, this is similar to "Sunday Bloody Sunday" and "Where The Streets Have No Name," in that each overall section in all three songs begins with a passage that is primarily instrumental. That the chorus and interverse consist of lyrics that repeat differentiates those sections from the verses, each of which incorporates new lyrics. These sections also have specific melodies associated with them.

Perhaps the most distinguishing factor of the vocal line is the use of register. As the tension in the song builds, the tessitura of the melody rises. Bono sings the majority of **A** in a low register, hovering around D3. He sings an octave higher in the chorus', and continues in this register through the first interverse, returning briefly to his low range for the beginning of the third verse. By the end of the third verse, however, he has ascended to his upper range and remains there for the rest of the song. Vb has the same function as Va (hence the common label "verse"), but the melodies in these sections are different. Although Vb begins in the same register as Va, the melody is essentially different, with a rising contour that allows the vocal line to rise into a higher range. This alternation between low and high registers, and then eventually settling into the upper one, reflects the anxiety espoused in the lyrics. The vocals in **C** are all in Bono's upper range, with the "Ooh's" of the second part of the coda sung in falsetto. Overall, the range of "With Or Without You" is quite wide, spanning two-and-a-half octaves (A2-D5), with each major section occupying a different portion of that range.

The alternation of Bono's vocal registers in **B** reflects his anxiety, the internal struggle he undergoes trying to strike a balance between his personal life and life as a rock superstar. His singing of non-texted vocals in the interlude is symbolic of the importance of

emotional release. He is so overwhelmed, so overcome with emotion that he is at a loss for words. This moment of pure emotion is Bono at his most vulnerable: he has given himself away, as the interverse lyrics foretold, and finally has come to grips with the reality that he can survive, and even thrive, in his dual role as musician and husband. As Bono attests, "[The band's] definition of art is the breaking open of the breastbone…just open-heart surgery. I wish there was an easier way. But in the end, people want blood, and I'm one of [those people]."[99]

Another way U2 expresses the emotional depth is by creating a vast sonic space. As much in the way as "Where The Streets Have No Name," there are several textural layers that contrast one another, thereby generating a sense of spaciousness in "With Or Without You." The bass line itself satisfies both of Moore's criteria of creating "the illusion of space by a divergence between fast, intricate surface movement and slow, underlying harmonic change."[100] Its surface movements are quick, providing an eighth-note pulse throughout the duration of the song, while the basic harmonic language is slow-moving, changing chords only every measure. As the infinite guitar enters, its extremely slow-moving character is juxtaposed against the pulse of the bass and the ostinato sixteenth notes of the background synthesizer. The wide range created by these contrasting layers also helps to create a sense of space. Moore describes this technique as "the creation of a wide but sparsely-filled registral space at the beginning of many songs."[101]

"With Or Without You" uses seven of the ten form and style characteristics; it does not have an extended introduction, nor does it utilize the muted strum, and neither is the vocal track layered. Of the traits it does possess, however, perhaps the most easily identifiable is the use of harmonics. As described in Chapter 3, The Edge uses an Infinite guitar in this song, which allows him to play and hold a note for an indefinite amount of time. His harmonics on an Infinite guitar give the song's beginning a haunting, eerie character that reflects the torment soon to be described in the lyrics. As detailed above, he also plays harmonics in the second interverse without the infinite sustain, adding another layer

99. Wenner, "Bono: The Rolling Stone Interview," 61.
100. Moore, "Authenticity in Rock," 21.
101. Moore, p. 20.

to the song's increasingly intricate texture. The high, piercing harmonics of the introduction along with the bell-like ring of the interverse's harmonics contrast Clayton's deep, resonant, active bass line, which provides one of several layers of steady pulses that propel the song forward. The percussion part furnishes one of the other pulses throughout the song. At the song's opening, the drums are mixed at a relatively low volume and are played in a straightforward manner. Mullen does not include his characteristic syncopation until the link, almost two minutes into the song. In every other measure, three tom strikes in beat three along with an open hi-hat on the second half of the fourth beat places an emphasis on the end of each two-measure segment, lending some variety to a previously routine drum line and helping push the song forward. Figure 5.13 is a transcription of the link's syncopated drum line.

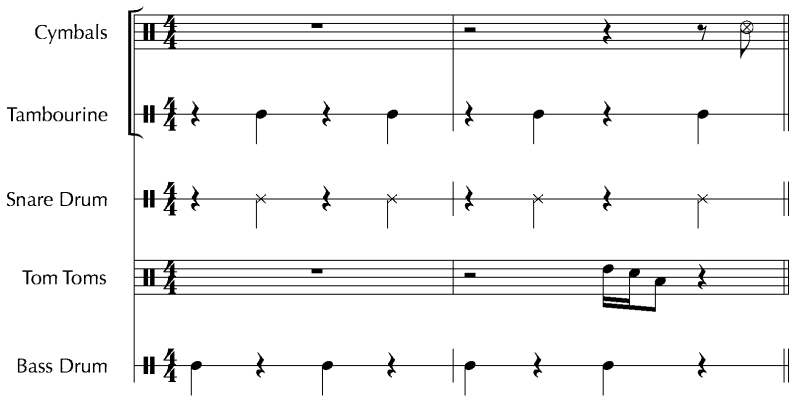


Figure 5.16 Percussion part, link, "With Or Without You," 1:44-1:53.

A chiming synthesizer continually arpeggiating a tonic triad serves as an ostinato background texture throughout the entire song (see Figure 5.17). At the end of the link (at approx. 1:51), a new echo-laden guitar motive is introduced. As evidenced by the transcription in Figure 5.18, its oscillatory pattern is based on the ostinato arpeggiations in the synthesizer. These two parts are related even further by the fact that they both are mixed with an echo effect, although the echo is much more subtle in the synthesizer because of its volume and placement within the overall song texture. The entrance of the lead guitar at 1:51 represents a significant rise in the overall sound levels of the song, which corresponds to the mounting tension of the song expressed in the lyrics.

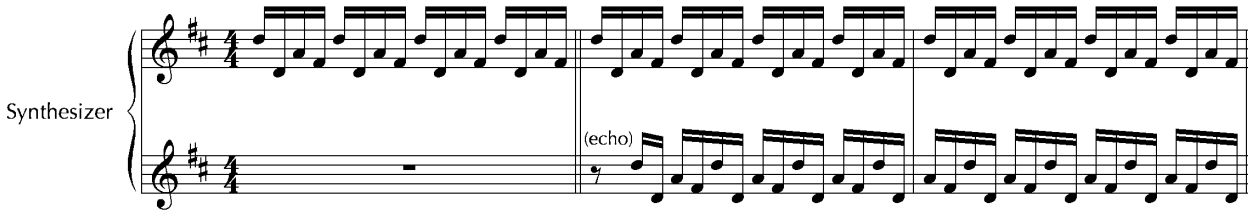


Figure 5.17 Synthesizer ostinato, "With Or Without You."

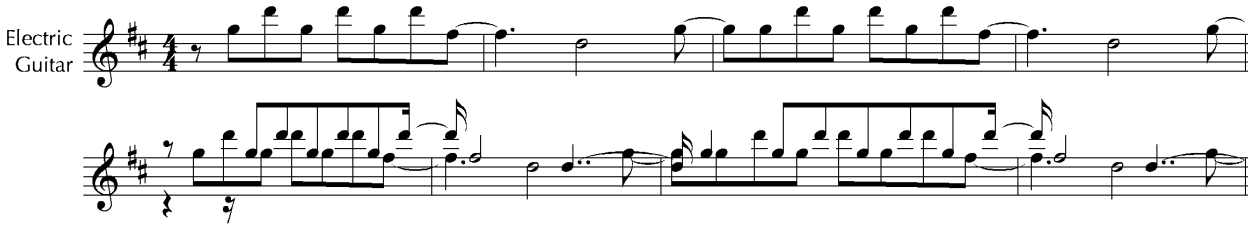


Figure 5.18 Guitar riff (stems down) and echo (stems up), link and interverse, "With Or Without You."

"With Or Without You" also incorporates a subtle use of dynamic stereo, mainly in conjunction with the echo/delay effect. The original attack is mixed slightly right of the center, while the echo is heard on the left side of the stereo field. In the later stages of the song, particularly in **C**, different parts of the stereo field contain various guitar lines layered in post-production to create a complex texture and sense of spaciousness.

"Discothèque"

There are a number of worthy songs from which to choose on any of the three albums from the group's third period. *Rolling Stone* dubbed "One" (III:A:3) the 36th greatest song of all time.[102] Bono identifies "Stay (Faraway, So Close!)" (III:B:5) as "perhaps the greatest U2 song."[103] "Please" (III:C:11) is the band's intense, haunting prayer for peace and one of the gems from U2's output from the late-1990's. From the plethora of songs recorded in the 1990's, I chose "Discothèque" (III:C:1) for several reasons. Foremost among them is the song's formal complexity. Secondly, like so many of the songs in the band's collection, "Discothèque's" lyrical meaning is ambiguous and can be interpreted several different ways. Much of the critical attention paid to U2's third period has focused

102. Rolling Stone, "The RS 500 Greatest Songs of All Time"; available from http://www.rollingstone.com/news/coverstory/500songs; Internet; accessed 21 December 2007.

103. *Rolling Stone*, Issue 986, p. 61.

on *Achtung Baby*, and rightly so, as that album is a landmark in the band's career, redefining their personal and musical philosophies for the 1990's. Comparatively little attention has focused on the other two albums of that decade, and *Pop* in particular has received an inordinate amount of negative criticism. In my opinion, it is the most underrated album of U2's extensive catalogue, and is therefore deserving of scholarly and (positive) critical attention. *Pop* shows that the band was still willing to take chances and push the experimental envelope even further than it did on the previous two releases, while still retaining many of the characteristics that generate the "U2 sound." "Discothèque," the lead single and first track from the *Pop* record, is the band's answer to all those who disagree.

Figure 5.19 illustrates the overall and specific formal designs of "Discothèque." The formal arch-map in Figure 5.20 and the waveforms and spectrograph in Figures 5.21a through 5.21c exhibit visual representations of the song's form. Figure 5.22 lists the formal outline of "Discothèque."

overall:	**A**	**A′**	**A″**	**B**
specific:	i V T	La V′ C Lb	La′ V′ T C′ Lb′	D o

Figure 5.19 Overall and specific form, "Discothèque."

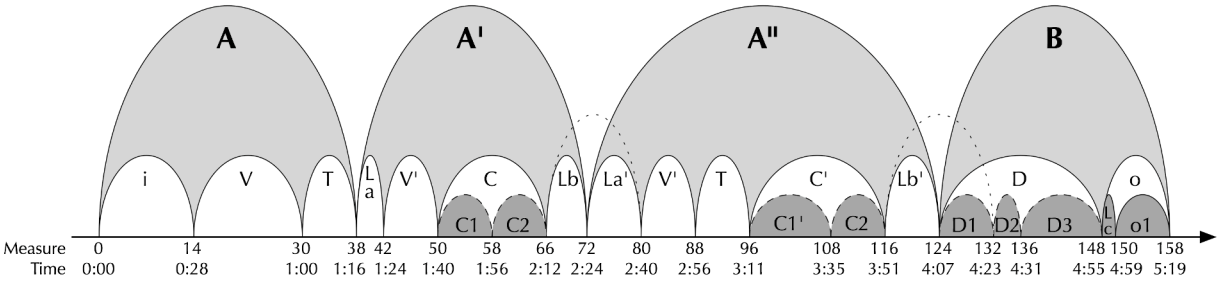


Figure 5.20 Formal arch-map, "Discothèque."

Similar to "Sunday Bloody Sunday," the sheer number of formal units in this song, 14, makes labeling the individual sections and determining the overall form difficult. The AA′A″B overall form is derived from observing where the specific sections were used in relation to each other and in relation to the overall form, in conjunction with an examination of the spectrograph in Figure 5.21c. Although their respective constituent subsections

a.

b.

c.

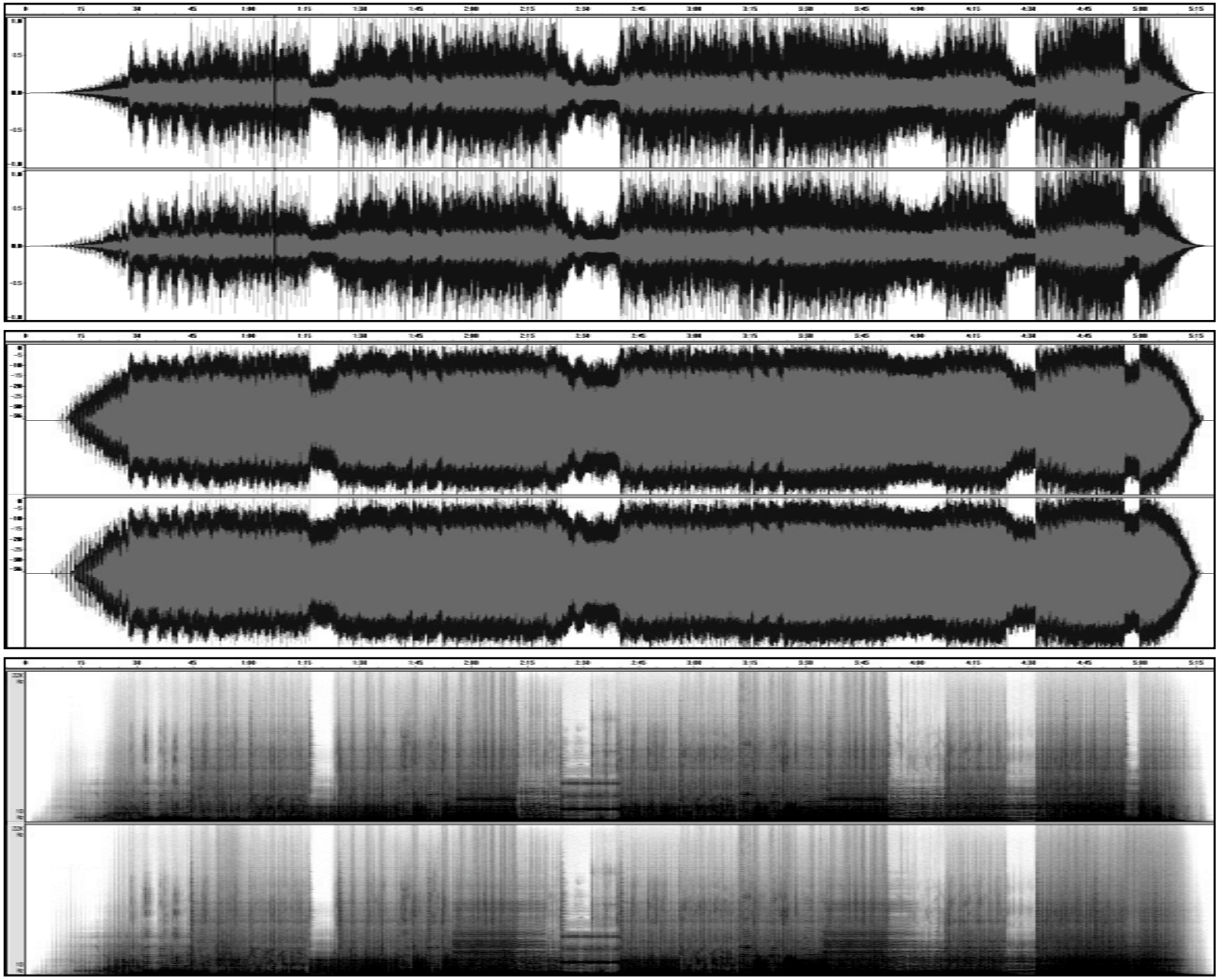


Figure 5.21 "Discothèque": a. General waveform, b. dB waveform, c. Spectrograph.

Section	Lyrics	Bass line (repetitions)	Measure Length	Time
Introduction	[none]	[none]	(fade in)	0:00-0:28
Verse	You can reach, but you can't grab it. You can't hold…. But you can't… You can push… Circulate, regulate… You cannot…	B-G (8)	16	0:28-1:00
Transition	You know you're chewing bubble gum. You know what… You just can't…	B-G (4)	8	1:00-1:16
Link a	[none]	[none]	4	1:16-1:24
Verse′	You get confused, but you know it. Yeah, you hurt… You don't always…	B-G (4)	8	1:24-1:40
Chorus	Let go, let's go, discothèque. Go, go, let go…	B-G (4)	8	1:40-1:56
	Looking for… But you know… You want to be… Be the song…	D-E (4)	8	1:56-2:12
Link b	[none]	B-E-B	6	2:12-2:24
Link a′	[none]	[none]	8	2:24-2:40
Verse′	It's not a trick, 'cause you can't learn it. It's the way… 'Cause you can't…	B-G (4)	8	2:40-2:56
Transition	You know you're chewing bubble gum. You know what… You just can't…	B-G (4)	8	2:56-3:11
Chorus′	Let go, let's do, discothèque. Go, go, let go…	B-G (6)	12	3:11-3:35
	Looking for… But you know… You want to be… The song that…	D-E (4)	8	3:35-3:51
Link b′	(Love)	B-E-B-G	8	3:51-4:07
Coda 1	But you take what you can get 'Cause it's all… Oh you know… But tonight…	B-E-G-D	8	4:07-4:23
Coda 2	Haa, haa, haa, haa, haa, haa	B	4	4:23-4:31
Coda 3	Boom cha, boom cha, discothèque. (x6)	B-G (6)	12	4:31-4:55
Link c	[none]	[none]	2	4:55-4:59
Conclusion	[none]	B-G	8 (fade)	4:59-5:19

Figure 5.22 Formal outline, "Discothèque."

differ from on another, the **A** sections are related in that they each contain a verse and begin with an instrumental passage of lower volume and a sparse texture. The location of the instrumental sections distinguishes the concluding **B** section because it is the only overall segment to start with a text-filled passage. **A″** is an expansion of the previous **A′** section: the links that begin and end **A″** are lengthened versions of those found in **A′**, and also because a transition separates the V′ from the C′ in **A″**. These expansions increase the overall length of **A″** to 52 measures, up from a 38-measure **A** section and 34-measure **A′** section. In effect, **A″** is kind of synthesis of the first two **A** sections, incorporating a verse, a transition, and a chorus, as opposed to just a verse and transition (**A**) or a verse and chorus (**A′**).

On the arch-map in Figure 5.20, the dotted arches between **A′** and **A″** and between **A″** and **B** represent potential overlaps. There are elements in the two subsections enclosed within the dotted arches that are common to both passages. As a result, the Lb and La′ arguably could be thought of as one section because of the high falsetto "oohs" that begin in the Lb and carry over into La′. I chose to differentiate the two parts because of the drastic change in the guitar riff. Lb features The Edge's characteristic arpeggiations on a straight eighth-note pattern, while La′ is a distorted version of the dotted eighth-sixteenth-note rhythm heard first in La. A similar situation exists between Lb′ and the first coda subsection. D1. The guitar arpeggiations begun in Lb′ carry over unchanged into D1. Despite this connection, D1 is differentiated from Lb′ by the re-entrance of the percussion and vocal melody on the lyrics "But you take what you can get." These commonalities help to smooth the transition between the sections—at both overall and specific levels—while also giving the song a less segmented, more unified feel. Ultimately, their differences outweigh their similarities and therefore necessitate different labels. The transcriptions in Figure 5.23 illustrate the similarities and the differences at these two points.

From a formal perspective, the chorus of "Discothèque" is an interesting portion of the song. I have divided the chorus into two subsections, and have indicated this division with dashed lines in Chart 5.4, which separate the lyrics of each subsection, and with

dashed arches in Example 5.12, labeled C1 and C2. This two part-structure leads Stokes to describe the song as "[not] quite [knowing] what its chorus is."[104] Although each subsection differs from the other in its respective harmonic language, instrumentation, and texture, I identify these passages collectively as the chorus section because they are paired

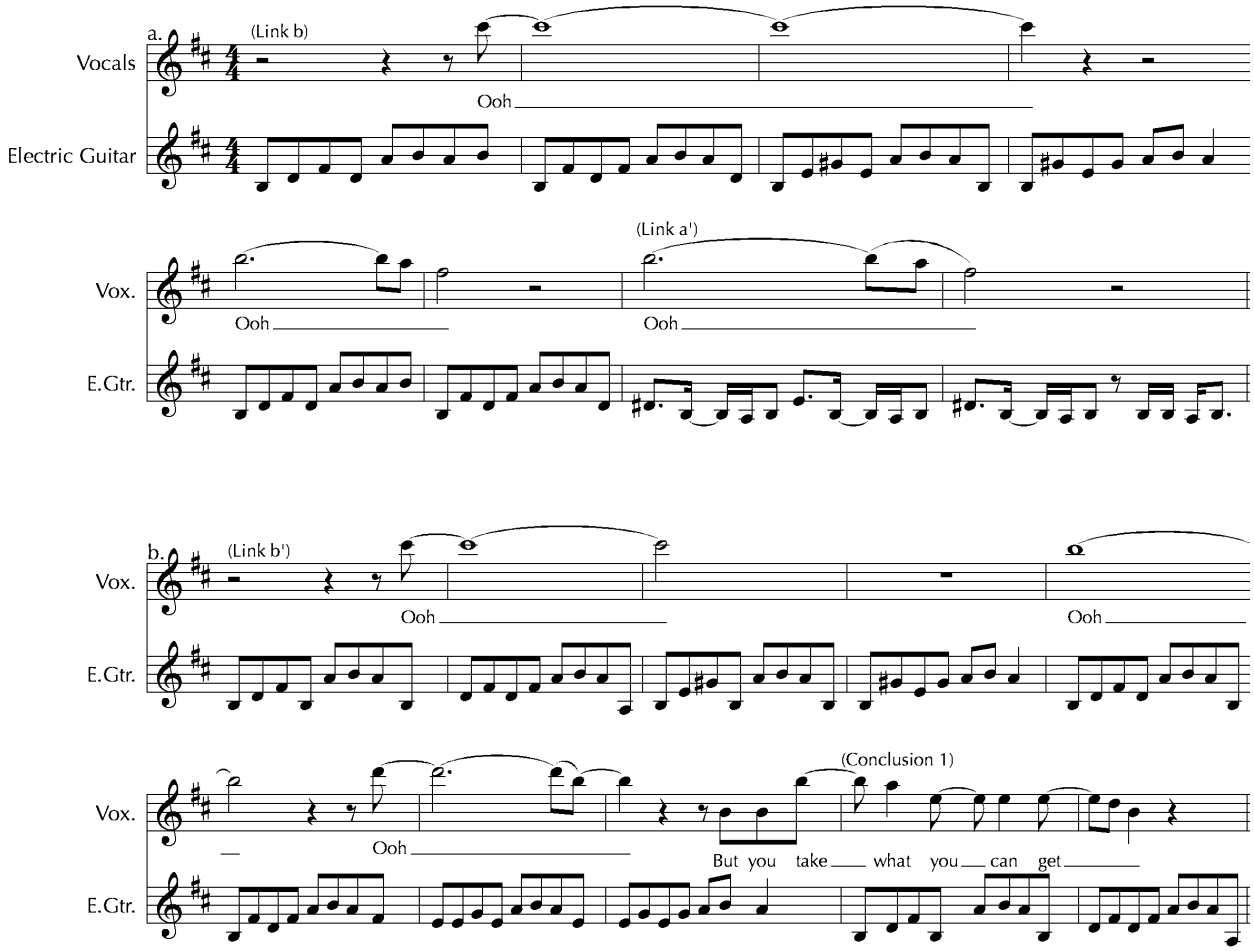


Figure 5.23 Discothèque: a. 2:12-2:27, b. 3:51-4:11.

together both times they appear. Typically, the chorus is the section of the song in which the texture is most dense and the overall volume is at its loudest. The lines of C1, however, "Let go, let's go, discothèque. / Go go, let go, discothèque," are not accompanied by a thicker texture than that of the previous verse or transition. In fact, the beginning of C1 has *fewer* instrumental layers and *lower* overall levels than the preceding sections. The

104. Stokes, *Into the Heart*, 125.

dotted guitar rhythm, illustrated in Example 5.23a, is present throughout the first V′ but drops out for the first two measure of C1, returning on the title word "discothèque." Both waveforms in Examples 5.21a and 5.21b illustrate the slight, but noticeable, level changes in C1 and C1′. Just before the 1:45 time marker and extending to approximately 1:55, and again from about 3:11-3:22, the levels drop below the relative average levels of the previous section. The spectrograph in Example 5.11c reveals the change in frequency content between C1/C1′ and C2. A darkening of the spectrum at 1:56 and 3:35 indicates a change in the instrumentation, in this case the addition of a highly processed, overdriven electric guitar. Even the lyrics reflect this formal ambiguity, with the lines "Looking for the one / But you know you're somewhere else instead."

The transition section in "Discothèque" is different from a "standard" transition in that its harmonic progression does not change. It is the same progression used in the verse and remains the same through the first chorus section. Three characteristics distinguish the transition from the verses and chorus and identify it as having transitional function. First, the exact same lyrics are used twice. Second, Bono sings those lyrics with a different melody from the surrounding sections. Lastly, the primary instrumental melodic layer is a synthesizer that surfaces for the first time in the first transition. It is also featured in the foreground in the second transition, after being relegated to a background layer in the previous V′.

In general, the specific sections are distinguished from each other by differences in lyrics, melody, and instrumentation (and subsequently texture). Similar to "With Or Without You," the bass line and harmonies are not primary factors in determining the form of the song. As noted in Figure 5.22, the bass line rarely changes between sections; therefore, other musical parameters influence the function of the various song sections. This lack of variety in the bass helps give prominence to the chorus section, particularly the second half (C2). Up to that point in the song, it is the first time the harmonic language changes; the previous sections either had not associated bass line or a simple B-G movement. C2 introduces D and E into the harmonic mix.

Like the chorus, multiple subsections comprise the coda. Setting the coda apart from the other specific sections is its length—24 measures, the longest section in the

song—and its internal variety: three subsections, each with its own distinguishing characteristics. The bass line in D1, B-E-G-D, is a new ordering of the four harmonies used in the song. Also new is the lyrical content. The vocal melody is slightly different in D1: it is a variation of the melody used in C2, with a similar contour and range. They also share the same syncopated rhythm at the ends of their respective sections, as illustrated in Example 5.24.

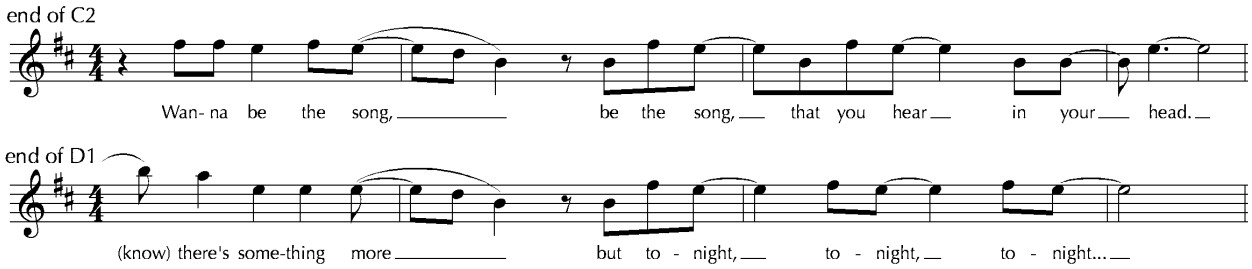


Figure 5.24 Contour and rhythmic similarities, C2 and D1, "Discothèque" (3:44-3:51, 4:15-4:23).

Perhaps the most important section of the song, from a lyrical perspective, is the coda. Stokes describes "Discothèque" as "an earnest little riddle about love, disguised as trash…[It is] a song about the pleasures of the flesh and the heart's yearning."[105] This interpretation can be drawn directly from the line "Oh you know there's something more." The subject of inner desires and deep emotions had always been one of the key themes for U2. In the late-1990's, however, they were masquerading these topics in the form of a "cheesy hybrid of metal and dance."[106] Nevertheless, I interpret the song differently. It is about something much more specific to the band and its artistic endeavors. The song directly challenges the listener, aiming specifically at the U2 fan, as well as the general pop music connoisseur. "Discothèque" dares listeners to *not* enjoy the song, and on a larger scale, U2's electronic experiments of the mid- and late-1990's. With its catchy guitar hooks and infectious club-inspired beat, "the implicit message to humorless U2 fans [is], 'You didn't think you'd like this, now did [you]?'"[107]

105. Stokes, *Into the Heart*, 125-126.
106. Ibid., 125.
107. Ibid.

The band was committed to making "self-consciously kitsch"[108] pop music but with distinctly U2 overtones, such as the syncopated percussion line, an active bass line, and a guitar solo saturated in echo. In the first line of the song, and throughout its duration, Bono references an "it," but never directly defines what "it" is. He alludes to "bubble gum" and "lovey-dovey stuff" in the transition, referring to the "bubble-gum pop" music sensation that captivated audiences worldwide world in the 1980's and 1990's with the likes of New Kids On The Block, Britney Spears, and The Backstreet Boys, to name but a few examples. He tells the listener, "You know what it is but you still want some," meaning that despite any stigma related to liking such music, the listener actually wants more of it. In the coda, Bono acknowledges that "Discothèque" and the rest of the *Pop* record is U2's contribution to the "bubble gum." His high falsetto "haa's" in D2 simulate a slow, deliberate laugh, aimed perhaps at both the listener and at himself, because he knows that the band has captured the listener's attention. He is also laughing at himself and the band because he recognizes the irony that "Discothèque" and *Pop* create. In the early stages of U2's career, they had made a conscious effort *not* to be a part of mainstream pop music, but to stand alone and make music on their own terms. Now, almost twenty years later, the band is pushing its creative limits by trying to incorporate multiple elements of modern pop music—rock, electronic, techno, and dance—into their sound.

"Discothèque" uses eight of the ten stylistic and formal characteristics, excluding an extended introduction (0:28 long) and guitar harmonics. The majority of Mullen's percussion is straightforward, likely because a synthesized drum loop accompanies him. He does include, however, syncopation in his drumming pattern in the La', not coincidentally the section that is texturally sparse and where the drums are clearly audible. The Edge's muted strum technique is used throughout the song, most notably in the transition, contributing another rhythmic layer to the already complex texture. There are several sections of irregular length, most notably the twelve-measure C1', which is a four-measure expansion of C1. D2 is also twelve measures long, while Lb has an irregular length of six meas-

108. Ibid.

ures. Figure 5.18 (on page 146)n illustrates some of The Edge's arpeggiated chords, which also incorporate his signature echo effect.

The last three traits—an active bass line, dynamic stereo, and layered vocals—are all present in the song's first thirty seconds. Producer Howie B aptly describes the song's introduction as a "swirl," as it alternates between the left and right channels, creating the illusion of a spinning room, or even a rotating siren light. Mullen's percussion and the various effects on The Edge's guitar also occupy both sides of the stereo field. Two voices enter simultaneously at the beginning of the first verse. They both sing the same melody, one in a high register and the other an octave lower, almost as if spoken. This layering is present in the verses and transitions, but is absent from the chorus and coda sections. Accompanying Bono's vocal entrance at 0:28 is Clayton's low, deep, active bass that provides a steady eighth-note pulse through much of the song.

"Vertigo"

With worldwide sales topping 10 millions, *All That You Can't Leave Behind*, U2's studio album from late 2000, put the band back atop the charts and helped them reclaim the unofficial title of "Biggest Band In The World." The accompanying Elevation Tour also helped Bono and company reconnect with the die-hard fans whom they had estranged on the spectacles known as the ZooTV and PopMart tours in the 1990's. Not only was U2 enjoying tremendous commercial success, but also critical and industry acclaim as well, garnering seven of their record 22 Grammy Awards.

Recording a follow-up presented the band with the challenge of "[remaining] relevant in a rock scene reinvigorated by the stripped-down garage rock of [groups like] The Strokes and The White Stripes."[109] "Vertigo," the first track and lead single from U2's last full-length studio release, *How To Dismantle An Atomic Bomb*, lived up to the challenge, peaking at No. 1 in the UK and earning three Grammy Awards in the US. Apple even featured the song in a worldwide advertising campaign for the Apple iPod digital music player. For as much success as the track has had, there were equal amounts of consterna-

109. Robert Randall, "Story Behind the Song: Vertigo," *Q*, (March 2007), 82.

tion and creative roadblocks during the recording process. "Vertigo" started its life as a song sketch entitled "Native Son," constructed around a guitar riff and melody The Edge had created. The band worked on several different versions of the song. One draft, "Shark Soup," gave rise to the mathematically incongruous Spanish opening "*Unos, dos, tres, catorce!*" (Ones, two three, fourteen!); another, entitled "Viva La Ramone" was a tribute to Joey Ramone, lead singer of the influential punk rock group The Ramones and a good friend of Bono's.

Arranging and recording got to be so frustrating that the song's original producer, Chris Thomas, left the project, forcing the band to look in another direction. They called on Steve Lillywhite, who produced U2's first three albums, to help them finish the song. After a series of re-writes, the song eventually developed into "Vertigo," a song The Edge describes as "truer to the original idea [than the other versions]. It's just a great visceral rock 'n' roll song. Instrumentally, it's very simple: drums, one guitar, one bass, and the vocals. There are really no overdubs until the last third of the song. It is a very straight-ahead performance."[110] Indeed, U2's "straight-ahead" performance led to a straightforward song with a traditional form, catchy riff, and a memorable lyrical hook. Figures 5.25 and 5.26, below, illustrate the formal designs of "Vertigo" in text and arch-map form, respectively. Figure 5.27 outlines the formal divisions of "Vertigo," and Figures 5.28a through 5.28c show the waveforms and spectrum analysis of the song, respectively.

overall: **A** **A′** **B** **A″**
specific: i V C V′ C T I N_c^i C′ D o

Figure 5.25 Overall and specific forms, "Vertigo."

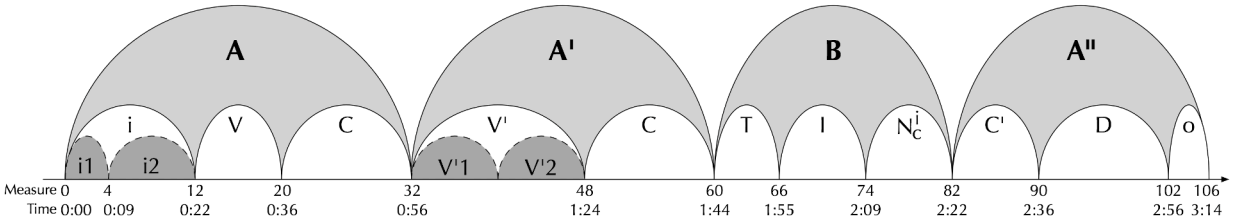


Figure 5.26 Formal arch-map, "Vertigo."

110 McCormick, p. 321.

Section	Lyrics	Bass line (repetitions)	Measure Length	Time
Introduction	*Unos…dos…tres…catorce!*		4	0:00-0:08
	[none]	D-E-A-G#-G (4)	8	0:08-0:22
Verse	Lights go down, it's dark The jungle is… Can't rule… A feeling so much… Your eyes… And though… It can't be… Your mind…	D-E-A-G#-G (4)	8	0:22-0:36
Chorus	Hello, hello (*¡Hola!*) I'm at a place… It's everything… Except you give… (Feel)	E-D-G-A (2), D-E-A-G#-G (2)	12	0:36-0:57
Verse′	The night is full of holes As bullets rip… They twinkle… They know that… At least they…	D-E-A-G#-G (4)	8	0:57-1:10
	I can't stand the beats I'm asking… The girl with crimson nails… Swinging to the music… Oh oh oh oh…	D-E-A-G#-G (4)	8	1:10-1:24
Chorus	Hello, hello (*¡Hola!*) I'm at a place… It's everything… Except you give… (Feel)	E-D-G-A (2), D-E-A-G#-G (2)	12	1:24-1:44
Transition	Checkmated. Hours… Checkmated.	A	6	1:44-1:55
Interlude	[none]	D-E-A-G#-G (4)	8	1:55-2:09
Independent Continuous Interverse	All of this… All of this… All of this… Just give me…	D-E (4)	8	2:09-2:22
Chorus′	Hello, hello (*¡Hola!*) I'm at a place… It's everything… Except you give…	E-D-G-A (2)	8	2:22-2:36
Coda	(I can feel) your love… Your love is teaching… (Kneel)	E-D-G-A (2), D-E-A-G#-G (2)	12	2:36-2:57
Conclusion	Yeah (x16)	D-E-A-G#-G (2)	4	2:57-3:14

Figure 5.27 Formal outline, "Vertigo."

a.

b.

c.

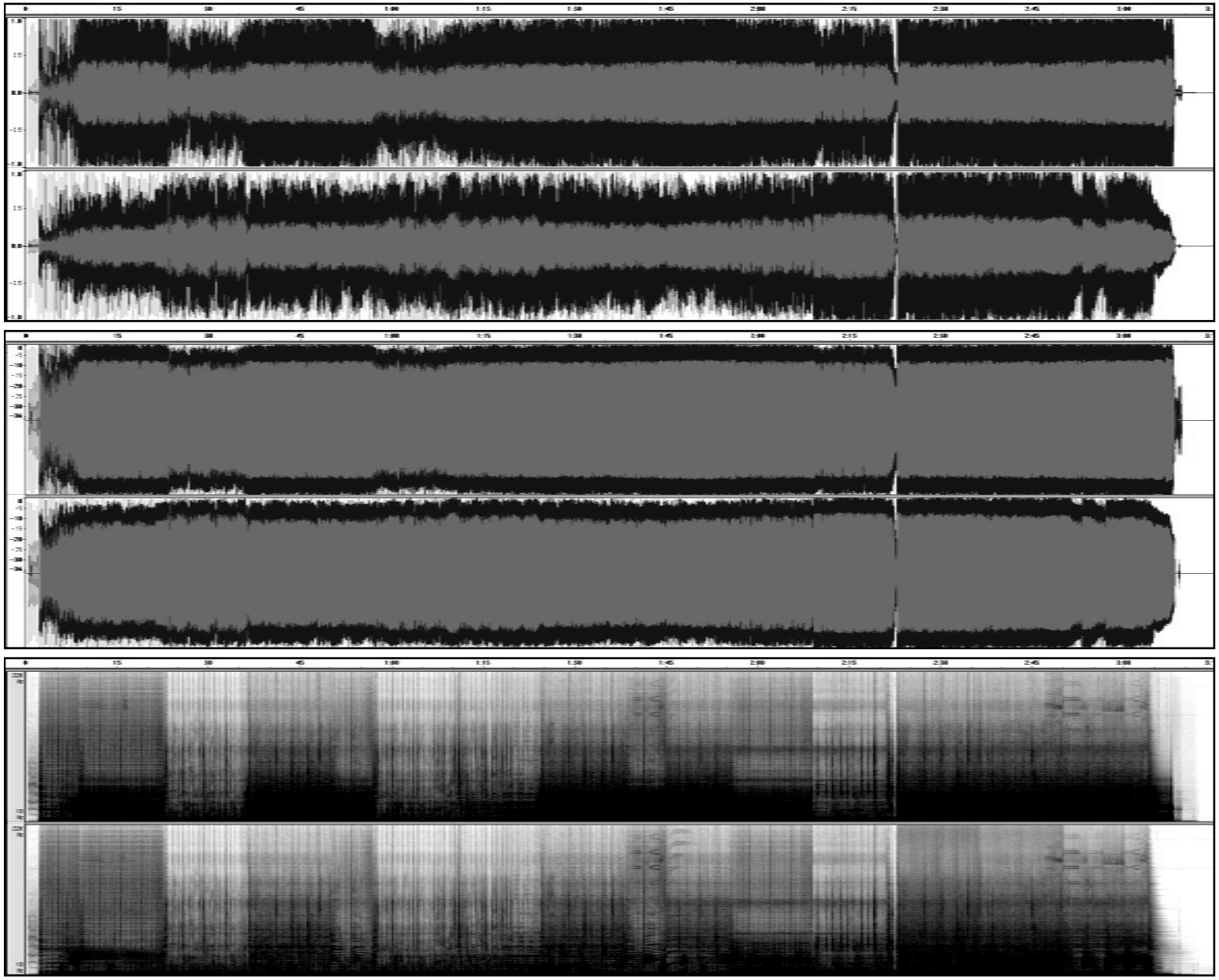


Figure 5.28 Vertigo": a. General waveform, b. dB waveform, c. Spectrograph.

"Vertigo" has an identical **AA'BA''** overall form to "Sunday Bloody Sunday," but the two songs are arranged very differently at the foreground level. "Vertigo" has five fewer specific sections and each overall segment is divided, at most, into three passages, whereas each background section in the 1983 single has a *minimum* of three divisions. As highlighted by the previous four analyses, there is a direct correlation between the number of foreground sections and the song's formal complexity. Of the five songs analyzed in this chapter, "Vertigo" has the second fewest specific sections (eleven). Not coincidentally, its formal organization is relatively easy to determine.

The spectrograph in Figure 5.28c displays the sectional divisions of the song relatively clearly. Striped, light grey areas characterize the V, V', and N_C^i, reflecting the relative sparsity of the texture of these sections compared to the C, T, and D sections, which are much darker and more dense. Only the bass and drums are present in the verses, with The Edge providing intermittent muted strum clicks (see Example 3.22 on p. 53). The chorus, transition, and coda, use a much fuller texture that includes a fully-strummed lead guitar and a percussion that incorporates frequent use of spectrum-filling hi-hat and crash cymbals. Because the recording levels of "Vertigo" are so high, the form of the song is not as readily apparent from the two waveforms in Figures 5.28a and 5.28b. **A** and **A'** are easily distinguished by the striking different levels before and after 0:56. The visible gap at 2:22 represents the boundary between **B** and **A''**, the end of the interverse and the beginning of the final chorus section. The border between **A'** and **B** is not as easily identifiable. Upon closer examination, however, there is a noticeable decline in levels in the left channel at 1:44, visible in both waveforms, which corresponds to the end of the second C and the beginning of T.

One of the few "non-standard" formal aspects of "Vertigo" is the length of some of the sections. Both C sections are twelve measures long; C' is a more typical eight measures long, only because the end of the last line elides with the beginning of D. "I can feel" functions simultaneously as the end of the line "Except you give me something I can feel" and the beginning of the line "I can feel your love teaching me how." The six-measure transition is also a section of irregular length. Interestingly, the second verse is longer than

that first. Typically, the first appearance of a section is the longest; the subsequent repetitions are shorter than the first instance. This is the not the case in "Vertigo." As Figure 5.26 and Figure 5.27 illustrate, V′ consists of two subsections. V′1 is nearly identical to V: they share the same texture, instrumentation, and speech-like melody. V′2 introduces a new melodic motive, a descending stepwise run that culminates with a one-note ascent to the tonic note, E. A new guitar motive accompanies the new vocal motive, both of which are performed over the same percussion and bass lines as in V′1. Figure 5.29 is a transcription of the main vocal line and the guitar in V′.

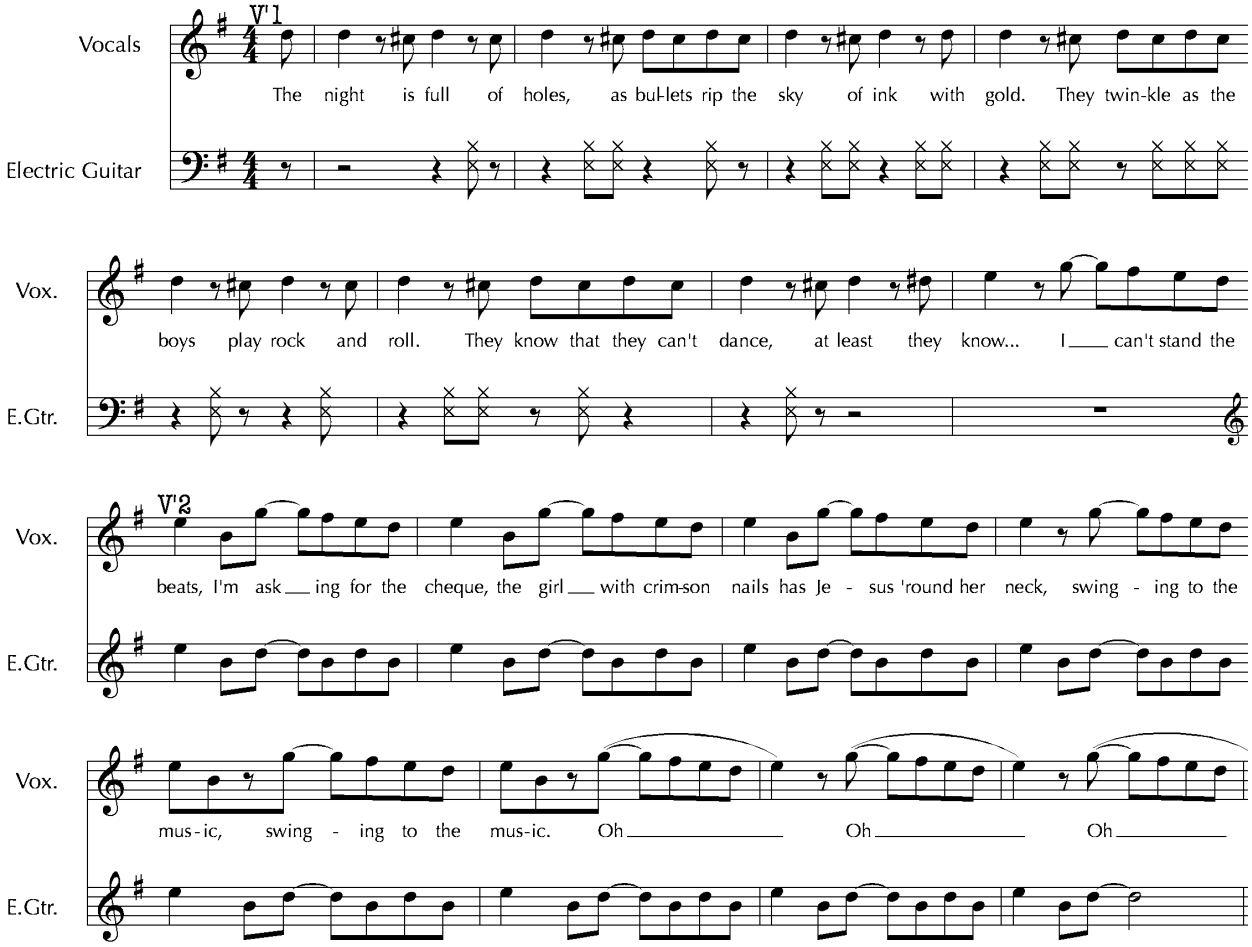


Figure 5.29 Vocals and lead guitar, "Vertigo," V′.

The eight additional measures that make up V′2 balance **A** and **A′** in terms of their respective lengths. In fact, the two sections would have the exact, same length—28 ures—if not for the four-measure i1 "pre-introduction" that begins the song. **A″**, the third

A section of the song, continues the pattern of measure lengths established by **A** and **A′**. Each ensuing **A** section is four measures shorter than the last: 32, 28, 24. Each section upholds the pattern differently. **A′** does not have an instrumental portion, but does add eight measures to its verse. Four measures are trimmed from the chorus section of **A″** by lyrically eliding C′ and D.

The **B** section functions as a standard contrasting section. New vocal melodies in the transition and interverse over new harmonic patterns, and new guitar lines in the transition and interlude, differentiate measures 60-82 from the rest of the song. Changes in instrumentation, texture, and timbre accompany these contrasting melodies, particularly in the transition and interverse. For example, in the transition, The Edge plays longer strummed chords that supplement Mullen's drumming pattern, which has changed from a four pattern with occasional syncopations to a 3-3-3-3-2-2 (eighth-note) pattern. The pattern repeats three times before changing back to the four pattern for the interlude. In the interverse, The Edge uses harmonics for the first time. This change in timbre is stands out even more because of the dramatic thinning of the texture in this section.

Although "Vertigo" is one of the band's formally simple songs, its inclusion of nine of the ten formal and stylistic traits perhaps makes it the "most U2" of the five songs considered in this chapter. Only the 22-second introduction keeps this track from being a statistically "perfect" U2 song, according to the formal and stylistic characteristics identified in this dissertation. The Edge primarily plays a full strum throughout the song, with the exception of the interverse, where he includes echo-laden arpeggiated harmonics into the texture. Clayton's active bass can be heard clearly in the sparcely layered verses, along with Mullen's syncopation and Edge's muted strum. Bono's vocals are layered in the conclusion. As detailed in the foregoing paragraph, there are multiple sections that are irregular in their measure lengths. Finally, examining the waveform in Example 5.23a reveals the overt use of dynamic stereo. Edge's guitar riffs and muted strum clicks are confined to the left channel. As a result, the levels in the left-side graph are markedly higher than those of the right channel.

Like so many other U2 songs, the meaning of "Vertigo" is dependent on the perspective from which the song is approached. Bono describes the song as being about an awful nightclub experience:

> You're supposed to be having a great time and everything's extraordinary around and the drinks are the price of buying a bar in a Third World country. You're there and you're doing it and you're having it and you sort of don't want to be there….you're just looking around and you see big, fat Capitalism at the top of it's mountain, just about to topple. It's that woozy, sick feeling of realizing that here we are, drinking, drugging, eating, polluting, robbing ourselves to death. And in the middle of the club there's this girl. She has crimson nails. I don't even know if she's beautiful; it doesn't even matter. But she has a cross around her neck, and the [narrator] stares at the cross just to steady himself. And he has a little epiphany and you don't know what the epiphany is. It's a song about disused soul in a well-used nightclub.[111]

Bono's description is a literal interpretation of the lyrics, and none knows better than he does the meaning behind the lyrics. The following is a far less literal interpretation, one that relates the song to the arc of the band's career.

The unusual counting at the song's opening that skips from three to fourteen symbolizes the U2's meteoric rise to fame in the early- and mid-1980's. After modest success with their first two albums in the United Kingdom (one), *War* gained them a mainstream following in the United States (two), a following that only grew after the release of *The Unforgettable Fire* and the band's breakthrough performance on the 1985 benefit concert LiveAid (three). *The Joshua Tree*, however, propelled them to heights even they hadn't imagined, reaching number one around the world and making them a household name (fourteen). The lyrics of the first verse, then, represent the band's beginning to deal with their success. In less than a decade, they had gone from rehearsing in a family kitchen to performing in front of tens of thousands of people at sold-out stadiums. Seemingly before U2 even had time to adjust to its newfound fame they embarked on a world tour, on which it learned a great deal about music, the music industry, and themselves, which is expressed in the lyrics, "Your eyes are wide, / And though your soul, / It can't be bought, / Your mind can wander."

111. McCormick, *U2ByU2*, 322.

The band's collective mind did start to wander at the end of the 1980's, discovering that life as a rock star, while fabulous and decadent, has its pitfalls. "I'm at a place called Vertigo. / It's everything I wish didn't know." V'1 represents the band's foray into electronic experimentation in the 1990's. Their success in the previous decade afforded artistic privileges and liberties they would not have been granted had they not gone multi-platinum. The "ink with gold" in the second line refers to *The Joshua Tree* and it's black cover (ink) with gold lettering and trim. U2 began to deconstruct the image it had created for itself. *Achtung Baby*, *Zooropa*, and *Pop* were the bullets ripping apart that persona. Much of their work in the 1990's was heavily influenced by dance and techno music, and their lyrics portrayed a darker, more cynical side of the band. Although those albums sound quite different from the music that propelled them to global megastardom, at their cores, they reflected the band's distinctive style. "They know that they can't dance, At least they know…"

By the end of the spectacular, but emotionally and financially trying *PopMart* tour in 1998, the band realized that it was time to get back to its roots. "Checkmated. / Hours of fun" refers to this realization. The lyrics even address the fans' and critics' perspectives. Many grew tired of electronic U2 and yearned for the music that made it larger-than-life. "All of this can be yours / Just give me what I want and no one gets hurt." "The new century saw U2 setting out to make great U2 albums rather than boundary-push with diminishing returns."[112] *All That You Can't Leave Behind* undeniably thrust U2 back into the forefront of rock music. The band was not resting on its laurels, however. Rather than rush to meet a 2003 deadline for a follow-up record, U2 pushed back the date a year in order to refine their songs. According to Bono, U2's mission is to release the best music it can. "There's a deal [fans have made with us]: 'You don't worry about the cost of your kids' education and their medical bills and you can have a house in the south of France, but don't embarrass us by making second-rate music.'" This humility comes through in the lyrics of the coda: "I can feel your love teaching me how to kneel."

112. *Q*, issue 248, p. 79.

The five songs analyzed in this chapter represent output from all four of U2's style periods and exhibit tremendous diversity and, simultaneously, remarkable consistency. They display the band's penchant for formal variety and unique song construction. They also show that Bono, The Edge, Adam Clayton, and Larry Mullen are meticulous musicians, each with their own individual methods and senses of style. Together with their production team, each member puts his own distinctive stamp on the songs the band creates. This combination has led to some of the most endearing and influential songs in popular music history. As these analyses have shown, the form and unique style of U2's music lies at various levels in their songs. From Edge's signature soaring echo down to Clayton's resonant, driving bass, from Mullen's propulsive syncopation to the subtle texture and timbre changes, U2's songs all have striking similarities, yet their catalogue maintains an unparalleled variety that imparts a freshness and timeless to their music.

CHAPTER 6

ORIGINAL OF THE SPECIES: Conclusions

This dissertation began its life as a paper for a seminar on musical form. The initial topic was an examination of transition sections in Haydn piano sonatas, which somehow led to my thinking about transitions in pop music. I had been a fan of U2's music long before I delved into the world of music theory, and since the band had released *How To Dismantle An Atomic Bomb* just a few months prior, its music was fresh in my mind with a reinvigorated sense of excitement. I thus began to explore transition sections in U2's music and how they related to immediately surrounding material. Eventually, I narrowed my focus to the description as well as local and global functions of "bridge" sections, which subsequently developed into the re-designation and definition of that section as an "interverse." Listening to U2 from an analytic perspective not only rekindled my interest in the band, but it helped me realize just how musically gifted these four Dubliners really are. This newfound respect and enthusiasm for the band, coupled with the emergence of popular music scholarship in music theory circles, led to my decision to study U2's music in greater detail.

The extensive listening sessions, numerous transcriptions, and countless comparisons of song sections and lyrical stanzas have revealed several conclusions about U2's music, and the band's place in popular music history. The unique combination of sonic characteristics—active, melodic bass lines; driving, syncopated drums; active and passive use of the stereo field; The Edge's trademark echo/delay effect, as well as his muted strum technique, use of harmonics, and arpeggiated chords; Bono's soaring, layered vocals singing messages of hope, peace, love, and faith—and formal diversity among their songs create a distinctive style and sound that have enabled the group to sell millions of albums worldwide and enjoy a mass appeal only a handful of rock groups have ever experienced.

Another aspect of U2's music that speaks volumes about their success is that throughout their career, they have maintained a contrarian's stance regarding the music industry and its contemporary trends. Emerging from the punk revolution of the late-1970's and bursting onto the scene in the post-punk era of the 1980's, U2 remained true

to its rock roots despite the various musical developments around it. U2 maintained its guitar-centered sound through the synth-heavy years of the early-1980's. The band's understated approach to music, with The Edge's minimalist, echo-drenched oscillations and Bono's universal lyrics leading the way, was a much more subdued (yet no less intense) alternative to the flashy, indulgent stylings of "hair bands" (e.g. Poison, Motley Crüe, Def Leppard), or the virtuosic, aggressive sonic assault of heavy metal groups (e.g. Metallica, Slayer, Guns 'n' Roses) of the mid- and late-1980's. Bono describes the band's music of this period as being "so out of step with everything around." According to The Edge, the band did not feel they were "part of what was going on in the music business at that stage," and that they felt "very separate."[113]

Then, in the 1990's, as the landscape of guitar-based rock changed with the explosion of the alternative and grunge rock scene—pioneered by the seemingly overnight success of Nirvana and Pearl Jam in 1991, followed shortly by groups like Soundgarden and Stone Temple Pilots—U2 continued to separate itself from the rest of the popular music world by incorporating synthesizers and signal processors into a darker, more introspective sound. Just as rock became more gritty, more "real," U2's sound through the decade became increasingly electronic. It combined modern dance rhythms, techno influences, and metal references with their rock sensibilities in order to reinvent themselves rather than rest on their laurels. What initially appeared to be a step in the wrong direction ultimately resulted in some of the band's finest creations. *Achtung Baby* was praised by critics and hailed by many fans as U2's finest album. U2 prides itself on being on the cutting edge of pop music development, and this foray into electronica reflected this desire. Not only did *Achtung Baby* foreshadow techniques with which the band would experiment throughout the decade, it also proved the band's musical savvy and progressive mindset in that, along with albums like Depeche Mode's *Violator* and Nine Inch Nails' *Pretty Hate Machine*, it helped set the table for the rise of electronic music in the 1990's. Indeed, later that decade, previously "underground" or marginally popular electronic artists like Moby, The Chemical Brothers, Daft Punk, and Robert Miles finally enjoyed mainstream success.

113. Interview, *Classic Albums U2: The Joshua Tree*.

Later that decade, rock-based groups like Radiohead and Oasis (who, not coincidentally, would also experiment with electronic and "radio-unfriendly" sounds later in their respective careers) would emerge as critical successes and fan favorites.

As the century came to a close and "boy bands" (e.g. The Backstreet Boys, N'Sync) and pop divas (e.g. Britney Spears, Christina Aguilera) were dominating the airwaves and changing the face of pop music, U2 went back to the guitar once again to reinvent its sound. The hopeful and inspirational lyrics of *All That You Can't Leave Behind*, along with its broad, spacious sound served as a refreshing change of pace from the "bubble gum" pop sensation that was sweeping the music industry, and laid the groundwork for groups like Coldplay and Snow Patrol. Four years later, amidst the ubiquity of hip-hop and R&B, U2 managed to top the charts once more with *How To Dismantle An Atomic Bomb*, the guitar stylings of which anticipated the rise of "modern punk" and "emo" bands such as The Killers, Keane, and Fallout Boy. In effect, throughout their entire career, U2 has been a kind of "mainstream alternative" to the hip trends of pop music, cultivating a sound far ahead of its time that eventually serves as a major influence for both individual artists and large portions of the music industry alike.

The analysis of U2's music also has led to one major conclusion about form in popular music in general. Although the AABA organization and its variations are the most used overall forms in U2's catalogue, there remains a great deal of formal diversity among their songs, particularly at the specific level of form. No two songs examined in this dissertation had the exact, same specific form. This trend of formal variety could be extended to the entire pop music genre, especially in pop music after 1980. While at first seemingly rigid and exceedingly formulaic, form in pop music truly is quite diverse. There are several variations of the AABA format as well as a number of specific versions of that overall form, to say nothing of the other overall organizations (e.g. ABAC, AAA, ABC). Counting Crows' "Mr. Jones" (1993), for example, uses a similar organization to U2's "One," with each chorus beginning similarly with the lyrics "Mr. Jones and me…" but subsequently using different lyrics throughout the rest of the section, forming an AA'BA'' organization. "Crazy," Gnarls Barkley's 2006 smash hit, uses a straightforward AAA form. "Sweet Dreams," the Eurhythmics' seminal hit from 1983, is organized in a AA'BA''BA'

form. The two-part interverse in the Goo Goo Dolls' "Stay With You" (2006) creates a complex AA'BCA'' overall form.

Despite the formal diversity among U2's songs, its oft-imitated, yet never-duplicated style has helped it carve out their its niche within the pop music ranks. Part of what makes U2 special is the fact that its songs are all unique in their own rights, yet each can stand alone as representative of U2's catalogue and the distinctive "U2 sound." Recently, the band's humanitarian work has cast an even brighter spotlight on the band, in particular, Bono's tireless efforts to eradicate poverty and disease in Africa and The Edge's "Music Rising" Hurricane Katrina/New Orleans relief efforts. This charity work reveals a great deal about their character: they are not only skilled musicians, but concerned citizens who use the resources their celebrity provides them to champion social and cultural causes. Truly, U2 has transcended the realm of music into the rarified air of cultural icons.

But U2, first and foremost, is comprised of music-makers. That the band has been making relevant and influential music for the better part of three decades and shows no signs of stopping is a testament to just how significant U2 is. The same four men playing together since 1976 indeed is a rarity. The Edge identifies the reason for the band's longevity, which is the members' ability to recognize how their individual strengths work best in the setting of a rock band:

> I think we've been able to keep it together because we've all grown up with each other. We know how it works. We've all found our ways to contribute to the band. They're not necessarily equal but our four contributions are all crucial. For reasons that I couldn't even really fathom, it works as a four-piece, four voices, four intellects, four sets of opinion. Without that it wouldn't be the same. It's about a level of solidarity [among] four people who made a commitment back in the Seventies. And the reasons why it was a good idea at the time are still true. We still can, on our day, make great music together, come up with great ideas, and perform great shows. That is something we all value very highly. Knowing that you do your best work in that context gives you a real incentive to keep it going.[114]

Doubtless, because of U2's extensive catalogue, there is more to be uncovered about its music. Further research would entail a more thorough analysis of U2's treatment

114. McCormick, *U2ByU2*, 344.

of phrase rhythm and hypermeter, and the relationship between any perceived large-scale metric divisions and overall song form. The band's compositional process is also worthy of attention. As this dissertation has shown, U2 creates songs that are complex on several levels. *How* it arrives at these elaborate arrangements could reveal a great deal about their musical influences and tendencies.

In addition to the enjoyment I received while listening to and researching U2's music, the primary aim of this study is to serve as a model of popular music analysis, one that incorporates not only the established and traditional analytical techniques of harmonic, melodic, rhythmic, metric, lyric, and reductive analysis, but also one that broadens the analytical repertoire to include examination of formal, timbral, textural, and production/editing/mixing techniques. These aspects of rock music previously had not been studied in great detail. This dissertation uses a multi-faceted approach in the analysis of rock music, drawing on a number of theories and techniques to create a comprehensive analytical method that identifies the intricacies of U2's unique sonic and formal character. As popular music analysis gains prominence within the music theory discipline, it is my hope that the research presented here will serve as a model for future rock and pop music analyses, and perhaps the study of other musical genres as well.

Table 1 Statistical distribution of style and formal characteristics

Style Characteristic ⇨ / Album (# of tracks) ⇩	Active Bass	Irregular Section Length	Dynamic Stereo	Syncopated Percussion	Echo/Delay	Harmonics	Muted Strum	Extended Introduction	Arpeggiated Chords	Layered Vocals
Boy (11)	10	10	10	10	6	10	5	3	5	4
October (11)	11	9	7	9	9	10	4	5	2	1
War (10)	10	10	8	9	4	8	7	1	3	3
The Unforgettable Fire (10)	8	7	8	6	10	8	4	2	4	2
The Joshua Tree (11)	9	10	7	9	8	8	7	4	6	--
Rattle and Hum (10)	7	8	7	6	7	3	2	2	5	--
Achtung Baby (12)	12	11	11	12	12	10	7	7	2	6
Zooropa (10)	9	10	5	4	7	--	1	3	2	3
Pop (112)	12	11	12	9	6	5	4	5	1	4
Best of 1980-1990 (1)	1	1	1	1	1	1	--	--	--	--
All That You Can't Leave Behind (11)	10	10	11	11	8	6	1	6	5	2
Best of 1990-2000 (4)	4	3	3	3	3	1	--	1	2	--
How To Dismantle An Atomic Bomb (11)	11	11	11	8	11	8	5	4	2	5
U218 Singles (1)	1	1	1	--	1	--	--	1	1	--
Totals	115	112	102	97	93	78	47	44	40	30
Percentages (out of 125)	92%	90%	82%	78%	74%	62%	38%	35%	32%	24%

Table 2 Specific and overall song forms, First Period.

Album Title	Song Title	Specific Form	Overall Form
Boy	I Will Follow	i V L V C L V C L N_C^i C D o	A A′ B A″
	Twilight	i V L V L C L N_S^i I V C I C L N_S^i o	A B A′ C A″ B′
	An Cat Dubh	i V T C L V T C L I T C o	A A B A′
	Into the Heart	i V V V D o	A A A
	Out of Control	i V V C V C I C N_S^i V V C o	A A′ B A
	Stories For Boys	i V T L V T C I V T C D	A A′ B A′
	The Ocean	i V I D o	A B
	A Day Without Me	i V R L V′ I R L V″ o	A A′ A″
	Another Time, Another Place	i V T L V T C I C' o	A A′ B A″
	The Electric Co.	i V C L V C L′ I C o	A A′ B A″
	Shadows and Tall Trees	i V V T C V T N_C^i T C D o	A A′ B A″
October	Gloria	i V C L V C′ I C″ o	A A′ B A″
	I Fall Down	i V T R L V T C L V T C	A A′ A′
	I Threw A Brick Through A Window	i V I V I N V o	A A B A′
	Rejoice	i V C V C L C I o	A A′ A″ B
	Fire	i V R V R L N_S^i V R I N_S^i I o	A A′ B A B′ B″
	Tomorrow	i C V C V L C T C C′ D o	A A A′ A″
	October	i V o	A
	With A Shout	i V R C V R I R′ C' o	A A′ B A″
	Stranger in a Strange Land	i C V D I C V D′ o	A A
	Scarlet	i V I V′ o	A A′
	Is That All?	i V R V′ R I D o	A A′ B A″
War	Sunday Bloody Sunday	i V N_C^i V′ C L V′ C′ N_C^i C′ I N_S^d L V″ C	A A′ B A″
	Seconds	i V T V′ T D V″ T V″ D′	A A′ A″ A‴ or A A′
	New Year's Day	i V C L V T C L I L T C L D o	A A′ B A″ A‴
	Like A Song…	i V L V′ T V′ T N(ic) I V″ T′ o	A A′ B A″
	Drowning Man	i Va I Va Vb Va′ Vb′ Vb″ o	A A B A′ B′ B″
	The Refugee	i V I N_S^i V I N_S^i V V o	A B A B A A
	Two Hearts Beat As One	i V C L V′ C T L V′ C N_S^d L D	A A′ A″ B
	Red Light	i V C L V C' I C D o	A A′ B A″
	Surrender	i V C Ia V′ C Ib V′ Ic C o	A A′ A″
	"40"	i V C L V C′ D	A A′

Table 3 Specific and overall forms, Second Period**.**

Album Title	Song Title	Specific Form	Overall Form
The Unforgettable Fire	A Sort of Homecoming	i V C L V′ C N^{d}_{s} V″ C′ L D	A A' B A"
	Pride (In the Name of Love)	i V C V C I V′ C D o	A A B A'
	Wire	i V C L V C L V L C L N^{i}_{s} o	A A A′ B
	The Unforgettable Fire	i V C L V′ C′ I C′ o	A A′ B A″
	Promenade	i V V o	A A
	4th of July	none	none
	Bad	i V V′ V″ L C V″ L V ‴ C′	A A′ A″
	Indian Summer Sky	i V T C V′ T C D	A A′
	Elvis Presley and America	i V C C V I C N^{i}_{c} C V D	A A′ A″ B A′
	MLK	i V V o	A A
The Joshua Tree	Where the Streets Have No Name	i V R V R C L V R C D o	A A′
	I Still Haven't Found What I'm Looking For	i V V R V V R I V V R D o	A A B A
	With Or Without You	i Va C Va′ C′ L N^{i}_{c} Vb N^{i}_{c} C′ I C′ D o	A B C
	Bullet the Blue Sky	i Va C Va C L Vb I Vb′	A A B C B′
	Running to Stand Still	i V C L V′ C I V″ C o	A A′ B A″
	Red Hill Mining Town	i V T C V T C V T′ C N^{d}_{c} D	A A A′ B
	In God's Country	i V C L V C L I D o	A A B
	Trip Through Your Wires	i V T C L I V′ T C L N^{d}_{c} D	A B A′ C
	One Tree Hill	i V C V' C I V′ C D o	A A′ B A′
	Exit	i Va L Va Vb I D o	A A B
	Mothers of the Disappeared	i V R V R I V R V R′ o	A A B A A′
Rattle and Hum	Van Diemen's Land	i V V V V	A A A A
	Desire	i V T R V′ T R′ La T R″ Lb N^{i}_{s} T R″ D	A A′ A″ B
	Hawkmoon 269	i V R V R′ L V′ R V′ R″ N^{d}_{s} R″ V′ R V′ R″ N^{d}_{s} R″ I V′ R′ V′ R‴ L V R V R o	A B A′ B′ A″
	Silver and Gold	i V C L V C I V′ L V C o	A A B A′
	Angel of Harlem	i V C V C N^{i}_{s} V C′ o	A A B A′
	Love Rescue Me	i V R V R N^{i}_{s} R V R N^{i}_{s}	A A B A B B A′ A
	When Love Comes to Town	i V C La V V′ C Lb C I V C o	A A′ A″ B A
	Heartland	i V V′ C V″ C′ o	A A′
	God Part II	i V R V R Ia V R Ib V R V R D	A A B A C A A
	All I Want Is You	i V C V′ C L V″ C′ D o	A A′ A″
The Best of 1980-1990	Sweetest Thing	i V N^{i}_{s} V N'^{i}_{s} I V o	A A B A′

Table 4 Specific and overall forms, Third Period**.**

Album Title	Song Title	Specific Form	Overall Form
Achtung Baby	Zoo Station	i V T C V C N^{i}_{S} T C D o	A A′ B A″
	Even Better Than the Real Thing	i V T C L V T C I T N^{d}_{C} C′	A A B A′
	One	i V C L V C L V C N^{i}_{S} C D o	A A A B A′
	Until the End of the World	i V T R L V T R L I V′ T R L o	A A B A′
	Who's Gonna Ride Your Wild Horses	i V T V T C V T C N^{i}_{C}C′ T′ C o	A A′ A′ B A″ A‴
	So Cruel	i V L V L C L′ V L C L N^{i}_{S} L′ V L C L D	A A′ A″ B A‴
	The Fly	i V V C L V C L′ I C′ C L D o	A A′ B A″ A‴
	Mysterious Ways	i V T C L V T C′ I N^{i}_{C} C D	A A′ B A″
	Tryin' to Throw Your Arms Around the World	i V R C V R C V′ R C I V R D	A A A′ B A″
	Ultraviolet (Light My Way)	i V T C V T C C′ N^{i}_{C} C′ Cb D	A A B C A′ B
	Acrobat	i V C L V C T I C′	A A B A'
	Love Is Blindness	i C V V C N^{i}_{C} I V C I o	A A′ B A′ B′
Zooropa	Zooropa	i Va Va L Va L′ Vb Vb C Vb C' D	A A′
	Babyface	i V T C L V T′ C I C' o	A A′ B A″
	Numb	i V V T V V V T V I V V V V T T V V V D	A A′ A″ B A‴ A′
	Lemon	i Va T Va Vb T N^{i}_{C} Va′ Vb′ T N'^{i}_{C} I Vb N^{i}_{C} D	A B C B′ C D B″
	Stay (Faraway, So Close!)	i V T V T C V T C′ I D	A A′ A″ B
	Daddy's Gonna Pay For Your Crashed Car	i V C L V C L V′ C D	A A A′
	Some Days Are Better Than Others	i V R C V R C I V R C D o	A A B A
	The First Time	i V T R V T R I V′ I D	A A B A′ B'
	Dirty Day	i V T L R V′ N^{i}_{S} I V L D	A A′ B A″ A‴
	The Wanderer	i V C V′ C L N(ds) V′ C C o	A A′ B A′
Pop	Discothèque	i V T La V′ C Lb La′ V′ T C′ Lb′ D o	A A′ A″ B
	Do You Feel Loved	i V T C La V T C′ Lb N(ds) C″ D o	A A′ B A″
	Mofo	i V R V R L N^{i}_{C} L V′ R D	A A B A′
	If God Will Send His Angels	i V T C L V T′ C′ L V′ T C′ o	A A′ A″
	Staring At The Sun	i V T C La V T C Lb V T C o	A A A
	Last Night On Earth	i V T C V′ C′ N^{i}_{C} V T C″ o	A A′ B A″
	Gone	i V C L V C L′ N^{i}_{C} V C′ L o	A A B A′
	Miami	i V V V′ I N^{i}_{C} D o	A A A′ B
	The Playboy Mansion	i Va T R L Va T R L Vb Vb N^{i}_{C} Va′ T R L D o	A A B B C A′
	If You Wear That Velvet Dress	i V V V C V I V V C D o	A A′ B A″
	Please	i Va T C L Va T C N^{i}_{C} L Vb C N'^{i}_{C} D	A A B C B'
	Wake Up Dead Man	i V C V C N^{i}_{C} C V C′ o	A A B A′
The Best of 1990-2000	Hold Me, Thrill Me, Kiss Me, Kill Me	i V V C L V C L V C L o	A A′ A″
	Miss Sarajevo	i V C V C N^{i}_{C} V o	A A′ B A″
	The Hands That Built America	i V C V C N^{i}_{C} I V′ C′ D	A A B A′
	Electrical Storm	i Va T La Vb T C Lb Vb′ T′ C′ D	A B B′

Table 5 Specific and overall forms, Fourth Period

Album Title	Song Title	Specific Form	Overall Form
All That You Can't Leave Behind	Beautiful Day	i V C V C′ L N_C^i C′ D o	A A′ B A″
	Stuck In A Moment You Can't Get Out Of	i V T C L V T C N_C^i C D	A A B A′
	Elevation	i V C La V C Lb N_S^i C D o	A A B A′
	Walk On	i V Ta C V Ta C Tb I N_C^i Tb D	A A B B′
	Kite	i V Ta Tb C L V I N_C^i C L′ D	A A′ B A″
	In A Little While	i V L V L N_C^i D	A A B
	Wild Honey	i V C L V C′ L V N_C^i C′ o	A A′ A″
	Peace On Earth	i V V′ T C V′ C′	A A′
	When I Look At The World	i V T R L V T R I N_C^i R L V′ D	A A B A′
	New York	i V V V′ C V C L V C N_S^i C′	A A′ A′ B A″
	Grace	i V R V R V′ R′ o	A A A′
How To Dismantle An Atomic Bomb	Vertigo	i V C V′ C T I N_C^i C′ D o	A A′ B A″
	Miracle Drug	i V T C L V′ T′ C′ I N_C^i C″	A A′ B A″
	Sometimes You Can't Make It On Your Own	i V T C V T C N_C^i T C D o	A A B A′
	Love And Peace Or Else	i V T C V T C N_S^i I D	A A B
	City Of Blinding Lights	i V Ta C V Ta C Tb N_C^d C′ D o	A A B A′
	All Because Of You	i V C L V C L Ia L Ib N_C^d C	A A B A′
	A Man And Woman	i V T C V C N_C^i V T C D	A A′ B A
	Crumbs From Your Table	i V T C L V C L N_C^i I C L′ o	A A B A′
	One Step Closer	i V C V C I V C D	A A B A
	Original Of The Species	i V T C L′ V T C L″ N_S^d C′ o	A A B A′
	Yahweh	i V C V C N_S^i C L D	A A B A′
U218 Singles	Window In The Skies	i V C V C N_S^i C' D	A A B A′

.

APPENDIX B: Definitions and Abbreviations

Active Bass a prominent instrumental layer of the texture provided by the bass guitar. It may supply either a steady rhythmic pulse, an additional melodic line to those already present, or both.

Arpeggiated Chords one of the techniques employed to fill out songs' texture and provide a subtle sense of motion. Instead of strumming the entire chord all at once in one motion, the constituent notes of the chord are played individually in any one of a number of arpeggio patterns.

***Chorus* (C)** the section of the song that resolves any lyrical and/or musical tension established in previous sections. It is distinct from the verse and transition in that he chorus returns several times throughout the song, usually with the same lyrics. Typically, the chorus uses the title of the song, or some variation of it, as a lyrical hook.

***Coda* (D)** an optional closing section that uses lyrics, usually featuring repeated text from the chorus that usually provides lyrical closure to the song.

***Conclusion* (o)** an optional closing section that does not feature lyrics and is primarily instrumental. It usually appears after a coda, if one is present, and serves to end the entire song, either with a cadence or with a fade out.

Delay an effect used primarily on The Edge's guitar lines, giving the effect of an large open space. See *Echo*.

Dependent Continuous Interverse (N_c^d) an interverse that borrows musical and/or lyrical material from other song sections and is harmonically and/or melodically open. This type of interverse does not contrast markedly with the rest of the song.

Dependent Sectional Interverse (N_s^d) an interverse that borrows musical and/or lyrical material from other song sections and is harmonically and/or closed. This type of interverse does not contrast markedly with the rest of the song.

Dynamic Stereo a style that describes the use and manipulation of the stereo field.

Echo the result of the delay effect applied to The Edge's guitar part. The echo gives the effect that The Edge is playing in an open, resonant space. It also creates the illusion he is playing more notes than he actually is.

Extended Introduction an introduction section that lasts over 30 seconds.

Guitar Dyads a guitar technique in which only a two-note interval is plucked, rather than strumming or plucking a whole chord or arpeggio.

Harmonics produced by lightly touching the string directly over specific frets and immediately removing the finger as the string is plucked or picked, causing both halves of the string to vibrate. This results in a markedly different timbre from that of a normally-played string.

Hook the main theme or motive around which the song is based. The hook is usually presented in the introduction. A song may have multiple hooks which may be of musical character or lyrical content, or both.

Independent Continuous Interverse **(N_c^i)** an interverse that uses new musical material and ends on an open-ended, non-tonic harmony and/melody note. This is the most common type of interverse.

Independent Sectional Interverse **(N_s^i)** an interverse that uses new musical material and ends on a conclusive tonic harmony.

Interlude **(I)** the section of a song that features instrumental solos and (typically) dramatic changes in texture and timbre.

Interverse **(N)** formerly known as the "bridge" section. Usually, this section features new or contrasting material from previously heard sections, although contrast is not necessarily a requirement of the section.

Introduction **(i)** the opening section of a song. This section typically is instrumental, and frequently presents the song's "hook"

Irregular Section Length describes sections in rock songs whose lengths are not even multiples of four or eight measures (e.g. four, eight, sixteen, and thirty-two measures).

Layered Vocals a post-production technique in which different versions of the vocal line—those sung in higher or lower registers or spoken—are are incorporated into the song's final mix, giving the lead vocal part depth and complexity.

Link **(L)** A short, typically instrumental passage that connects two major sections (e.g. a chorus and a verse).

Muted Strum a strumming technique in which the fretting hand presses all the strings with enough pressure to absorb most of the strumming vibrations, but not enough so that the strings meet the neck and frets. A click-like sound results that frequently has more of a rhythmic and textural function that a harmonic and/or melodic function.

Offbeat any point in the metrical organization that is typically not accented.

Overall Form the large-scale organization of a song, usually consisting of a small number of large sections, each of which are made up of smaller sections.

***Refrain* (R)** a line or pair of lines that recur throughout the song. The refrain usually appears at the end of a verse or a transition. Most often, the song's title, or some variation thereof, serves as the text of the refrain.

Specific Form a detailed summary of the song's organization. The specific form outlines the individual sections that ultimately comprise the song's larger, overall design.

Syncopated Percussion a characteristic of the percussion part that describes the part's simultaneous steady beat, solid metric organization, and offbeat emphasis.

***Transition* (T)** a passage of relative instability that serves to connect two other sections, usually a verse to a chorus or refrain.

***Verse* (V)** a recurring section that usually has different lyrics set to the same, or similar, music, although slight variations in the melody's contour and rhythmic patterns is not unusual.

BIBLIOGRAPHY

Adorno, T. W. "On Popular Music." Edited by George Simpson. Available from http://www2.hu-berlin.de/fpm//texte/adorno.htm. Internet; accessed 24 October 2006.

_____. "On the Problem of Musical Analysis." Translated by Max Paddison. *Music Analysis* 1, no. 2 (1982): 169-187.

Agawu, V. Kofi. "Schenkerian Notation in Theory and Practice." *Music Analysis* 8, no. 3 (1989): 275-301.

_____. "Theory and Practice in the Analysis of the Nineteenth-Century 'Lied.'" *Music Analysis* 11, no. 1 (1992): 3-36.

_____. "Analyzing Music under the New Musicological Regime." *The Journal of Musicology* 15, no. 3 (1997): 297-307.

Assayas, Michka. *Bono: in Coversation*. New York: Riverhead Books, 2005.

Bennett, H. Stith. "Notation and Identity in Contemporary Popular Music." *Popular Music*, 3 (1983): 215-234.

Bernard, Jonathan W. "Theory, Analysis, and the Problem of Minimal Music." *Concert Music, Rock, and Jazz Since 1945—Essays and Analytical Studies*. Rochester: University of Rochester, 1995.

Berry, Wallace. *Structural Functions in Music*. New York: Dover Publications, Inc., 1976.

_____. *Form in Music*, 2nd ed. Upper Saddle River: Prentice-Hall, Inc., 1986.

Bjornberg, Alf. "Structural Relationships of Music and Images in Music Video." *Popular Music* 13, no. 1 (1994): 51-74.

Bordowitz, Hank. *The U2 Reader: A Quarter Century of Commentary, Criticism, and Reviews*. Milwaukee: Hal Leonard Corporation, 2003.

Bosso, Joe. "Memory Man." *Guitar World*, September 2005.

Bromell, Nick. "The Blues and the Veil: The Cultural Work of Musical Form in Blues and '60's Rock." *American Music* 18, no. 2 (2000): 193-221.

Brackett, David. *Interpreting Popular Music*. Berkeley: University of California Press, 2000.

_____. *The Pop, Rock, and Soul Reader*. New York: Oxford University Press, 2005.

Burnham, Scott. "Theorists and 'The Music Itself'." *The Journal of Musicology* 15, no. 3 (1997): 316-329.

Burns, Gary. "A Typology of 'Hooks' in Popular Records." *Popular Music* 6, no. 1 (1987): 1-20.

Burns, Lori. "Meaning in a Popular Song: The Representation of Masochistic Desire in Sarah McLachlan's "Ice." *Engaging Music: Essays in Musical Analysis*. Edited by Deborah Stein. New York: Oxford University Press, 2005.

Cage, John. *Silence*. Hanover: Wesleyan University Press, 1961.

Caplin, William E. *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven*. New York: Oxford University Press, 2000.

Capuzzo, Guy. "Neo-Riemannian Theory and the Analysis of Pop-Rock Music." *Music Theory Spectrum* 26, no. 2 (2004): 177-199.

Carpenter, Patricia. "A Problem in Organic Form: Schoenberg's Tonal Body." *Theory and Practice* 13 (1988): 31-63.

Charosh, Paul. "'Popular' and 'Classical' in the Mid-Nineteenth Century." *American Music* 10, no. 2 (1992): 117-135.

_____. "Studying Nineteenth-Century Popular Song." *American Music* 15, no. 4 (1997): 459-492.

Clendinning, Jane Piper, and Elizabeth West Marvin. *The Musician's Guide to Theory and Analysis*. New York: W. W. Norton & Company, 2005.

Cloonan, Martin. "Pop and the Nation-State: Towards a Theorisation." *Popular Music* 18, no. 2 (1999): 193-207.

Cone, Edward T. "On Derivation: Syntax and Rhetoric." *Music Analysis* 6, no. 3 (1987): 237-255.

Cook, Nicholas. "Music Theory and 'Good Comparison': A Viennese Perspective." *Journal of Music Theory* 33, no. 1 (1989): 117-141.

Covach, John. "Form in Rock Music: A Primer." *Engaging Music: Essays in Musical Analysis*. Edited by Deborah Stein. New York: Oxford University Press, 2005.

_____. *What's That Sound: An Introduction to Rock and Its History*. New York: W. W. Norton & Company, 2006.

Covach, John, and Graeme M. Boone, eds. *Understanding Rock: Essays in Musical Analysis*. New York: Oxford University Press, 1997.

Cutler, Chris. "Technology, Politics and Contemporary Music: Necessity and Choice in Musical Forms." *Popular Music* 4 (1984): 279-300.

Dahlhaus, Carl. "Some Modes of Unity in Music Form." *Journal of Music Theory* 19, no. 1 (1975): 2-30.

Darcy, Warren. "Rotational Form, Teleological Genesis, and Fantasy-Projection in the Slow Movement of Mahler's Sixth Symphony." *19th-Century Music* 25, no. 1 (2001): 49-74.

Dibben, Nicola. "Representations of Femininity in Popular Music." *Popular Music* 18, no. 3 (1999): 331-355.

Durant, Alan. "Rock Revolution or Time-No-Changes: Visions of Change and Continuity in Rock Music." *Popular Music* 5 (1985): 97-121.

Everett, Walter. "The Beatles as Composers." *Concert Music, Rock, and Jazz Since 1945—Essays and Analytical Studies*. Rochester: University of Rochester, 1995.

_____. *The Beatles as Musicians:* Revolver *through the* Anthology." New York: Oxford University Press, 1999.

Fast, Susan. "Music, Contexts, and Meaning in U2." *Expression in Pop-Rock Music: A Collection of Critical and Analytical Essays*. Edited by Walter Everett. New York: Garland publishing, 2000.

Ferrara, Lawrence. "Phenomenology as a Tool for Musical Analysis." *The Musical Quarterly* 70, no. 3 (1984): 355-373.

Fink, Robert. "Elvis Everywhere: Musicology and Popular Music Studies at the Twilight of the Canon." *American Music* 16, no. 2 (1998): 135-179.

Fiori, Umberto. "Listening to Peter Gabriel's 'I Have the Touch.'" *Popular Music* 6, no. 1 (1987): 37-43.

Fornäs, Johan. "Moving Rock: Youth and Pop in Late Modernity." *Popular Music* 9, no. 3, (1990): 291-306.

_____. "The Future of Rock: Discourses That Struggle to Define a Genre." *Popular Music* 14, no. 1 (1995): 111-125.

Fox, Darrin. "Basic Instincts." *Guitar Player*, #373 35, no. 1 (2001): 100-108.

Gracyk, Theodore A. "Adorno, Jazz, and the Aesthetics of Popular Music." *The Musical Quarterly* 76, no. 4 (1992): 526-542.

Griffiths, Dai. "The High Analysis of Low Music." *Music Analysis* 18, no. 3 (1999): 389-435.

Grossberg, Lawrence. "Another Boring Day in Paradise: Rock and Roll and the Empowerment of Everyday Life." *Popular Music* 4, (1984): 225-258.

Guck, Marion A. "Music Loving, or the Relationship with the Piece." *The Journal of Musicology*, Vol 15, no. 3 (1997): 343-352.

Hakanen, Ernest A. "Counting down to Number One: The Evolution of the Meaning of Popular Music Charts." *Popular Music*: Vol. 17, no. 1 (1998): 95-111.

Hamm, Charles. "Rock and the Facts of Life." *Anuario Interamericano de Investigacion Musical* 7 (1971): 5-15.

_____. "The Fourth Audience." *Popular Music* 1 (1981): 123-141.

Harker, Dave. "Debate: Taking Fun Seriously." *Popular Music* 15, no. 1 (1996): 108-121.

Harrison, Daniel. "After Sundown: The Beach Boys' Experimental Music." *Understanding Rock: Essays in Musical Analysis*. New York: Oxford University Press, 1997.

Hawkins, Stan. "Prince: Harmonic Analysis of 'Anna Stesia.'" *Popular Music* 11, no. 3 (1992): 325-335.

_____. "Perspectives in Popular Musicology: Music, Lennox, and Meaning in 1990s Pop." *Popular Music* 15, no. 1 (1996): 17-36.

Headlam, Dave. "Does the Song Remain the Same? Questions of Authorship and Identification in the Music of Led Zeppelin." *Concert Music, Rock, and Jazz Since 1945—Essays and Analytical Studies*. Rochester: University of Rochester, 1995.

Hepokoski, James, and Warren Darcy. "The Medial Caesura and Its Role in the Eighteenth-Century Sonata Exposition." *Music Theory Spectrum* 19, no. 2 (1997): 115-154.

Hepokoski, James. "Beyond the Sonata Principle." *Journal of the American Musicological Society* 55, no. 1 (2002): 91-154.

Hisama, Ellie M. "Postcolonialism on the Make: The Music of John Mellencamp, David Bowie, and John Zorn." *Popular Music* 12, no. 2 (1993): 91-104.

Inglis, Ian. "Variations on a Theme: The Love Songs of the Beatles." *International Review of the Aesthetics and Sociology of Music* 28, no. 1 (1997): 37-62.

Julien, Olivier. "The Divertying of Musical Technology by Rock Musicians: The Example of Double-Tracking." *Popular Music* 18, no. 3 (1999): 357-365.

Kaminsky, Peter M. "Revenge of the Boomers: Notes on the Analysis of Rock Music." *Music Theory Online* 6, no. 3 (2000).

Karl, Gregory. "Structuralism and Musical Plot." *Music Theory Spectrum* 19, no. 1 (1997): 13-34.

Katz, Adele T. "Heinrich Schenker's Method of Analysis." *The Musical Quarterly* 21, no. 3 (1935): 311-329.

Kramer, Jonathan D. "Moment Form in Twentieth Century Music." *The Musical Quarterly* 64, no. 2 (1978): 177-194.

McLaughlin, Noel, and Martin McLoone. "Hybridity and National Musics: The Case of Irish Rock Music." *Popular Music* 19, no. 2 (2000): 181-199.

Menger, Pierre-Michel, and Dianne Cullinane. "Technological Innovations in Contemporary Music." *Journal of the Royal Musical Association* 114, no. 1 (1989): 92-101.

Meyer, Leonard B. *Emotion and Meaning in Music*. Chicago: The University of Chicago Press, 1956.

McCormick, Neil, editor. *U2 By U2*. London: HarperCollins Publishers, 2006.

Middleton, Jason, and Roger Beebe. "The Racial Politics of Hybridity and 'Neo-Eclecticism' in Contemporary Popular Music." *Popular Music* 21, no. 2 (2002): 159-172.

Middleton, Richard. "'Play It Again Sam': Some Notes on the Productivity of Repetition in Popular Music." *Popular Music* 3 (1983): 235-270.

_____. "Popular Music Analysis and Musicology: Bridging the Gap." *Popular Music* 12, no. 2 (1993): 177-190.

_____. *Studying Popular Music*. Philadelphia: Open University Press, 1990.

Moore, Allan F. "Patterns of Harmony." *Popular Music* 11, no. 1 (1992): 73-106.

_____. "The So-Called 'Flattened Seventh' in Rock. *Popular Music* 14, no. 2 (1995): 185-201.

_____. "U2 and the Myth of Authenticity in Rock." *Popular Musicology* 3, no. 6 (1998): 5-33.

_____. "Constructing Authenticity in Rock." *International e-Journal of the Performing Arts*, 001 (2000).

_____. *Rock: The Primary Text*, second ed. Burlington: Ashgate, 2001.

_____. "Authenticity as Authentication." *Popular Music* 21, no. 2 (2002): 209-223.

_____. "Looking for the Kingdom Come: Questioning Spirituality in U2." *Popular Musicology Online* 1 (2002).

Morgan, Robert P. "Symmetrical Form and Common-Practice Tonality." *Music Theory Spectrum* 20, no. 1 (1998): 1-47.

Murphey, Tim. "The When, where, and who of pop lyrics: the listener's prerogative." *Popular Music* 8, no. 2 (1989): 185-193.

Neal, Jocelyn. "Popular Music Analysis in American Music Theory." *Zeitschrift Der Gesellschaft für Musiktheorie* 2, no. 2 (2005).

Paddison, Max. "The Critique Criticised: Adorno and Popular Music." *Popular Music* 2 (1982): 201-218.

Parakilas, James. "Classical Music as Popular Music." *The Journal of Musicology* 3, no. 1 (1984): 1-18.

Peterson, Richard A. "Why 1955? Explaining the Advent of Rock Music." *Popular Music* 9, no. 1 (1990): 97-116.

Racic, Ladislav. "On the Aesthetics of Rock Music." *International Review of the Aesthetics and Sociology of Music* 12, no. 2 (1981): 199-201.

Ratner, Leonard. "Harmonic Aspects of Classic Form." *Journal of the American Musicological Society* 2, no. 3 (1949): 159-168.

_____. *Classic Music: Expression, Form, and Style*. Schirmer Books: New York, 1980.

Rothstein, William N. *Phrase Rhythm in Tonal Music*. New York: Schirmer Books, 1989.

Russell, Dave. "The 'Social History' of Popular Music: A Label with a Cause?" *Popular Music* 12, no. 2 (1993): 139-154.

Schenker, Heinrich. *Der Freie Satz*. Translated by Ernst Oster. New York: Longman, 1979.

Schmalfeldt, Janet. "Towards a Reconciliation of Schenkerian Concepts with Traditional and Recent Theories of Form." *Music Analysis* 10, no. 3 (1991): 233-287.

Scrimgeour, Diana. *U2 Show*. New York: Riverhead Books, 2004.

Smyth, David. "'Balanced Interruption' and the Formal Repeat." *Music Theory Spectrum* 15, no. 1 (1993): 76-88.

Spencer, Peter and Peter M. Temko. *A Practical Approach to the Study of Form in Music*. Prospect Heights: Waveland Press, Inc. 1988.

Stefani, Gino. "Melody: A Popular Perspective." *Popular Music* 6, no. 1 (1987): 21-35.

Stephenson, Ken. *What to Listen for in Rock: A Stylistic Analysis*. New Haven: Yale University Press, 2002.

Stokes, Niall. *U2: Into the Heart: The Stories Behind Every Song*. New York: Thunder's Mouth Press, 2005.

Straw, Will. "Music Video in Its Contexts: Popular Music and Post-Modernism in the 1980s." *Popular Music* 7, no. 3 (1988): 247-266.

Sweeney-Turner, Steve. "Trivial Pursuits? Pop Music: Is It Serious to Be Silly? Asks Steve Sweeney-Turner." *The Musical Times* 135, no. 1814 (1994): 216-219.

Tagg, Philip. "Analysing popular music: theory, method, and practice." *Popular Music* 2, (1982): 37-67.

Temperley, David. "Syncopation in Rock: A Perceptual Perspective." *Popular Music* 18, no. 1 (1999): 19-40.

Traub, James. "The Statesman." *The New York Times Magazine*,18 September 2005.

Treibitz, C. Howard. "Substance and Function in Concepts of Musical Structure." *The Musical Quarterly* 69, no. 2 (1983): 209-226.

Tyrangiel, Josh. "The Constant Charmer." *Time*, 26 December 2005/2 January 2006.

various authors. "The Complete U2." *Q,* March 2007.

Weinstein, Eugene, and Pedro Moreno. "Music Identification with Weighted Finite-State Transducers." Available at http://cs.nyu.edu/~eugenew/publications/icassp07.pdf. Internet; accessed 11 October 2007

Wenner, Jann S. "Bono: The Rolling Stone Interview." *Rolling Stone*, 3 November 2005.

Wicke, Peter, and Richard Deveson. "Rock Music: A Musical-Aesthetic Study." *Popular Music* 2 (1982): 219-243.

Williams, Christina. "Does it Really Matter? Young People and Popular Music." *Popular Music* 20, no. 2 (2001): 223-242.

Wright, Robert. "'I'd Sell You Suicide': Pop Music and Moral Panic in the Age of Marilyn Manson." *Popular Music* 19, no. 3 (2000): 365-385.

Wong, Deborah. "Finding an Asian American Audience: The Problem of Listening." *American Music* 19, no. 4 (2001): 365-384.

Zabel, Gary. "Adorno on Music: A Reconsideration." *The Musical Times* 130, no. 1754 (1989): 198-201.

Zak, Vladimir. "Asaf'ev's Theory of Intonation and the Analysis of Popular Song." *Popular Music* 2, (1982): 91-111.

Compact Discs and Videos

U2. *Boy*. Island Records (422-842 296-2), 1980.

_____. *October*. Island Records (422-842 297-2), 1981.

_____. *War*. Island Records (422811 148-2), 1983.

_____. *The Unforgettable Fire*. Island Records (422-822 898-2), 1984.

_____. *The Joshua Tree*. Island Records (422-842 298-2), 1987.

_____. *Rattle And Hum*. Island Records (422-842 299-2), 1988.

_____. *Achtung Baby*. Island Records (I2 10347), 1991.

_____. *Zooropa*. Island Records (314-518 047-2), 1993.

_____. *Pop*. Island Records (314-524 334-2), 1997.

_____. *The Best Of 1980-1990*. Island Records (314-524 613-2), 1998.

_____. *All That You Can't Leave Behind*. Interscope Records (3145246532), 2000.

_____. *The Best Of 1990-2000*. Interscope Records (4400633612), 2002.

_____. *How To Dismantle An Atomic Bomb*. Interscope Records (B0003613-02), 2004.

_____. *U218 Singles*. Universal Island Records Limited (B0008027-02), 2006.

Classic Albums—U2: The Joshua Tree, DVD video. Classic Albums Series 2 Ltd.:

Elevation 2001 U2 Live From Boston, DVD video. U2 Limited: 2001.

U2 and 3 Songs, DVD video. Universal International Music BV: 2004.

U2 Go Home: Live From Slane Castle, Ireland, DVD video. U2 Limited: 2003.

U2 Rattle and Hum, DVD video. Paramount Pictures: 1988, 1999.

U2 PopMart: Live From Mexico City, DVD video. Universal Island Records Ltd.: 2007.

U2 ZooTV: Live From Sydney, DVD video. U2 Limited: 2006.

Vertigo 2005: U2 Live From Chicago, DVD video. U2 Limited: 2005.

Online Sources

http://www.amnesta.net/edge_delay

http://www.apple.com/itunes

http://www.atu2.com

http://audacity.sourceforge.net

http://www.billboard.com

http://www.blender.com

http://www.cs.nyu.edu

http://www.economictimes.indiatimes.com

http://www.freeverse.com/soundstudio

http://www.grammy.com

http://www.grovemusic.com

http://www.macphisto.net

http://www.neooffice.org

http://www.omnigroup.com/applications/omnigraffle

http://www.riaa.com

http://www.rollingstone.com

http://www.seventhstring.com/xscribe/overview.html

http://www.u2.com

http://www.u2station.com

Scores

U2 All That You Can't Leave Behind, guitar tab edition. ISBN 0-7119-8635-5. Universal Music Publishing: 2000.

U2 The Best Of, note and tab edition. ISBN 0-88188-763-3. Hal Leonard Publishing Corporation.

U2 The Best of 1980-1990, piano/vocal/guitar edition. ISBN 0-634-08637-5. Hal Leonard Corporation.

U2 The Best of 1990-2000, piano/vocal/guitar edition. ISBN 0-634-08638-3. Hal Leonard Corporation.

U2 How To Dismantle An Atomic Bomb, piano/vocal/guitar edition. ISBN 0-634-096292-3. Universal Music Publishing: 2004.

U2 The Piano Collection, piano/vocal/guitar edition. ISBN 0-634-09843-8. Wise Publication: 2005.

U2 Rattle and Hum, songbook edition. ISBN 0-7935-0268-3. Hal Leonard Corporation.

U2 Rock Score. ISBN 0-739-60034-6. Wise Publications: 1988.

BIOGRAPHICAL SKETCH

Christopher James Scott Endrinal was born in Chicago, Illinois on 30 September 1978. A graduate of Strake Jesuit College Preparatory in Houston, Texas, he earned a Bachelor of Arts degree in Music from Loyola University Chicago in 2000. He began graduate studies at Northwestern University in Evanston, Illinois in 2001, where he was a teaching assistant and taught first-year Aural Skills. He graduated with a Master of Music degree in Music Theory in 2002. Mr. Endrinal then taught Music Theory I, Aural Skills I, and Music Theory for Non-Majors as an adjunct professor at Harper College in Palatine, Illinois. His studies at The Florida State University College of Music commenced in 2003. While pursuing his doctoral degree, he was awarded teaching assistantships, which afforded him the opportunity to teach the full cycle of core undergraduate music theory courses—Music Theory I, II, III, and IV, and Sight-Singing and Ear-Training I, II, III, and IV—in addition to teaching Fundamentals of Music Theory and Music Theory for Non-Majors. He has presented papers at numerous regional conferences, including The Florida State University Music Theory Form, the University of Cincinnati CCM Music Theory and Musicology Society Conference, Music Theory Southeast, Music Theory Midwest, and the West Coast Conference for Music Theory and Analysis. Mr. Endrinal has also presented at the National Conference for the Society for Music Theory.