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FUNCTIONAL AND LENGTHY:
PREVAILING CHARACTERISTICS WITHIN SUCCESSFUL LONG SONGS

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ABSTRACT OF THE DISSERTATION

Functional and Lengthy: Prevailing Characteristics within Successful Long Songs

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Successful long popular songs consistently utilize formal structures and compositional techniques that are inherently particular to them. As a result, these recordings differ in more ways than simply length, because there are “long song” characteristics that distinguish this music.

In order to better discuss these characteristics, it was important to develop a method for visually depicting songs in a manner that clearly outlines each groove. These “groove analyses” are used to discuss each piece of music in detail. As a result, groove is a primary point of discussion throughout this study, because most long song characteristics are directly linked to this quality within music. This type of analysis is explained in detail, and afterwards, it is utilized throughout much of the dissertation.

It is also hypothetically possible that the structures and techniques in question can impact the listener’s perception of time when used outside of the context of a long song. A simple experiment was run in order to better understand how these concepts influence a person’s sense of duration, and the results were promising and demonstrated trends that merit further research.

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Introduction

The past 70 years have brought about many changes within the music industry. Technology has gradually progressed, and recording artists and trends have come and gone. We have grown to expect this to happen, but there are also consistencies that we have come to accept within the area of popular music. One of those consistencies is song length, since most of this music tends to be around three to four minutes long.

A song's length plays a crucial role in its listenability and thus influences its success or lack thereof. The recording industry has always encouraged shorter songs, but Jay Frank, a music executive, claims that consumer listening habits confirm the importance of this business strategy.¹ Frank is the current owner of the record label DigSin and has served as an executive for both Yahoo! Music and Country Music Television (CMT).² While at Yahoo! he oversaw music programming and managed to create a substantial increase in audience numbers, and at CMT he served as the Senior Vice President of Music Strategy.³ Frank claims that two minutes is a listener's limit. This limit is generally reached around the second chorus, and he explains that this is why it is so imperative for the artist to find a way to "engage" the audience at this point in the song. This attention-prolonging feature often comes in the form of a bridge, because if the listener's interest in the song stagnates after the second chorus, it is likely they will move on without hearing the rest of the recording.⁴ Under these circumstances, long songs seem to be at a

¹ Jay Frank, "Do YouTube Videos Have a Perfect Length?," July 2, 2012, <http://www.futurehitdna.com/do-youtube-videos-have-a-perfect-length/>.

² Scott Steinberg, "High-Tech Label DigSin Betting On Single Model," *Rolling Stone*, October 20, 2011, <http://www.rollingstone.com/culture/blogs/gear-up/high-tech-label-digsin-betting-on-singles-model-20111020>.

³ "Jay Frank Joins CMT as Senior Vice President, Music Strategy," *CMT Press*, June 26, 2007, <http://www.cmtpress.com/pressreleases/details.cfm?PressReleaseID=1000231>.

⁴ Frank, "YouTube Videos."

disadvantage. However, artists still record songs of great length, and some of those recordings do succeed. There is a lacuna within this particular area of scholarly writing. These songs are of significant interest, and it is important to discuss any variables that may contribute to this music's functionality.

Brief Explanation of Form

Throughout this study it is assumed the reader will have a certain level of understanding concerning form within popular music. This section will provide a brief and simplified explanation of this topic. There are essentially four forms that can be used to describe most of this music,⁵ and the first one to be discussed is verse-chorus form. A song using this formal structure will alternate back and forth between a verse and a chorus. The actual music is usually the same for each verse, so only the lyrics change. However, each chorus shares both the same music and the same lyrics, and it generally conveys the primary subject of the song. It is also possible for the verse and the chorus to share the same chord progression.⁶ With this form, the music's focus is on the chorus, and each verse is used to prepare for the return of this focal point within the music.⁷ Sometimes a "prechorus" is also present, and it functions as a transition from the verse into the chorus. It sets up a sense of "momentum" that culminates with the chorus, so it cannot stand by itself.⁸ Thus, a prechorus needs the chorus to fulfill its function.

⁵ Jason Summach, "Form in Top-20 Rock Music, 1955-89." (Ph.D. diss., Yale University, 2012), 231.

⁶ Ibid., 106-109.

⁷ John Covach, "Form in Rock Music: A Primer," in *Engaging Music*, ed. Deborah Stein (Oxford University Press, 2005), 69-71.

⁸ Jason Summach, "The Structure, Function, and Genesis of the Prechorus," *Society for Music Theory* 17, no. 4 (October 2011): <http://www.mtosmt.org/issues/mto.11.17.3/mto.11.17.3.summach.html>.

AABA form is commonly found within popular music as well. The B section is also referred to as a “bridge, which is often instrumental.”⁹ Stephenson refers to this form as “rounded binary,” because it does, in many ways, mirror the classical form.¹⁰ It is common for verse-chorus form and AABA form to combine as a kind of hybrid. (see Example 6 on page 30) John Covach refers to this as “compound AABA form,”¹¹ and this third formal structure is commonly found within long songs. In this type of form each A section is interpreted as a verse and a chorus, but the B section is still a bridge. The final A section often only states the chorus and leaves out the verse, but this is not necessarily always the case.

The last formal structure, which is also the least common of these four, is what Jason Summach refers to as “strophic form,”¹² which can be represented as AAA. Simply put, it repeats the same section of music with different lyrics.¹³

There are songs that fall outside of these parameters, and when this happens, capital letters will be used to denote each section of music within the diagram. Sometimes it is also necessary to convey a smaller micro form within a larger macro form. Lower case letters will be used for the micro form while upper case letters will be used for the macro form. Any time a section is slightly different than the original, a quotation mark can be added to its designation in order to make it “prime.” Pink Floyd’s “Time” is a good example of all of these features. It is in ABA form, but it is possible to look closer and see that the B section has the harmonic structure and same groove structure as the A section.

⁹ Covach, “Form in Rock Music,” 69-71.

¹⁰ Kenneth Stephenson, *What to Listen for in Rock: A Stylistic Analysis* (New Haven/London: Yale University Press, 2002), 140.

¹¹ Covach, “Form in Rock Music,” 74.

¹² Ibid., 231.

¹³ Summach, “Form in Top-20 Rock,” 16-17.

However, there is a guitar solo instead of vocals, so at the micro level it is also possible to see that the “a” and “b” that occur within the A section are “a prime” and “b prime” when the guitar solo replaces the vocals in the B section.

History of the Long Song

Andy Baio researched song length in relation to time period, and he found that songs were shorter during the 50s and 60s due to the limits of 45rpm vinyl records, which were used to release singles. These 7” records would only hold three minutes of music and were obviously limited by that time frame, so once the industry moved beyond the 7” record in the late ‘60s, longer songs were feasible.¹⁴ That being said, shorter songs would continue to be more lucrative and less risky. Up until 1976 record companies paid artists around two cents per song for each album sold. In other words, if an album had eight songs, the artist would receive \$0.16 each time it sold, and this is called the “mechanical license royalty rate.”¹⁵ Obviously, an artist could stand to gain more financially by filling an album with many short songs opposed to a few long songs. Admittedly, this window of opportunity did not last long as many record labels introduced policies limiting the number of compensational songs to ten. Musicians could still record large numbers of tracks, but the recording artist could never be paid for more than ten songs.¹⁶

The mechanical royalty rate was not the only issue faced by early long songs. A shorter single was more likely to garner the desired radio time, which is evident, since

¹⁴ Andy Baio, “The Whitburn Project: 120 Years of Music Chart History,” *Waxy*, May 15, 2008, http://waxy.org/2008/05/the_whitburn_project/.

¹⁵ “Mechanical License Royalty Rates,” January, 2010, <http://www.copyright.gov/carp/m200a.html>.

¹⁶ Jay Frank, *FutureHit. DNA: How the Digital Revolution Is Changing Top 10 Songs* (Nashville: Futurhit, Inc. 2009), 52-61.

many radio stations were shortening longer songs before playing them on the air.¹⁷ This would eventually lead to record companies releasing their own official “radio edits” in order to encourage more airplay. Not only did radio play supply performance royalties to the artist,¹⁸ it also provided publicity which would have likely improved album sales.

Eventually, the U.S. Copyright Act of 1976 raised the artist’s compensation to almost three cents per song, and record companies were also required to pay additional royalties for songs lasting six minutes or longer. Basically, the artist was entitled to at least half a cent for every minute of recorded music sold,¹⁹ but this change would not improve the actual market for long songs. Over two decades later congress passed the Digital Millennium Copyright Act of 1998 in order to regulate the distribution of music via the internet. The new law did not provide additional compensation for longer songs sold or played over the internet, so a two-minute Blur song would be compensated no differently than an eight-minute Led Zeppelin song.²⁰ All in all, long songs always offer less chance for financial reward than their short song counterparts. Chart 1 speaks volumes concerning the lengths of hit songs, and the data comes from what Andy Baio calls “The Whitburn Project,” which takes data from Joel Whitburn’s Record Research and turns it into statistics.²¹ For the past three decades, hit songs tend to be hovering right around the four-minute mark.²²

¹⁷ Ibid.

¹⁸ “ASCAP Payment System,” accessed May 1, 2013, <http://www.ascap.com/members/payment/royalties.aspx>.

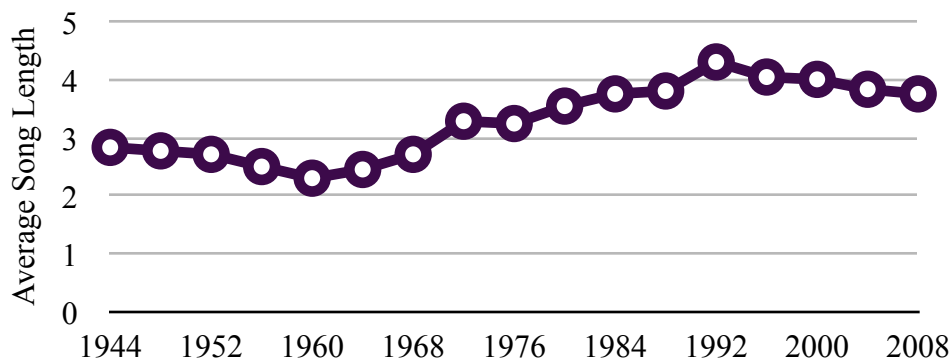
¹⁹ Marybeth Peters, “General Guide to the Copyright Act of 1976,” (Washington D.C.: Library of Congress 1977), 9:9, accessed May 2, 2013, <http://www.copyright.gov/reports/guide-to-copyright.pdf>.

²⁰ Frank, *FutureHit. DNA*, 52-61.

²¹ Baio, “The Whitburn Project.”

²² Baio’s researched was confirmed, and the results of that research are in Appendix B.

Chart 1: Average Song Length of Billboard Charts (in minutes)



Baio, Andy. *The Whitburn Project: 120 Years of Music Chart History*.

It could be argued that lengthy recordings are still at a disadvantage today. Of course, royalties have increased with inflation, but that is to be expected. Artists still need radio play, but the “radio” has expanded to the internet where bored listeners can simply move on to the next song or change channels with the touch of a button. This immediate gratification could arguably make audience engagement even more critical and create further difficulties for long songs.

That being said, there are still artists willing to tread off the beaten path and record this music despite the rarity of success. The question of “why” is an interesting one indeed. The long song is at a financial disadvantage, and if said song is released as a single, it will likely have a “radio edit.” This edited version will prevent many listeners from ever hearing the song in its entirety, so why bother? One can only speculate, but it is possible the long song could serve as an artistic expression separating a recording artist from all that is typical within the popular music world. In this way, the song would be a statement or a sign that this artist is more erudite than most other short-song-writing

popular musicians. Hence, this artist is more capable of creating an advanced form of popular music. Of course, it could be much simpler than this. The song could have simply arisen during a jam session. In this case, the music would have been originally conceived as a long song, and the artist simply saw no point in altering it. Also, during the first half of the '90s a substantial number of chart-topping long songs were intended for dancing. Dance music could actually benefit from length, since it was being used in clubs. In fact, short dance songs often had extended versions or "club mixes." The motivation behind each long song is limitlessly distinctive making artistic intent as a broad topic difficult to discuss with certainty. At any rate, it is important to establish the fact that these songs are unusual and somewhat rebellious against an established market-based system. As this is the case, the functionality of this music deserves attention and should be considered.

Methodology

In order to be consistent and unbiased, success will be determined by using the *Billboard* Hot 100. *Billboard's* chart is a long-standing method for determining popularity.²³ Also, since the majority of people already have preconceived ideas of what constitutes a "long song," the term as it is used here must be clarified. In this case, only songs exceeding six minutes in length will be discussed in order to ensure each recording meets individual criteria. Therefore, this is not an attempt to define the term "long song." It is, however, important to use a length that most can agree upon, and six minutes fulfills that requirement. Therefore, a successful long song will be defined as a post-1955 song that exceeds six minutes in length and charted on the *Billboard* Hot 100.

²³ Chris Molanphy, "How the Hot 100 Became America's Hit Barometer," *NPR*, August 1, 2013, <https://www.npr.org/sections/therecord/2013/08/16/207879695/how-the-hot-100-became-americas-hit-barometer>.

I discovered 283 long songs that charted between 1955 and 2011. This is an incredibly small number when one considers the vast amount of songs that charted within that 56-year time span. Most of these songs were found using Joel Whitburn's *Pop Annual*, which only covered 1955 to 2011. Of the 283 long songs that charted during that period of time, 113 were analyzed for this study, and Appendix A is a spreadsheet detailing each of the 113 song's features.

One of the goals of this study was to establish which characteristics were actually more prevalent within long songs, and in order to do this, it was important to examine a large number of shorter songs from the same time period. Using Joel Whitburn's *Pop Annual (1955-2011)*, dice were rolled to randomly select six songs from each year between 1955 and 2011. This span of time, once again, is dictated by Joel Whitburn's *Pop Annual*. Using this method, 342 random songs were selected and analyzed in a search for these "long song characteristics." Once this was complete, it was possible to compare the data from the analyzed long songs with the data from the randomly selected songs in order to establish which characteristics are truly more prevalent within long songs. Although the data retrieved from this particular part of the study is restricted to music that charted between 1955 and 2011, there will be discussions on more recent songs, which fall outside this study. These discussions will demonstrate that the methods and characteristics being discussed are relevant today and apply to music that was recently released.

Once the long song characteristics were established, this study looked into how these characteristics impact our perception of shorter songs. It is hypothetically possible that the variables at play within this music can influence the perception of the listener when used outside the context of a long song. When these techniques are used within shorter popular songs, it may deceive the listener into perceiving more time has passed than

actually has. One example is Harry Chapin's "Cat's in the Cradle" (1974). The song itself is a narrative telling the story of a lifelong relationship between a father and a son. One's perception of time is highly subjective, since there is no way to measure it. However, a great deal of time has passed within the storyline, and it can be difficult to perceive the fact that fewer than four minutes has transpired.

Examples like this make it seem as though there is a real possibility that long song characteristics might affect an individual's perception of time. An experiment was used to test this hypothesis, and the results were promising. The number of participants was not high enough to establish definite correlations, but the experiment at least demonstrated some trends. Participants were asked to estimate the length of various songs that were two to five minutes long. Each person listened to music void of long song characteristics, which was the control, and they also heard songs that made use of these variables. In the end, it appears as though some people are susceptible to the influence of long song characteristics, but it also revealed that some are simply better at estimating the passage of time. To prevent the data from being skewed, individuals were compared to themselves rather than comparing participants to other participants. On average, they overestimated the song length by 19 seconds more when varied groove was present, which is especially promising. Due to the low number of people volunteering for the experiment it is difficult to make conclusions, but it at least serves as a preliminary study that will hopefully encourage further research.

Explanation of Groove Analysis

In the absence of notation it can be difficult to differentiate various sections within a recording. A simple formal, harmonic, or melodic analysis may be sufficient for some discussions on popular music, but a groove analysis allows for a deeper understanding of what encompasses a composition. In the end, groove lies at the center of this discussion. It generally defines a song's form, and if it does not outline the form, that in itself also merits investigation. Groove and form have a strong interdependent relationship, and it is this relationship that allows analyses of this type to be incredibly useful when defining the formal structures at play within long songs. Lyrical narrative is the only long song characteristic that lies outside this synergy. Groove plays a key role in understanding this topic, and as a result, it is a primary point of discussion throughout much of this study.

In extremely complex groove structures the transitions between each groove can become complicated as well, and the methods artists use in these "groove transitions" can merit discussion. Understanding this quality also leads to further insights concerning formal structure and specific relationships between each section of music. These analyses provide a quick reference for each piece of music allowing a listener to better understand the entire groove structure without a full transcription of the music.

These types of analyses are flexible and can be as detailed as necessary for any discussion. Each analysis is depicted as a diagram, and each diagram consists of three primary rows. The bottom row of each diagram is the exact timing within that specified recording, so it establishes the exact location within each recording where certain events are emerging. The middle row is the assigned groove number that is occurring at that time within the recording. (Groove numbers are explained in detail in the section on varied groove on page 13.) The top row demonstrates the form of the song, and since the form

could be compound, the top row can split into multiple rows in order to demonstrate all parts of a more complex form. Boxes or rows can be added within the diagram to illustrate any other descriptions or events. Abbreviations are used as needed depending on space within the diagram, and they are listed in the legend on the next page.

Abbreviations for Groove Analysis Diagrams

General Diagram Abbreviations			
G = Groove	S = Section	T = Timing	+ = Combined
Quotation marks are used to differentiate between “prime” versions of <u>related</u> events or sections of the same type. <i>One example would be Ch, Ch', Ch", and Ch'''</i> . If Ch were a chorus within a song, then this would show that each chorus differs from the last. Another example is a', a", and a'''. If “a” were a groove layer, then this would demonstrate that each of these layers is different in some way.			
Superscripts (X ¹ , X ² , X ³ , etc.) are used to differentiate between <u>unrelated</u> events of the same type. <i>For instance, Ch¹ and Ch² would be two different choruses within the same song, but they are not related by musical material. They are unique. V¹ and V² are two different verses that are unrelated. (V¹ and V² is <u>not</u> “first verse” and “second verse.” That information can be gained by seeing the order in which the verses appear.) Sometimes vocals play an important roll in the groove structure. V¹, V², and V³ could be used to describe grooves as well, but in this case it would be “vocals 1,” “vocals 2,” and “vocals 3.” (This would show that these are three separate layers within the groove structure, and they would not necessarily line up with the verses in any particular way.</i>			
Abbreviations Related to Form			
Intro = Introduction	Tr = Transition	Trans = Transition	V = Verse
Br = Bridge	PrC = Prechorus	PreCh = Prechorus	Ch = Chorus
Ex = Extended	Improv = Improvisation	In = Instrumental	Instr = Instrumental
Ad = Advertisement	G. Solo = Guitar Solo	M = Male Voice	F = Female Voice
Abbreviations Related to Groove			
<i>Groove borders or boundaries can depict:</i> = groove breaks briefly at this time point ⋮ = cumulative, add to previous groove material		<X = X fades <u>from</u> nothing	
		X> = X fades <u>to</u> nothing	
		>X = X gets softer or fades to background	
X→Y = X morphs to Y	-X = X is removed	X< = X gets louder or comes to forefront	
V = vocals - <i>sometimes vocals can function outside a groove as a separate layer</i>			
{ } = occurs as one separate event. <i>An example is 1Aabc{XY<} = X and Y get louder within groove</i>			
() = occurs one time close to this time point - can be placed at the beginning, middle, or end of groove <i>Some examples are</i> (X)1Aabc = X occurs one time at the beginning of this groove 1Aabc(X) = X occurs one time at the end of this groove 1A(X)abc = X occurs one time in the middle of this groove			

Summary of Chapters

Chapter One gives a brief introduction to lyrical narrative, varied groove, varied voice timbre, collective song form, extended introductions, extended codas, extended solo sections, and terminal climax.²⁴ The intent of this initial discussion is to examine each characteristic enough to utilize and apply the terminology in analyses.

Chapter Two demonstrates the usefulness of groove analysis by looking at chart-topping long songs. Golden Earring's "Radar Love" (1989), Nightcrawlers' "Push the Feeling On" (1993), Derek and the Dominoes' "Layla" (1971), Cashman and West's "American City Suite" (1972), and Led Zeppelin's "Kashmir" (1975) are all examined in depth using groove analysis in order to highlight various long song characteristics. "Kashmir" is used as an example of polymetric grooves as well, and Led Zeppelin's song is also used to introduce the concept of groove transition.

Chapter Two continues by discussing any and all songs without restrictions. Some of the songs discussed in this chapter did not chart, and some of them were released after 2011. It is important to demonstrate the usefulness of a groove analysis within various contexts, so the songs discussed in this chapter are diverse in style, release date, and popularity.

The first topic to be discussed is a "rock sonata" form of sorts that emerges within the music of Tool, and groove analysis is used to demonstrate how the bridge from Tool's "Schism" (2001) can be interpreted as a development-like section. In this section Brad Osborn's idea of "terminally climatic form"²⁵ is applied to "Schism" as well, and Tool's

²⁴ Bradley Osborn, "Beyond Verse and Chorus: Experimental Formal Structures in Post-Millennial Rock Music" (PhD diss., University of Washington, 2010), 6.

²⁵ Brad Osborn, "Subverting the Verse–Chorus Paradigm: Terminally Climactic Forms in Recent Rock Music," *Music Theory Spectrum* 35, no. 1 (2013): 29.

meters and grooves are also examined. The chapter continues by discussing other long songs that are of interest. The Smashing Pumpkins' "Superchrist" (2008) is an unusual example, because it is essentially a "jam session." This type of song can be difficult to analyze in that it lacks conventional popular song structures, but a groove analysis reveals a coherent type of "rock rondo" form. Groove analysis is also used to investigate form, groove transition, and polyrhythms within Radiohead's "Daydreaming" (2016). The final long song to be examined is "Pull Me Under" (1992) by Dream Theater, and groove analysis is used to discuss and unravel the many complexities within the form of this song.

Chapter Two has one final section where shorter songs are analyzed in order to demonstrate how these techniques can be used to examine songs that are under six minutes in length. Dave Matthews Band's "Eh Hee" (2007), Mumford and Sons' "Roll Away Your Stone" (2010), and the Beastie Boys' "Intergalactic" (1998) are all examined using groove analysis. Polyrhythm, metric modulation, and varied groove are all discussed in relation to these songs.

Chapter Three begins by comparing the data from the approximately 450 songs that were examined. In the first section of this chapter each long song characteristic is discussed again, and the prevalence of each characteristic is compared and contrasted. The data reveals some intriguing connections in terms of song length. For instance, lyrical narrative, collective song form, and extended codas are nine to ten times more likely to occur within recordings that are over six minutes long. Terminally climatic endings occur approximately five times more often within long songs, and extended introductions and extended solo sections are three to four times more likely to be used within these same songs.

The method for defining these sections is explained in order to ensure a consistent way to highlight these characteristics within music. It was important to remain unbiased, and this minimizes the chance for preconceived ideas interfering with the research. A great deal of effort is spent discussing codas in order to define exactly where a coda begins, since they are often the most ambiguous section within the form of a song. There are a number of methods used for ending a song, and each method is discussed in detail by using examples pulled from the popular music repertoire. A number of interesting relationships emerge during this study. One is that long songs have much longer codas, and this is immediately visible within the charts in Chapter Three. Once songs dip below six minutes in length, the coda-length drops off dramatically. When the dates of the songs are included within the comparisons there is also evidence that these factors are partially trend driven.

Varied groove is also investigated within this chapter, and the results were unexpected in that the number of grooves is somewhat proportional to the length of the song. Of course, this is only an average, but as recordings get longer the number of grooves per minutes drops. The shortest songs average more than one groove per minute, whereas recordings over six minutes long average less than one per minute. On the whole, most of this music can be said to average around one groove per minute. There are extreme examples of songs having much more than this, and those songs would definitely be examples of varied groove.

The final section within Chapter Three goes into detail concerning the time perception experiment. This section discusses how the study was run, and afterwards, it examines the resulting data. With fifteen participants it is difficult to establish any definite correlations, but there are certainly trends that are worth further investigation. Varied groove had the most impressive results, since songs containing this characteristic were

overestimated by 19 seconds. Unfortunately, due to low participant numbers, all of the extended sections needed to be combined into one category. Together they were overestimated by nine seconds, which still seems to show a need for further research. It seemed like lyrical narrative would have the largest impact on the perception of time, but there were not enough participants to fully evaluate this supposition. The chapter concludes with some speculative ideas as to why groove may impact a listener's perception of duration.

Chapter Four delves into the building blocks of groove and discusses relevant research within this area. It touches on our perception of groove and the variables that may influence our impression of this feature within music, since attributes such as timbre, accents, melody, and harmony, can impact it as well. The chapter also discusses hypermeter and repetition in relation to it, and relevant research is discussed in order to bring clarity to repetition's role within this concept.

Chapter One: Long Song Characteristics

Eight song characteristics were considered within this investigation, and each one was evaluated by examining over 450 recordings. This section will discuss each of these concepts in order to explain the roles they play within music. All of them, except one, are more pervasive in longer recordings. These seven “long song characteristics” lie at the center of this topic, and it is imperative to introduce each of these ideas before proceeding further.

Lyrical Narrative

The most obvious long song characteristic is a lyrical narrative. Admittedly, a storyline is extramusical in nature, which also means that out of the eight concepts mentioned in this section, lyrical narrative is the only one that has no relationship to groove. This atypical song writing strategy is rare even within the realm of the long song. However, it can also be incredibly effective at holding a listener’s attention. It is important to differentiate a “lyrical narrative” from the popular music narratives discussed by David Nicholls. Nicholls discusses the potential for narrative theory’s application to popular music, and his application allows for the interpretations of lyrics, music, and artwork. Whereas narrative theory allows researchers to discover various levels of narrative within music,²⁶ a “lyrical narrative” should immediately strike the listener as a storyline, and the singer takes a position of storyteller. This can happen within Nicholl’s narrative theory as well, but his theory also makes it possible to interpret narratives within songs that would

²⁶ David Nicholls, "Narrative Theory as an Analytical Tool in the Study of Popular Music Texts." *Music & Letters* 88, no. 2 (May 2007), 297-315.

not be categorized as a “lyrical narrative.”²⁷ There can be some room for interpretation, but it needs to be apparent that the singer is telling a story. Granted, categorizing this feature can be subjective.

One of the purest examples of a popular song narrative is Arlo Guthrie’s “Alice’s Restaurant Massacre” (1967). This 18-minute monologue is a political satire that takes place on Thanksgiving Day and makes statements concerning the Vietnam War and the draft. The comical storyline is easy to follow, and the chorus is catchy and begs the audience to sing along. Another more popular example of a narrative can be found in Don McLean’s “American Pie” (1971). The lyrics are not as clear as those found in “Alice’s Restaurant Massacre,” and McLean himself has left parts of the song open for interpretation.²⁸ The phrase “the day the music died” appears to be referring to the plane crash that killed Ritchie Valen, Buddy Holly, and “The Big Bopper.” There are also references to Elvis Presley and The Beatles. Interestingly enough, “American Pie” also has a catchy chorus that seems to ask the listener to join in and sing.

Varied Groove

Steven Feld defines a groove as “an unspecifiable but ordered sense of something that is sustained in a distinctive, regular and attractive way, working to draw the listener in.”²⁹ Quite simply, a groove results when the timbres, pitches, and rhythms of one or more instruments combine as an aggregate and become one collective texture. It is fairly

²⁷ Nicholls, “Narrative Theory as an Analytical Tool,” 297-315.

²⁸ “What is Don McLean's song 'American Pie' all about?,” *Straight Dope*, May 15, 1993, accessed May 6, 2013, <http://www.straightdope.com/columns/read/908/what-is-don-mcleans-song-american-pie-all-about>.

²⁹ Stephen Feld, “Aesthetics as Iconicity of Style, or Lift-Up-Over Sounding: Getting Into the Kaluli Groove,” *Yearbook for Traditional Music* 20 (1988): 76.

common for a song to change grooves during the chorus or the bridge, but there are some recordings that encompass four or more grooves. This technique sustains interest and prevents the listener from reaching the two-minute limit Jay Frank mentions.³⁰ In order to do this, a song must regularly change this particular element throughout a recording, rarely settling into any one groove for an extended period of time. For example, Pink Floyd’s “Time” (1973) has five different grooves used throughout the composition. This feature will be referred to as “varied groove,” and it is one of the most commonly observed qualities found in popular long songs. An analysis of “Time” is illustrated in Example 1. Each groove is assigned a number based on the order in which it was presented, and they can come and go throughout the song.

“Time” (1973) by Pink Floyd

Section	Intro		A		B		A		Coda	
			a	b	a'	b'	a	b	c	b
Groove	1	2	3	4	3	4	3	4	5	4
Timing	0:00	0:53	2:18	2:47	3:17	4:14	4:44	5:13	5:43	6:30
<i>Example 1</i>	Extended Introduction				Extended Solo Section				Extended Coda (Terminal Climax)	

Sometimes a groove only slightly changes forming a variation of that groove.

Tool’s “Vicarious” (2006) is a good example of this, and in Example 2 each groove variation is distinguished using capital letters. For example, groove “1A” marks the beginning of the song, but the it changes slightly toward the end of the song. Therefore, its label changes to “1B” and “1C.” This shows that all three “groove variations” are related, because they stem from the same “base groove,” which in this case is denoted as “1.”

³⁰ Frank, “YouTube Videos.”

“Vicarious” (2006) by Tool

Section	Extended Intro		A		A		B				Extended Coda			A'
			a	b	a	b	c	b	d	e (vocals)	intro	f		b'
Groove	1A	2A	3	2A	3	2A	4	2A	5	6	1A	1B	1C	2B
Timing	0:00	0:45	1:07	1:28	1:50	2:11	2:48	3:08	3:26	4:08	4:50	5:32	6:00	6:23
<i>Example 2</i>											Terminal Climax			

A groove can change abruptly, as in the cases of the previous two examples, or it can evolve throughout a song or a section of music. In this case, the groove evolves through a process of adding and subtracting layers of music. Mark Spicer refers to this compositional technique as “accumulative form.” Spicer says that “whether the accumulation occurs over just a small section of the song or across an entire track, the listener is pulled into the formal process as it unfolds in real time. We are made to experience the joy of anticipation – and indeed, that moment of sheer delight when the point of culmination is finally reached.”³¹ An example of this can be observed in Dick Hyman’s “The Minotaur.” (see example 3) This accumulative process can often be seen occurring over a single base groove, and in the case of “The Minotaur,” the base groove of the entire song is denoted as “1.” Each layer of music is designated by a letter or a symbol, and there is a legend beneath the diagram in order to clarify the analysis. Usually, a simple and brief description is adequate, but sometimes the layers are similar in timbre and feel. As a result, it can be difficult to distinguish them within the legend without more information, and “The Minotaur” is an example of this. In Example 3 hairpins (<>) are used to demonstrate the dynamics within layer “a,” and the other description provide actual

³¹ Spicer, “(Ac)cumulative Form in Pop-Rock Music.” *Twentieth-Century Music* 1, no. 1 (2004): 61.

rhythms. In some cases a layer is morphing from one into another, and that information is available within the legend as well. Although less common, it is possible for this type of evolution to occur over multiple base grooves. One example of this can be observed in Golden Earring's "Radar Love" (1989), which will be discussed in depth in Chapter Two. Some groove analyses can benefit from combining layer designations and base groove variations. One example of this is "Hey Jude" in Example 8. In the the case of "Hey Jude" it is possible to break the entire song down into layers, but by combining groove variations with layer designations, it is possible to demonstrate that each section is related by groove variations.

"The Minotaur" (1969) by Dick Hyman

Section	Extended Intro			A	Synth Solo (Improvisation)			A'	Extended Coda		
Groove	a	1a	1ab	1ab	1ac	1ad	1a'b	1a'e	1a'f	1a'f'	1'a'f'
Timing	0:00	0:25	0:35	0:40	2:28	3:25	3:33	6:52	7:21	7:52	8:07-8:30

a = synth (<>) b = synth (♩ ♯) c = synth (morphing from ♩ ♯ to ♩ ♯) d = synth (♩ ♯)
e = synth (morphing from ♩ ♯ to ♩ ♯) f = synth (♩ ♯)

Example 3

Depending on the analysis and song, it may be necessary, at times, to consider the vocals as a layer within the groove. Sometimes there is only one place within the song where the vocals have a profound effect on the groove, and when this happens, that layer can be designated in some way. It can either be in the legend, or it can simply be written into the diagram similar to how it is in Example 2 or Example 8. If the vocals are a crucial part of the groove throughout an entire piece, a capital "V" is used followed by a superscript number. The number is dictated by the order in which it appears within the

recording. (The first vocal groove layer would be V¹. The next one would be V², and this pattern could continue as far as needed.)

There are instances when a groove, a variation of a groove, or a layer change only slightly, and when this happens a quotation mark is used next to the number, letter, or symbol. Since a similar device is used when defining form within music, for consistency, these types of grooves will be referred to as prime in a similar manner. This is demonstrated in “The Minotaur” as well. In this case, the hairpin synthesizer part, labeled “a,” is heard throughout the recording. The first time it is heard, it appears as a slow crescendo followed by a decrescendo, which is why the hairpins are used in the legend. Initially, the entire event requires 18 beats to complete. “The Minotaur” is in 3/4, so the layer is six measures long. However, at 3:33 the hairpin shaped dynamics become faster and more sporadic, which is denoted with a single quotation mark. If this musical event had changed again by becoming twice as long as the original duration, then two quotation marks could have been used. Of course, this is not what happens in “The Minotaur,” but it is important to understand that this process can continue as many times as necessary.

All of these methods will be combined to provide groove-based analyses for the selected recordings. In general, all music analyses are created to serve a specific purpose, and that purpose influences the analytical process. Groove-based analyses are no different in that using groove variations may be sufficient for a simple overview of a particular song. However, the option of breaking that same song down into layers is always available if the analysis requires more detail. The end goal is to clarify the groove relationships within a song.

Varied Voice Timbre

This characteristic is observed when the timbre of the singer's voice changes throughout the song. There are a number of different ways to achieve a "varied voice timbre." Some recordings use multiple singers, and each vocalist takes a turn performing a particular section within the song. However, there does not need to be more than one singer to achieve a varied voice timbre. For example, some compositions combine rapping and singing, and each vocal technique produces a different timbre. The music's melodic register can also have a discernible impact on tone color. For instance, if a singer takes the final chorus up an octave, she or he may have a more strained screaming-like timbre. Technology can play a role as well, since a voice can be run through any number of effects to achieve a variety of tone colors throughout a recording. Although this characteristic is interesting, this study has demonstrated that varied voice timbre is equally prevalent within all popular music and is, therefore, not any more common within long songs.

Collective Song Form

Meat Loaf's "Paradise by the Dash Board Light" uses lyrical narrative, but it also makes use of what I refer to as "collective song form." It might be possible to use Ken Stephenson's term "compound-binary"³² in this instance, but I prefer a more generic term to describe this strategy. The reason being is that some recordings contain more than two songs. For example, The Who's "A Quick One, While He's Away" (1967) consists of six separate songs combined into one, and Pete Townshend referred to it as his "first mini opera."³³ "Paradise by the Dash Board Light" contains two songs, and Meatloaf makes no

³² Stephenson, *What to Listen for*, 141-142.

³³ Rachel Fuller, Interview with Pete Townshend. *In the Attic* (2006). Published August 10, 2008, webcast, 8:49, <http://www.youtube.com/watch?v=9tviMJLFpV4>.

effort to be subtle concerning the sexual nature of the storyline. The lyrics tell the story of two teenagers setting in a car by themselves, and both characters sing throughout the recording as they converse and decide how far things will go. The first song ends at around 3:15, and the second song is announced with a sudden change in tempo as Meatloaf sings “We’re gonna go all the way tonight.” (see Example 4) The baseball game is a reference to the commonly used sexual metaphor in which bases represent the degree of intimacy reached between two individuals. Each song within “Paradise by the Dash Board Light” has its own form. The first one uses a verse, a pre-chorus, and a chorus, and the second song’s sections are best thought of as “A” and “B.” Letter designation is especially appropriate given the fact that both sections occur simultaneously at 6:30.

“Paradise by the Dash Board Light” (1977) by Meat Loaf

(Song One)

Section	Verse	Prechorus		Chorus		Verse	Prechorus		Chorus	
Groove	1A	2	3	4	5	1B	2	3	4	5
Timing	0:00	0:32	0:42	0:57	1:12	1:42	2:06	2:15	2:30	3:03

(Song Two)

Intro	Baseball Game	A	B	A	B	A(B)	Extended Coda (Terminal Climax)
6	7	8A	9	8A	9	8B	
3:17	3:30	4:30	5:10	5:45	6:18	6:30	7:10

Example 4

Collective song form, as a general rule, requires that each song within the overall form be capable of functioning independently. For example, either song in “Paradise by the Dash Board Light” could exist without the other, so the entire recording could be split into two fully functional compositions. Also, no musical material is shared between the

two songs, which is another key to understanding this particular type of formal structure. If multiple songs appear in a single recording, as is the case with Meatloaf's composition, there will most certainly be a number of grooves presented as well, and this is due to the fact that separate songs seldom, if ever, have the same exact groove. Once a song has finished, no part of it should be heard again for the remainder of the recording. If material from a previous song is brought back, another form probably needs to be considered. For instance, if Meatloaf had returned to the first song toward the end of the recording, it would have been better described as a rounded binary form. If sections seem to be scattered throughout a recording without any boundaries, it is likely the overall form of the piece needs to be considered from a micro perspective rather than the macro point of view used in collective song form.

As a side note, it is interesting to consider songs that have been paired after the fact. This happens when two separate songs seem to always appear in conjunction, so a connection can materialize via radio play or live performance. Either way, over time repetition seems to fuse the songs together in the minds of listeners. Queen's "We Will Rock You" (1977) and "We Are the Champions" (1977) are popular examples of this kind of song combination.³⁴ Led Zeppelin's "Heartbreaker" (1969) and "Living Loving Maid" (1969) are played together so often that they can easily be mistaken as the same song. "Foreplay/Long Time" (1976) were two songs joined together by Boston and, thus, serve as a quintessential example of collective song form. "Foreplay" was actually released by itself as the B-side of "Peace of Mind" (1977).³⁵ When paired with "Long Time," "Foreplay" functions well as an introduction.

³⁴ Greg Prato, "We Are the Champions," *All Music*, accessed May 3, 2013, <http://www.allmusic.com/song/we-are-the-champions-mt0006771275>.

³⁵ Boston, "Peace of Mind," Epic PE 34188, LP, 1977.

Extended Introduction

An “extended introduction” is disproportionate when compared to an introduction in an average popular song. Extended introductions are particularly interesting, because, on average, a song’s introduction is proportional to the song’s length. Jay Frank used Joel Whitburn’s *Billboard* chart data in order to glean information concerning song introduction trends. He found that a typical introduction was five seconds long during the ’50’s. By the mid-80’s the average had risen to 18 seconds, and today it is closer to seven or eight seconds.³⁶ In the case of introductions, anything over 30 seconds would be considered abnormal, since thirty seconds would be around 8% of a six-minute long song. Jay Frank is a professional within the music industry, and his material is not peer reviewed. He researched this information in order to better understand the music business, and that being the case, it was necessary to confirm his research. Six songs were randomly selected from each year from 1955 to 2011. The randomly selected songs resulted in a slightly longer introduction than Frank’s research, but the results were at least within five to ten seconds of each other. Perhaps the most interesting aspect of this is the fact that introductions seem to be proportional to song lengths. Songs that are three to four minutes long tend to have introductions that take up around 4%-7% of the song. Once songs begin approaching six minutes in length, introductions begin taking up closer to 10% of the song. With these statistics it is possible to better understand why introduction lengths for chart-topping songs have varied over the years. This information and Jay Frank’s statistics correlate well with Baio’s data demonstrated in Chart 1 on page 6. These relationships will be discussed in depth in Chapter Three.

³⁶ Frank, “*FutureHit. DNA*,” 38.

“I Will Possess Your Heart” (2008) by Death Cab for Cutie

Section	Introduction								
Groove	a (p)	ab'	1*a	1ac+	1acd+	1acde+	1acd'e+	1abcde+	1abcdef+
Timing	0:00	0:06	0:13	0:43	0:56	1:25	2:23	2:51	3:35

S	A				A			B	A				Coda
G	c' (p)	bcd'	1bcd'	1bcd'e	1bcd'	cdF	1bcdef	2	a'g	a'Fg	1cdF	1a'bcdf	1ac (p)
T	4:32	4:46	5:01	5:16	5:30	6:13	6:28	6:42	6:58	7:05	7:12	7:27	7:56-8:24

a = static synth

d = drum beat¹

F = louder distorted vocal sounds

*** = groove 1 is initiated by the bass riff**

+ = growing louder and more distorted

p = soft

b = piano

e = piano/guitar Q & A

g = drum beat²

c = guitar noodling

f = soft distorted vocal sound

Example 5

An “extended introduction” is much more prevalent than lyrical narratives or collective song form. This feature is best demonstrated in Death Cab for Cutie’s “I Will Possess Your Heart” (2008). Example 5 shows how this introduction builds for four and a half minutes before finally arriving at a vocal section. As each layer is added the texture becomes more complex. The full album version is in stark contrast to the four-minute radio edit of the same song where the introduction is condensed into 40 seconds. Extended introductions are not uncommon within the world of successful long songs, and this fact will be evident as more songs are discussed.

Extended Coda

Like an extended introduction, an “extended coda” is simply a closing section that is more lengthy than one might expect, and this feature is by far the most prevalent long song characteristic in this study. For this study, any closing section over 59 seconds in length will be categorized as an extended coda. The process for identifying codas is discussed in detail on page 85. Sometimes closing sections are nothing more than an excerpt from the body of the song that is repeated for minutes until the music fades to nothing. However, there are times when an extended coda may be a portion of the recording that has been altered in some way, a combination of multiple sections pulled from the body of the work, or something entirely new. For example, Elton John’s “Someone Saved My Life Tonight” (1975) contains a closing section that is built over the piano riff heard at the beginning of the song. The lyrics “someone saved my life tonight” are heard throughout the recording, but at the end of the song John changes the melody and adds harmony. The slightly modified line is now “someone saved, someone saved, someone saved my life tonight.” This line is repeated until the music fades resulting in an extended coda in excess of one minute long. (see example 6)

“Someone Saved My Life Tonight” (1975) by Elton John

Section	Intro	A		Tr.	A			Tr.	B	A	Extended Coda
		V	Ch		V		Ch		Br.	Ch	
Groove	1A	2		1A		3		1B	4	3	1C
Timing	0:00	0:15	1:00	1:56	2:08	2:21	2:55	3:48	4:03	4:50	5:42-6:45

Example 6

Extended Solo Section

An “extended solo section” will generally be defined as an instrumental solo that lasts 30 seconds or longer. Extended introductions and codas often incorporate long solos as well, but this feature can also be found at any point within a recording. Therefore, it merits a separate discussion. For instance, Pink Floyd’s “Time” (1974) contains an extended solo section that enters at 3:29 and is just shy of a minute and a half in length. (see Example 1) The second bridge in Oasis’ “Champagne Supernova” (1996) is also followed by an extended guitar solo. In this case, both bridges have a heavily distorted

“Champagne Supernova” (1996) by Oasis

Intro	Verse	Chorus	Verse	Chorus	Bridge	Transition
Waves/guitar	“How many...”	“Someday...”	Add Drums		“Cause people...”	Guitar Solo
0:00	0:32	0:58	1:37	2:02	2:27	2:55

First Verse	Chorus	Bridge		First Verse	“...getting high”
“How many...”	“Someday...”	“Cause people...”	Guitar Solo	Extended Coda	
3:19	3:44	4:09	4:38	5:58	6:08-7:28

Example 7

timbre with a lead guitar soloing underneath the vocals. However, the first bridge dies off and returns to the more subdued feel which dominates most of the song. This first guitar solo is also less distorted and truly functions as a transition back to the verse. The second bridge, on the other hand, does not give way to the tranquil sounds heard throughout the song. It instead pushes ahead as the lead guitar charges forward and comes to the forefront creating an extended solo section. (see Example 7)

Terminal Climax

Bradley Osborn coined the term “Terminal Climax,” which occurs when “new material at the end [of a recording] acts as the song’s focal point.”³⁷ This new material serves as a “hook,”³⁸ and Osborn says a terminal climax needs to be more memorable than the chorus.³⁹ Simply put, it is a pleasant section of music a familiar listener anticipates hearing toward the end of a song, and ideally, it serves as motivation to hear the recording in its entirety. The Beatles’ “Hey Jude” (1968) is an archetypal example of this formal structure.⁴⁰ The song itself is a conventional AABA form until it reaches the terminal climax, which in this case is the well known “Nah, Nah, Nah....Hey Jude” section. Without the terminal climax “Hey Jude” would be a fairly typical three-minute pop song. (see Example 8)

“Hey Jude” (1968) by The Beatles

Section	A	A	B	A	B	A	Terminal Climax/Extended Coda
Groove	1A	1B	1C	1Ca	1C	1Ca	1Cab (“Nah, Nah...”) <i>Fade</i>
Timing	0:00	0:27	0:55	1:31	2:01	2:39	3:08-7:04

a = tambourine

b = brass/strings (crescendo)

Example 8

Terminal climaxes appear to always coincide with extended codas. That being said, it is important to understand that extended codas are not necessarily always terminal climaxes. An extended coda can be considered such without introducing new climatic

³⁷ Osborn, “Beyond Verse and Chorus,” 6.

³⁸ Ibid., 128.

³⁹ Ibid., 89.

⁴⁰ Ibid., 111.

material. A good example of this can be found in Oasis' "Champagne Supernova" (1995) where the extended coda begins with the return of the first verse and slowly fades as the phrase "we were getting high" is repeated over and over (see Example 7), but this ending could have easily faded out in less than 30 seconds. However, Oasis instead took artistic liberty and let the ending linger for a minute and a half. It is also worth noting that the majority of long songs make use of at least two of the formal structures or elements being discussed. For instance, Pink Floyd's "Time" (Example 1) makes use of an extended introduction, varied groove, and an extended coda with a terminal climax.

Chapter Two: The Application of Groove Analysis

One of the outcomes of this research is the groove analysis, which provides a great deal of information within a small diagram. (An explanation can be found on page 13.)

The most obvious advantage is that it allows us to look at the formal structure of a recording and compare each section's groove. For example, each chorus can be compared to see if the groove is actually the same each time it returns, and any differences can be specified within the diagram. These analyses are flexible and work well with various styles of music. Groove changes can also help outline form, and sometimes they can highlight anomalies that occur. A number of songs will be examined using groove analysis in order to demonstrate its potential for depicting a song's form. These analyses will make it possible to emphasize any long song characteristics that may be present.

Selected Chart-Topping Long Songs

A good example of a chart-topping long song is Golden Earring's "Radar Love" (1989). Its second base groove, out of seven, is a drum beat, which is followed by the entrance of a bass, a tambourine, and a blues lick. Example 9A demonstrates clearly how all these parts build into the eventual groove 2abc. This happens in the first two A sections, but in the third repetition groove 7 is substituted in the place of groove 2. The timings at the bottom of the diagram allow listeners to easily skip from one A section to the next in order to compare them.

“Radar Love” (1989) by Golden Earring

S	A						A						B				A						Coda
	Intro			V	PrC	Ch	V			PrC	Ch	Solo						V	PrC	Ch			
G	1	2	2ab	2abc	3	4	2a	2ab	2abc	3	4	5		6	6d	7	7a	7ac'	3	4	6		
T	0:00	0:19	0:28	0:47	1:07	1:20	1:29	1:34	1:48	2:07	2:19	2:29	2:49	3:48	3:58	4:26	4:36	4:54	5:30	5:42	6:01-6:24		

a = bass b = tambourine c = blues lick d = instrument build

Example 9A

Swing (♩ = ♪³)

♩ = 212

Example 9B: “Radar Love” - Transcription of Drums

Like any analysis, this method is fairly subjective, and if the listener finds that grooves 2 and 7 are closely related, groove 7 could just as easily be labeled groove 2'. Both of them are drum beats with similar accents, but there are two primary differences. (see Example 9B) First of all, the ride cymbal is used in groove 7, so there is a new timbre present. The other difference is that groove 2 is dominated by the 8th note pattern in the snare part, and groove 7 lacks this characteristic. That being said, both grooves have a snare drum accent on the backbeat, and they also have the bass drum hit on the first beat of every other measure. As a result, one could say they were related, but the other features can also differentiate the grooves enough to give them separate designations. The fact that the base groove only consists of the drums can be used as further evidence of a shift in groove. If the bass part had been included in both base grooves, then it could be said that the two grooves are related. However, in this case the bass part is a layer, labeled “a” in

Example 9A, that binds the two sections together. The “blues lick” varies some throughout the song, but it does not seem to change its general effect within the groove, so it is simply labeled c’.

Another interesting aspect of this song is the extended introduction. A large part of the introduction is repeated in each of the other two A sections, so it becomes a question as to whether or not the music from 0:19 to 0:47, which is repeated each time, is actually introductory. Once again, this is a subjective interpretation, but that section of music appears to function as an introduction at the beginning. It is not uncommon for an introduction to build in this way. This introductory function seems to be aided by the fact that the groove starts with only a drum beat at the beginning, whereas the other two A sections drop down to the drums and the bass. These other two A sections, where the groove begins with the bass line in place, seems to signal the beginning of another A section. It almost feels like a preverse area, because it is prepping the listener for the actual verse (labeled “V” in Example 9A). These details concerning the introduction and each A section are illustrated in Example 9A. There is also an extended solo within the B section and a clear example of a prechorus (labeled “PrC” in Example 9A). The prechorus, in this case, ends by emphasizing C#, which is the V, since the song is in F# minor. This dominant chordal area marks the beginning of a deceptive cadence of sorts, because it leads to a chorus (labeled “Ch” in Example 9A) that shifts modes into A major. The chorus ends on an F# minor chord shifting back to the original key as the groove builds in preparation for the next verse.

“Push the Feeling On” (1993) by Nightcrawlers serves as an example of groove within dance music. (see Example 10) Dance music is often built from one or two base grooves, which evolves through the addition or subtraction of layers of sound. In “Push

the Felling On” there are only two base grooves, and it might be possible to argue that there is only one. Almost the entire song is based on groove 1, and layers are added or subtracted from the texture of the groove throughout the recording. The form could be considered to be AAA, if each “A” consists of a “sampled vocals” section followed by an “instrumental” section. It would be inaccurate to label this form as strophic, since the lyrics, which in this case are labeled as “sampled vocals,” never change.

“Push the Feeling On” (1993) by Nightcrawlers (Glasgow)

Section	Intro		Sampled Vocals			Instrumental		Sampled Vocals			
Groove	1a	1*bc def	2e	lace	1abcdef	1bcedf	1bcedfh	1bcedf	1bi	1bdi	1bi
Timing	0:00	0:09	0:25	0:32	0:46	1:03	1:19	1:35	1:53	2:00	2:07

Sampled Vocals (continued)			Instrumental				Sampled Vocals		
1bci	1bdi	1bdefi	1bdefg	g	1a	1*bc def	1bcedf	1abcdef	1*abcdef
2:16	2:22	2:30	2:38	2:46	3:02	3:10	3:25	3:41	3:57

Instrumental					Sampled Vocals									<i>Fade to End</i>
1bdefh	1'bdefh	1bdh	1'ah	1ah	1a	1ac	1abcdef	1bcedf	1*bcdef	1bc	1abc	1abcdi	1abcdhi	
4:13	4:25	4:28	4:36	4:44	4:52	4:54	5:02	5:25	5:33	5:41	5:49	5:57	6:21-6:38	

a = downbeat/hi-hat *** = crash cymbals *b* = syncopated snare *c* = upbeat/hi-hat *d* = tambourine
e = upper synth *f* = lower synth *g* = sax synth *h* = chords synth *i* = syncopated synth

Example 10

Analyzing pieces like “Push the Feeling On” can be challenging, because each base groove is not always the entirety of everything heard when it is first introduced. For instance, in Example 10 it is possible to see that groove 1 begins as “1a” showing that it is initially combined with a hi-hat on the downbeat, which is designated as “layer a.” If base

groove 1 occurred with the hi-hat on the downbeat throughout the entire recording, then the two events could be lumped together as base groove 1, but this is not what happens. Nine seconds into the song the down beat hi-hat is dropped and replaced by a number of other layers, and one of those is a hi-hat on the upbeat. As a result, it is easier to leave the downbeat hi-hat off of base groove 1, because if the downbeat hi-hat was labeled as part of base groove 1, then nine seconds into the song the groove would need to change to base groove 1'. This would mean that the only difference between 1 and 1' would be the hi-hat on the downbeat, and that would work well for many songs. In the case of "Push the Feeling On" though, there are ten different layers used to create grooves throughout the recording, so it makes more sense to make the downbeat hi-hat one of those layers. This method creates a clearer diagram when dealing with some of the combinations that occur throughout the song.

Another event worth noting in the Nightcrawler recording happens at 2:46. At that point all the layers and the base groove drop out, leaving the synthesized saxophone by itself for eight measures. Once again, it might be possible to call this a new base groove, but since this particular layer occurs off and on throughout the song, it makes more sense to leave it as a layer and define that section of music without the use of a base groove. This way it is possible to more easily see everywhere the synthesized saxophone occurs and how it relates to the other layers. Varied groove is the only long song characteristic found within this recording. Layering, as found in "Push the Feeling On," is not restricted to dance music. Death Cab for Cutie's "I Will Possess Your Heart" is an example of this type of layering in a song that is not intended for dancing. (see Example 5)

Groove analyses can be useful when establishing form within a song as well.

Derek and the Dominoes' "Layla" (1971) is a clearcut example of grooves functioning within a formal structure. "Layla" has an extended coda and two extended solo sections, and although the song itself does not make use of a varied groove, its three grooves do highlight the recording's collective song form.

"Layla" (1971) by Derek and the Dominoes

(Song 1)									(Song 2)									
S	Intro	V	Ch	V	Ch	V	Ch	Solo	Extended Coda									
									Intro	A	A	B	A'	A''	B'	A'''	Ex. Coda	
G	1	2	1	2	1	2	1		3									
T	0:00	0:26	0:40	0:57	1:13	1:29	1:44	2:21	3:10	3:35	3:52	4:09	4:25	4:50	5:23	5:40	6:05-7:04	
Example 11									Ex. Solo		Extended Solo							

As was mentioned in Chapter One, there have to be at least two distinct songs for a piece to be in collective song form and nothing from a previous song, including a groove, can return later in the recording. Example 11 demonstrates this particular form within "Layla." The first song within the recording is built around the well known Layla guitar riff, and it is in a straightforward verse-chorus form with two grooves. Even though the second half of the recording could be heard as an extended coda, the diagram shows that it actually has its own formal structure. The entire second half of "Layla" is instrumental, and it follows an AABA form. This section also has its own groove and never makes use of the first two from the first part of the recording, so the analysis, although simple, serves as further evidence for a second song within this recording. If the second half of this track

is heard as an additional song, it is possible to see that it also has its own extended coda. The coda, in this case, simply repeats the beginning of the A section as the music fades. On a side note, it is possible for “Layla’s” second song to be interpreted as a terminal climax, but Osborn’s definition of a terminal climax requires that final section be more memorable. He also concedes that “memorability” can be subjective,⁴¹ but with “Layla,” it seems that most people remember the chorus and famous guitar riff.⁴²

Another simple example of collective song form can be found in Cashman and West’s “American City Suite” (1972), which is constructed of three separate songs. Each one consists of a single groove, which means there are only three grooves making up nearly eight minutes of music, and Example 12 shows the fairly straightforward layout of the songs. The first two songs use verse-chorus form, and the last song is in AABA form with an extended coda.

“American City Suite” (1972) by Cashman and West

	Song #1				Song #2				Song #3				
Section	V1	Ch1	V1	Ch1	V2	Ch2	V2	Ch2	A	A	B	A	Extended Coda
Groove	1				2				3				
Timing	0:00	0:42	0:54	1:22	1:37	2:10	2:30	3:04	3:19	4:29	5:38	6:08	6:58-7:47

Example 12

⁴¹ Osborn, “Subverting the Verse–Chorus Paradigm,” 29.

⁴² Once again, “memorability” is subjective, and the second half of “Layla” in question is also used throughout a memorable extended sequence in *Goodfellas*. This could serve as evidence that the ending of “Layla” is the more memorable portion of the song, and it could, therefore, be argued that it does have a terminal climax.

“Kashmir” (1975) by Led Zeppelin

Section	A		A		B			A		A		A		Extended Coda
	a	b	a	b	c	b	d	a	b	a	b	a	b	d'
Groove	1A	1B	1A	1B	2	1B	3	1A	1B	1A	1B	1A	1B	3
Timing	0:00	0:54	1:07	1:47	2:12	3:10	3:21	4:19	5:14	5:25	6:07	6:18	6:25	6:36- 8:29

Example 13

Led Zeppelin’s “Kashmir” (1975) is another song where groove variations serve to outline a particular form, which, in this case, is AABA. There are only three base grooves in the nearly nine-minute recording, and an extended coda is the only long song characteristic exhibited by “Kashmir.” (see Example 13) Each A section consists of two variations of base groove 1, and each of these variations is truly defined by a polymeter. On the surface John Bonham’s 4/4 drumbeat seems fairly simplistic, but a closer inspection reveals how complex this groove truly is. In example 14 it is possible to see that the strings, guitar, and bass are all in 3/4. Bonham’s drumbeat establishes a clearly defined 4/4 meter, which in no way resembles 3/4 at any time within base groove 1, and he leaves no room for ambiguity. The common 4/4 beat feels quite odd in this particular situation and creates a strikingly dissonant rhythmic texture when combined with the other voices. Harold Krebs discussed “grouping dissonance” in reference to the music of Robert Schumann, but dissonance certainly seems like an appropriate term for what is happening here in “Kashmir.” In this case, the strings and guitar are setting up a pulse pattern in 3/4, which serves as a “metrical layer,” and Bonham’s drumbeat is working against that pulse as an “antimetrical layer.”⁴³ Example 14 illustrates the polymeter found in “Kashmir’s”

⁴³ Krebs, “Metrical Consonance and Dissonance - Definitions and Taxonomy,” in *Fantasy Pieces: Metrical Dissonance in the Music of Robert Schumann* (New York: Oxford University Press, 1999), 31.

groove 1A. The two meters line up every three measures of 4/4 and four measures of 3/4, and it is possible to feel a brief moment of rhythmic resolution every time the phrase ends and the two meters converge.

♩ = 80

Strings & Guitar

Bass

Hi-Hat
Snare
Bass Drum

Meters Converge

Example 14: “Kashmir” - Groove 1A

Groove 1B, illustrated in Example 15, adds one more voice to the mixture creating even more tension, both rhythmically and harmonically. The new voice, which is the orchestra, is also in 4/4. The orchestral part is built on a dotted eighth note figure, so it adds more syncopation to the texture and more dissonance. Additionally, the phrasing is two measures long within 4/4, and the phrasing within the guitar part is four measures long within 3/4. The mismatched phrasing delays the rhythmic resolution and essentially skips over the first meter convergence. However, the orchestra shifts into 3/4 where the meters converge, and the phrasing lines up four beats later. The rhythms also line up, so all the voices except drums have the same rhythm (♩♩). The resulting phrasing and rhythmic convergence gives some sense of relief from tension within the groove’s texture, but the drums are still out of sync. At this same point, the horns drop out, and the strings rejoin the guitar part, which leaves the original groove 1A in place. Together, grooves 1A and 1B make up the A sections within “Kashmir.”

$\text{♩} = 80$

Guitar

Bass

Orchestra

Hi-Hat
Snare
Bass Drum

Meters Converge

Rhythms/Phrases Converge

Groove 1A

Meters Converge

Meter Change

Example 15: “Kashmir” - Groove 1B

It is worth noting that, in this particular case, groove variations are the best option for discussing the groove structure within “Kashmir.” The orchestral part could be considered to be a layer, but there are three reasons why groove variations work better in this instance. One, if “layer a” were the orchestral part that enters at what is currently labeled “1B,” then that would mean that the “base groove 1” would be defined as the groove currently defined as “1A.” That means that what is currently “1B” would be “1a,”

but “1a” does not accurately describe the relationship between those two grooves. The orchestra does not “enter” at “1B.” The orchestra was playing with the guitar, so it stops playing that part and begins playing the new part, which means a second layer would be necessary to discuss what is happening. (The guitar and orchestra would actually need to be “layer a,” and the orchestral part in “1B” would be “layer b.”) These layers all occur together with every groove change, so it makes more sense to lump them into groove variations in order to simplify the discussion. Secondly, the orchestral layer in groove 1B does more than just add a layer, because the phrasing does not line up with the previous groove, which postpones the feeling of rhythmic resolution when the meters converge. This produces a significant difference between these two grooves, which also merits them separate designations as variations instead of layers over one base groove. Finally, the “layers” themselves are not the only interesting feature within this song’s groove structure, since the shift between these variations is peculiar, to say the least, making the “groove transitions” particularly interesting in this piece.

For instance, the groove transition from 1B back to 1A poses certain challenges due to the polymeters, and Led Zeppelin moves between these two grooves by repeating the D octaves four beats before groove 1A returns, which extends the guitar’s phrasing. (see Example 15) The orchestra changes from 4/4 to 3/4 where the meters converge, and this allows the phrasing and rhythms to seemingly intersect three beats later. Finally, the orchestra jumps back to the guitar part allowing groove 1A to come to the forefront again, but by the time it emerges from the texture, it is actually in the middle of its phrasing. This is because the guitar and the orchestra jump to m. 2 of the groove in order to properly line up the polymeter, and at this particular moment the beginning of groove 1A is essentially blended into the ending of groove 1B.

♩ = 80

The musical score illustrates a groove transition from 1B to 2. It features five staves: Guitar, Bass, Orchestra, Hi-Hat, and Snare/Bass Drum. The tempo is marked as ♩ = 80. Key annotations include:

- Meters Converge:** Points to the beginning of the transition where the meter changes from 3/4 to 4/4.
- Rhythms/Phrases Converge:** Points to a specific rhythmic phrase in the guitar and bass lines.
- Jumps to Beat 1 of Groove 2:** Points to the first beat of the new 4/4 groove.
- Meter Change:** Points to the change from 3/4 to 4/4 time signature.
- Drums Add Half a Beat:** Points to an extra eighth note added to the 4/4 measure by the drums.

Example 16: “Kashmir” - Groove Transition from 1B to 2

The B section adds grooves 2 and 3 to the mix. Neither of them have polymeters, but both of them follow groove 1B within the recording. As a result, the transitions into grooves 2 and 3 reveal further complexities, since both of them have the same challenge of transitioning out of a polymeter into a simple 4/4 meter. In order to make the transition into groove 2, all the instruments converge in the same place as 1B, but this time the drums also line up, which requires Bonham to add an extra eighth note to the 4/4 measure.

(see Example 16) What was a short rhythm in the previous groove (♩♩) has now been expanded to six sixteenth notes (♩♩♩♩♩♩). Once this riff is over, the music jumps straight to the first beat of a 4/4 measure, and from that point onward all the voices within groove 2 are in 4/4. Although the instrumental parts are heavily syncopated against Bonham’s drumbeat, they are at least in sync with one another, which is a distinct contrast when compared to grooves 1A and 1B.

♩ = 80

Meters Converge Rhythms/Phrases Converge Groove 3

Meter Change

Guitar

Bass

Orchestra

Hi-Hat
Snare

Bass Drum

The musical score illustrates a groove transition in the song "Kashmir". It features five staves: Guitar, Bass, Orchestra, Hi-Hat/Snare, and Bass Drum. The tempo is marked as ♩ = 80. Three key annotations are present: "Meters Converge" points to the transition from 3/4 to 4/4 time; "Rhythms/Phrases Converge" points to the intersection of guitar, bass, and orchestra parts on the fourth beat; and "Groove 3" points to the start of the new groove on the first beat of the next measure. A "Meter Change" box is also shown, indicating the change from 3/4 to 4/4 time.

Example 17: “Kashmir” - Groove Transition from 1B to 3

The groove transition from 1B to 3 is fairly simple when compared to the other two groove transitions discussed. (see Example 17) In this transition the guitar, bass, and orchestra all change from 3/4 to 4/4 where the meters converge. The phrasing and rhythms intersect on the fourth beat, and groove 3 emerges on the first beat of the next measure.

Tool's Rock Sonata

A groove analysis is especially useful for sifting through complex formal structures.

Tool makes regular use of Osborn's "terminal climax," and this alone is one interesting

aspect of their music. However, the overall form within many of Tool's songs is

interesting in that the music can be viewed on at least two levels. "Schism" (2001) is one

of these songs, and contains a varied groove, an extended introduction, an extended coda,

and a terminal climax. At one level "Schism" begins with what appears to be a fairly

standard AABA form. (see Example 18)

"Schism" (2001) by Tool

Section	Introduction			A									
				A (D Minor) (A Minor)		A (D Minor) (A Minor)		B (D minor)		A (D Minor) (A Minor)			
				a	b	a	b	c		a	b'		
Groove	1	a	2Aab	2AacV ¹	2AabV ¹	2Bad	2Aab V ¹ '	2Bad	3 V ²	a	2AabV ¹ '	2Bad	2Bde
Meter	Free Time			6/4 (5/8+7/8)		8/8+5/8	6/4 (5/8+7/8)	8/8+5/8	6/4	6/8	6/4 (5/8+7/8)		8/8+5/8
Timing	0:00	0:14	0:27	0:40	1:06	1:20	1:34	2:02	2:16		2:30	2:33	3:00 3:14

B (developmental)									A' (recapitulatory)		
Extended Coda/Terminal Climax (A minor)						(D Minor)					
Transition				c		d			a'		
4Af	4Afgh	4Afhi	4Afij	4Afjk V³	4Bfjk'L*	4A+2B'm* V⁴	5m'*	2C n V⁵	2Cn' V⁵'	6	
21/8 + 3/4					4/4 (9/8 + 7/8)	4/4 (21/8+7/8)	4/4	6/4 (5/8+7/8)		4/4	
3:29	3:47	4:01	4:17	4:35	5:11	5:24	5:40	5:59	6:12	6:24-6:44	

a = bass1

d = bass1 part in guitar (sustained)


g = sustained synth (<>)

j = synth gong

m = guitar/bass sustained/distorted

V¹ = same melody but projected

V⁴ = clear+projected/rhythm = guitar

* =  at phrase ending

b = bass1 part in guitar (staccato)

e = bass2

h = sustained bass tone

k = soft acoustic guitar + bass

n = distorted/muted guitar/bass

V² = screamed/syncopated melody

V⁵ = screamed/melody = 1st of *V¹*

c = sustained distorted guitar

f = guitar with accents

i = synth effect over guitar accents

L = drum build

V¹ = subdued/melody = guitar

V³ = soft sustained/melody = guitar


V⁵ = more projected

Example 18

The B section is a heavily syncopated 6/4 meter and ends with one measure of 6/8, and it is also built on base groove 3, which never returns. The A sections are much more interesting both in form and in groove. Each of the A sections can be broken down further into an “a” area, which is in D minor, and a “b” area, which is in A minor. Both areas use variations of base groove 2, and this is even more apparent when looking at the rhythms and meters involved. In Example 18 it was beneficial to include the various meters used within the song, because the meters assist in comparing and contrasting the various grooves involved in this piece. When looking at 2A, 2B, and 2C, it is possible to see that the eighth note groupings within each meter are at least similar, but 2B is slightly more aggressive when compared to 2A. When comparing the meters of 2A and 2B, it might be tempting to say these two grooves are unrelated, but a closer inspection reveals quite the opposite.


Example 19 contains transcriptions of the melodic material from all three.

0:40-1:19 | Meter for Groove 2A (Vocals/Guitar in D Minor)




5/8(2+3) 7/8(2+2+3)

1:20-1:33 | Meter for Groove 2B (Guitar in A Minor)



6/8(3+3) 7/8(2+2+3)

5:59-6:23 | Meter for Groove 2C (Vocals/Guitar/Accents in D Minor)



5/8(2+3) 7/8(2+2+3)

Example 19: “Schism” - Meter for Grooves 2A, 2B, and 2C

A 6/4 beat can clearly be felt in 2A, but the rhythms reveal a 2+3+2+2+3 eighth note grouping, which resembles 5/8 measure followed by 7/8 measure. 2B is a 6/8 measure followed by a 7/8 measure, so the entire pattern is one eighth note longer. It is the 7/8 measure that binds the two grooves, and it is that measure that still leaves 2B feeling like 6/4 with a momentary limp at the beginning of every repetition. 2C essentially takes the beginning of 2A and turns it into a motif. 2A and 2C are almost the same in terms of note groupings and pitches, but in 2C the drums use only toms and snare. The lack of cymbals and a hi-hat is a stark contrast when compared to the other two variations, and 2C is also much more distorted and aggressive. That being said, it is truly the 7/8 figure that links all three grooves together. (see Example 19)

In “Schism,” Tool continues to use meter to develop grooves after the initial AABA statement. This second section of music, at 3:29, drops down to only a guitar, and it is tempting to simply leave off a base groove and label what is happening as “f,” which is the guitar riff with accents. This is problematic, since it neglects some important information concerning meter. Therefore, in addition to adding meter to the diagram, it is also important to include an actual shift in the base groove at that moment. This is because the new meter establishes groove 4A, and that shift is felt immediately. It is a measure of 21/8 followed by 3/4, and the result is a duple feel followed by an offsetting hemiola-like phrase ending. Groove 4A grows and evolves until it eventually merges with 2B’ at 5:24, and in this case, the melodic and harmonic material from 4A is merged with a drum part that is similar to 2B. Interestingly, Tool draws a parallel between this second section and the first. Just as one eighth note was added to groove 2A to create 2B, the hybrid groove at 5:24 has one eighth note added to the meter, which means there is a 7/8 measure in place of the 3/4 measure.

Furthermore, this entire second section, beginning at 3:29, builds and moves toward the song's climax at 5:59. Since "Schism" can be split into two separate sections, it is what Osborn would call a "two-part terminal climactic form."⁴⁴ Osborn says that a "terminal climax" needs to be "completely new material designed to be more memorable than anything previously presented."⁴⁵ This second section is interesting in that not all the material is "new" like Osborn's definition requires. The vocals at 5:59 are based on the beginning of the first two A sections, but this final climatic version is incredibly fresh. The singer, Maynard James Keenan, begins this section by whisper screaming "I know the pieces fit," which is the beginning of the first two A sections. Each iteration becomes more and more intense until the crescendo climaxes at 6:12. This phrase is initially sung in a passive manner 40 seconds into the song and receives little emphasis. The second A section is more aggressive, but it is still just one measure within an entire section of music. The third A section changes the passage to "There was a time that the pieces fit." The initial statement seems somewhat insignificant when passively listening, and a person hearing "Schism" could reach this final point in the recording and feel that the motif is familiar without fully understanding why. Tool takes that one measure, which is heard in passing, and turns it into the focal point of the entire song. Even though this final section is not entirely new, what little material is being reused is at least heard in a fresh way that is more memorable. Osborn further clarifies his classification for a terminal climax when he explains, "Since two-part TCFs [terminal climatic forms] contain a repeated chorus (as do all TCFs), that chorus must be downplayed in some way to reserve the true memorable

⁴⁴ Osborn, "Subverting the Verse-Chorus Paradigm," 23-47.

⁴⁵ Ibid.

highpoint for the terminal climax.”⁴⁶ As a result, this final section does, indeed, fit into Osborn’s terminal climax paradigm.

Finally, if one pulls back further and looks at the larger form, it is quite possible to see even more complexity. It would be a stretch to call “Schism” a sonata form, but it is not a stretch to say it is at least sonata-like. In the end, it would be difficult for rock to meet all the requirements for a strict sonata form, so it would be expected for a rock sonata to display different characteristics. Osborn uses the term “recapitulatory material” to describe music that returns toward the ending of a song.⁴⁷ He explains that a chorus’ returns after a bridge has some parallels when compared a sonata’s recapitulation. However, he also says that he is “reluctant to see these practices as analogous” to sonata form.⁴⁸ At the same time, Tool’s “Schism,” along with many other Tool songs, has some interesting features that go beyond having a bridge. In particular, the second section, which is also the beginning of the terminal climax, is seemingly developmental in nature. This developmental section is substantial, since it is approximately a third of the song. Of course, it is not developing previously stated thematic material, nor is it modulating and creating instability.⁴⁹ It, instead, begins establishing another groove and a new context where the music can branch off and begin growing in an entirely different direction. It develops in an organic way, and the lone guitar that begins this section can be seen as acting like the “germ” that is often discussed within the context of “organic” art music of the past 200 years. Henry James says that when this technique is used, the “initial germ is subject to a process whereby it loses its original nature and becomes a new entity, in which

⁴⁶ Osborn, “Subverting the Verse–Chorus Paradigm,” 29-30.

⁴⁷ Ibid., 23.

⁴⁸ Ibid., 26.

⁴⁹ James Hepokoski and Warren Darcy, *Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-Century Sonata* (New York: Oxford University Press, 2011), 18.

the germ is dissolved and cannot be discerned as a part of the resulting whole.”⁵⁰

“Schism’s” terminally climatic section starts off as a fairly passive duple-feeling “germ” that grows and culminates with a striking moment at 5:40, which eventually leads to the song’s climax at 5:59. The groove analysis in Example 18 depicts how the germ grows into the moment at 5:40. Layers are added to groove 4A until eventually the meter changes to 4/4, but at 5:24 every third eighth note is still accented via the vocals and guitar, creating a syncopated pattern that resembles the duple feel from the previous section. At this point a syncopated phrase ending is added to each repetition (♩ ♪ ♩ ♪ ♩), which is marked with an asterisk in Example 18. Groove 4A combines with groove 2B’ in the hybrid groove at 5:24, and this same syncopated phrase ending is still there. The entire developmental section culminates in a new groove at 5:40, but the same phrase ending is still there, which provides further evidence that this section does grow organically. The original groove or “germ” is gone, and the groove has become a new “entity.”⁵¹ This entire organic B section leads to one final climatic “recapitulatory” section at 5:59.⁵² A long developmental B section, like the one found in “Schism,” is prevalent within the music of Tool, and this feature is not restricted to the band’s long songs. The strength of the recapitulatory material can vary from song to song, and at times this feature can be too exact or obvious to be considered a terminal climax.⁵³ However, the sonata-like formulaic structure is often similar.

⁵⁰ José Antonio Álvarez Amorós, “Henry James’s ‘Organic Form’ and Classical Rhetoric,” *Comparative Literature* 46, no. 1 (1994): 42.

⁵¹ Amorós, “Henry James’s ‘Organic Form,’” 42.

⁵² Osborn, “Subverting the Verse–Chorus,” 23.

⁵³ *Ibid.*, 29–30.

Other Selected Long Songs

Recordings that did not top the charts can be of interest as well, and they, too, can exhibit the same characteristics of the long songs previously discussed. However, they often times come from a very different motivation in that these songs were never intended to compete on the *Billboard* Hot 100. Many of these long songs existed as “B-Sides” or on albums never to be released as singles, and some of them can be an astounding 20-30 minutes long. Collective song form is likely to be encountered, as some of these recordings consist of multiple songs that are sometimes given titles such as “Part I” and “Part II.”

The first recording to be discussed from this category is The Smashing Pumpkins’ “Superchrist” (2008), which was a B-Side for “G.L.O.W.” (2008).⁵⁴ The song makes use of a varied groove, an extended introduction, and an extended coda. (see Example 20) “Superchrist” tends to at least elicit a general sense that the band is having a jam session, and much of this is due to the continuous solo-like drumming exhibited by Jimmy Chamberlain. Most of the song is instrumental and relies on interaction between the musicians, and vocals are kept to a minimum. In fact, the recording is over seven minutes long, and Billy Corgan only sings for around 50 seconds.

Another reason this recording feels like a jam session is due to the song’s formal structure, because it almost appears to be a rock rondo. The refrain, or A section, contributes to the overall jam session feel within the music, and there are two reasons as to why this feature is so important in establishing a “jam.” The first is that base groove 1

⁵⁴ “The Smashing Pumpkins - G.L.O.W.,” *Discogs*, accessed May 28, 2019, <https://www.discogs.com/The-Smashing-Pumpkins-GLOW/master/390197>.


appears to be improvised on the spot, but this does not mean this was necessarily the case.

It simply has improvisatory-like features, which are carried throughout the song.

“Superchrist” (2008) by The Smashing Pumpkins

Section	Extended Introduction			A (Refrain)		B	A		C	A'
Groove	0	0a	1Ab	1Bb	1Bbc	2b	1B'b	1B'bc	3b	1Cb
Timing	0:00	0:27	0:29	0:54	1:17	1:42	2:16	2:04	2:43	3:08

Section	D		A'			E		A'	F	A''(Ex. Coda)
Groove	0b	4bV ¹	1B''+1C'	1C''	1Cb	5	5'b	1Cb	6V ²	1C'''
Timing	3:19	3:30	3:56	4:07	4:10	4:33	4:44	4:55	5:17	5:36-7:05

a = one measure count-in b = hi-hat () c = added melody in guitar | = groove break

Example 20

The improvisatory characteristics begin with the introduction, which is where the first groove germinates and grows into the refrain. Chamberlain uses the bell of the ride cymbal to count the groove off in 12/8, which is another hint that this recording is at least supposed to sound like a jam session. Groove 1A begins with 16th note pickups into the measure and an accent on the downbeat, and then the C# is sustained for two measures at which point the figure repeats. (see Example 21) The simplicity of this groove, again, hints at improvised jamming where musicians are playing off each other and finding middle ground. Simplicity in these types of situations leaves room for other musicians to add material to the texture. Groove 1B condenses the figure down to every two beats, and groove 1C further shrinks it down to every beat. This process builds slowly throughout the recording. The evolution of groove 1 can be seen in Example 21, and Example 20 shows that groove 1C does not emerge until the third A section, which is almost halfway through the song.

♩. = 84 **Groove 1A**

Guitar

Cymbals
Hi-Hat

Bass Drum

♩. = 84 **Groove 1B (without improvised drum solo)**

Guitar

Cymbals
Hi-Hat

Bass Drum

♩. = 84 **Groove 1C (without improvised drum solo)**

Guitar

Cymbals
Hi-Hat

Bass Drum

Example 21: “Superchrist” - Grooves 1A, 1B, and 1C

The other reason this section elicits a jam session feel is the way each repetition progressively grows more and more intense. As was mentioned, the main figure is condensed down by using three groove variations. The guitar adds a melody towards the end of the first A section, and it appears that it might lead the jam session. However, Chamberlain’s drumming comes to the forefront as the song seems to become a quasi-drum solo, and his performance intensifies throughout the recording. He begins by using only toms and cymbals, but in the second A section he adds syncopated snare drum hits to the mix, which is why the groove is labeled 1B’ instead of 1B. Each repetition of the refrain continues to develop this first groove until the final A section climaxes as the guitar melody moves up by step creating dissonance.

The other sections, or episodes, are equally interesting and the very fact that they are there adds to the evidence that this recording intends to be a jam session. Each of these

sections (B, C, D, E, and F) initially drops down in volume and allows the texture to thin. There is a momentary break in the groove before the B section and the C section, and the D section begins in a similar way, which is why the groove is labeled “0.” These breaks in the groove work as buffers or groove transitions, but they also allow for a musician to come forward with an idea that leads into the next section. The B section is initiated by the drums, and the C section pushes forward with the guitar. The D section is led by the vocals, and once again, this kind of interaction is how an improvised jam session could evolve. That being said, the F section is dominated by strings and vocals and is clearly not improvised, so the song is not a literal jam session. The grooves and the form at least imply that the song is supposed to provide the general atmosphere of “jamming.”

Radiohead’s “Daydreaming” (2016) is a more recent example of where a groove analysis can aid in our understanding of the music. On the surface Radiohead’s “Daydreaming” seems to consist of a simple minimalistic texture, but a detailed groove analysis reveals a more complex structure. Much of this complexity resides in the groove transitions, and the grooves themselves give the music an introspective characteristic, which is to be expected considering the song’s title. “Daydreaming” is part of Radiohead’s album *A Moon Shaped Pool* (2016). Thom Yorke, the lead singer for Radiohead, and Dr. Rachel Owen, his former life partner, split up in 2015 after being together for 23 years. *A Moon Shaped Pool* was released one year later, and the album can be interpreted as Yorke’s contemplation of that relationship. The music video for “Daydreaming” supports this idea in that it shows Yorke going through various doors, and something very different is behind each door. It seems to be depicting him daydreaming about specific moments in

his life, and each door opens a different time or memory. Sadly, Owen, Yorke's former partner, passed away from cancer shortly after the album's release.⁵⁵

“Daydreaming” (2016) by Radiohead

Section	Extended Introduction		A		B		
Groove	a	a {<1Ac}	1Aa'cY	1Aa'b'c Y	2A	2Acd	{2A→1A}
Timing	0:00	0:22	1:20	2:02	2:18	2:39	3:00

A			B				
1Aa'b ² Y	{1A→1B} a' Y	1Aa' {b ¹ b ² <} eY	2Ab ¹ e	2Ab ¹ c {e→d}	{2A→2B} b ¹ b ² cd	2Bb ¹ b ² 'cd	{2B>} b ¹ b ³ cd
3:02	3:13	3:30	3:58	4:15	4:22	4:39	4:55

Extended Coda							
2Cb ¹ b ³ cdf	{2C→2D} b ¹ b ³ cf	2Db ¹ b ³ cf	{2D→1B} b ² b ³ cd	{1B<} {d>} cb ² b ³	1Ac {b ² >} b ³ {f>}	{1Ac>} b ³	b ³
5:03	5:16	5:22	5:38	5:40	5:43	6:00	6:05-6:25


a = ambient backwards bell-like sounds

b¹ = backwards sounding distorted vocals (<>)

b³ = low backwards vocals

d = backwards synth ambience

f = sporadic strings


1A = piano ()

2A = piano ()

2C = sporadic strings at forefront

a' = less frequent

b² = backwards sounding distorted melodic vocals

c = low piano/bass ()

e = legato strings

V = vocals

1B = piano part on synth

2B = piano part on synth

2D = synth louder/sporadic strings (f) at forefront

Example 22

Like many complex groove structures, the groove transitions within

“Daydreaming” play an important roll in how the music unfolds. The subtle groove

transitions involved in this piece are particularly interesting, because they are accomplished

⁵⁵ Elias Leight, “Dr. Rachel Owen, Former Partner of Thom Yorke, Dead at Age 48,” *Rolling Stone*, December 20, 2016, <https://www.rollingstone.com/music/music-news/dr-rachel-owen-former-partner-of-thom-yorke-dead-at-age-48-106092/>.

in a way that may remain hidden from a passive listener. The song only has two base grooves, but the layers and groove variations are complex. Various layers subtly appear, disappear, or transform throughout the use of both base grooves. The song itself begins with bell-like sounds that seem to be playing backwards, and the first shift occurs as groove 1Ac slowly fades into the texture over these ambient bell sounds. Base groove 1 makes up the A sections as well as the ending of the song, and base groove 2 is used in the B sections and most of the coda. (see Example 22) Example 23 illustrates that the first base groove is in 3/4, and the second groove is in 6/8. The lower voice labeled layer “c” is

(Groove 1Ac)
♩ = 142

Dm(add9)/F Dm(add9)/A

Dm⁷(add11)/F C(add9)/E

(Groove 2Ac)
Dmaj⁷ Dm⁷ Bm⁷

Bbmaj⁷ Dm⁷

2x 2x 1x

1x 2x

Example 23: “Daydreaming” - Groove 1Ac and 2Ac

in 6/8 with an emphasis on the dotted quarter note. This creates a three against two polyrhythm when base groove 1 combines with layer “c,” which could arguably be called metrically dissonant.⁵⁶ Groove 1A is also in D minor and is dominated by various versions of the D minor chord, but groove 2A borrows two chords from the parallel major. The chord progression for groove 2A is $D^{maj7} - D^{min7} - B^{min7} - Bb^{maj7} - D^{min7}$, but it could be interpreted as $I^7 - i^7 - vi^7 - VI^7 - i^7$ (or $I^{4/3} - i^{4/3} - vi^{4/2} - VI^7 - i^{6/5}$ with inversions). The D^{maj7} and B^{min7} are both borrowed from the key of D major. The switch from groove 1A to 2A is dramatic in that it lands on the D^{maj7} , and it suddenly shifts into 6/8, which results in a more uplifting mood. Sudden shifts in groove are not common in “Daydreaming,” and this is definitely one of the more obvious groove transitions used in this particular recording.

The transition back to groove 1A occurs twice within the recording, and both shifts are incredibly smooth. Example 24 shows the ending of groove 2Ac and the beginning of groove 1Ac. The transition is not as abrupt as it appears in Example 24, since the two grooves overlap for around two seconds. As the pitches A, D, and E in 2A are accented and brought forward within the texture, they line up and melt into the three pitches that make up groove 1A.

Example 24: “Daydreaming” - Groove Transition 1Ac to 2Ac

⁵⁶ Krebs, “Metrical Consonance and Dissonance,” 25.

Radiohead also uses slow shifts in timbre to buffer transitions. This process can be examined by looking at grooves 1A and 2A, which use piano, and 1B and 2B, which use synthesizer. The change from 1A to 1B is accomplished by slowly fading the piano down while at the same time the synthesizer is being faded into the mix. (see 3:13 in Example 22) The resulting effect is that the piano slowly transforms into the synthesizer, and a similar process is used when moving from 2A to 2B at 4:22 in Example 22. Shortly before that, at 4:15, the strings melt into the timbre of synthesizer in the same manner.

The coda differs from other sections in that its primary layer is the sporadic string part, which is labeled “f” in Example 22. The sporadic string entrance marks the point where the music begins moving toward its dramatic ending, so it seems appropriate to make the entire section a coda. Grooves 2C and 2D allow the sporadic string part to move to the forefront of the groove, and as 2C transitions to 2D at 5:15, the eighth-note part in Example 23 is pulled forward in the mix making it clearer within the texture. However, the strings remain in the forefront. One of the more striking shifts in “Daydreaming’s” groove occurs toward the end of the recording when at 5:40 groove 2B (the synthesizer) crescendos quickly and drops out leaving 1A in place. Throughout the song backwards sounding vocals (b¹, b², and b³) come and go within the groove’s texture. At the end of the recording all the instrumental layers fade, which allows these vocals to be heard with more clarity. When the music is played in reverse, the vocals seem to be saying “half my life, half my love.”⁵⁷ It could be a reference to his relationship with Owen, since they were together for 23 years, which would be approximately half their lives.⁵⁸ The gradual shifts

⁵⁷ Dawn Chorus, “Radiohead - Daydreaming (Backwards),” May 6, 2016, 6:26, <https://www.youtube.com/watch?v=Hd3RIc5wLI8>.

⁵⁸ Leight, “Rachel Owen, Former Partner.”

in “Daydreaming” produce slight changes in the groove, but the cumulative effect is arriving at a new sound with little reference as to when exactly the change took place.

Dream Theater has songs that are over 20 minutes in length, so it seems appropriate to use at least one of their songs as an example within this study. “Pull Me Under” (1992) is fairly “short” when compared to other Dream Theater tracks, but it is also one of the band’s better known recordings.⁵⁹ The song’s elaborate form is complimented by an incredibly complex groove structure in that the song makes a change to the groove, on average, every 12 seconds. There are 40 groove areas in “Pull Me Under,” and less than a quarter of those share a groove with another part of the song, which means more than three quarters of the grooves are never heard exactly the same way again. The groove structure also buries the song’s form making it more difficult to construct a clearly defined formal analysis. Example 25 shows just how incredible the formal structure is, and Example 26 illustrates each base groove. Together, these two examples provide a basic snapshot of the entire piece.

In the case of “Pull Me Under” the groove transitions are less important than the form, because, overall, the transitions are abrupt. However, some of the grooves, such as 10 and 11, use similar rhythms making the groove transitions somewhat smoother than others. The song begins with an extended introduction that consists of four base grooves, but Mike Portnoy’s drumming makes the third one particularly interesting. Grooves 3A and 3A’ are both included in Example 26, and the difference between them can be seen in the drum part. There are two to three notes per measure that are shifted one eighth note

⁵⁹ Christa Titus, “Dream Theater Causing ‘Chaos’ with New Album,” *Billboard* (June 26, 2007), <https://www.billboard.com/articles/news/1051293/dream-theater-causing-chaos-with-new-album>.

later, which makes it difficult to feel where the actual beat is. The shifted notes are marked by boxes in Example 26.

“Pull Me Under” (1992) by Dream Theater

S	Extended Introduction								
G	a	1a	1ab	1a’c	2ac	3A	3A’	3Bd	4d
T	0:00	0:11	0:20	0:40	0:58	1:16	1:26	1:35	1:54

A										A'						
V ¹	Ch ¹	Br ¹	V ²			Ch ¹	G. Solo	Ch ²		Br ²	V ¹	Ch ¹	Br ³	G. Solo	Ch ²	
5dV ¹	6AV ²	7e	V ³	8fV ³	8f'	9V ²	10	11V ²	6BV ²	3Bd	12dV ¹ '	6AV ²	7e	10	11V ²	6BV ²
2:01	2:20	2:38	2:57	2:59	3:06	3:16	3:34	3:44	3:54	4:03	4:12	4:31	4:50	5:00	5:10	5:20

B						A''				Extended Coda			
Intro/Trans		Synth Solo		G. Solo (V²)		Ch²		Ch²					
ab	abc	13abc	13'abc	11'	14	11V²	6BV²	11'V²	6B'V²	3C	3Cd	3Cd _g	3Cd _{gh}
5:29	5:39	5:48	5:57	6:06	6:25	6:34	6:44	6:53	7:03	7:12	7:22	7:31	7:50-8:12



a = melody in guitar

c = arpeggiating guitar

f = 16th note power chords

l = drumbeat on tom

3A’ = bass drum on upbeat

5 =  drums/bass +  guitar

7B = moving 16ths

10 = ride cymbal rock beat

12’ = added snare accents

a’ = melody in bass

d = 16th notes in synth

g = synth string melody

2 = drums, bass, sustained guitar

3B = double bass

6 = snare on downbeat

8 = “punk” snare on 8ths

11 = blues riff countermelody



13 = build out of solo section

b = falling synth melody

e = 16th note synth guitar

h = voice harmonies

3A = w/heavy hi-hat w/accents

4 =  drums +  guitar/bass

7A = “punk” guitar 16ths

9 = rock beat w/solo

12 = 16ths on hi-hat

Example 25

The groove structure becomes more complex as the music enters the body of the song. Only the first and last verses are related musically, and none of them share the same groove. The first verse uses base groove 5, the middle one uses number 8, and the final verse uses 12; and Example 26 demonstrates how distinct these grooves truly are.

The musical score is organized into two systems, each containing four groove transcriptions. The first system includes Base Groove 1, Base Groove 2, Groove 3A, and Groove 3A'. The second system includes Base Groove 4, Base Groove 5, Base Groove 6, Base Groove 7, and Base Groove 8. Each transcription is written for Guitar/Synth, Bass, and a drum kit (Cymbals, Hi-Hat, Snare, Toms, Bass Drum). The notation uses various musical symbols including notes, rests, and dynamic markings to represent the grooves.

Example 26: “Pull Me Under” - Groove Transcriptions

The image displays six musical grooves, labeled Base Groove 9 through Base Groove 14, arranged in three pairs. Each groove is represented by three staves: Guitar/Synth, Bass, and a combined Cymbals/Hi-Hat/Snare/Toms/Bass Drum staff. The notation is in bass clef and includes various musical symbols such as notes, rests, and dynamic markings.

- Base Groove 9:** Features a continuous 16th-note figure in the Guitar/Synth and a steady eighth-note bass line. The drums play a consistent pattern of eighth notes.
- Base Groove 10:** The Guitar/Synth part consists of sustained chords, while the Bass and drums continue with their respective rhythmic patterns.
- Base Groove 11:** The Guitar/Synth part is mostly silent, with a few notes in the second half. The Bass and drums maintain their patterns.
- Base Groove 12:** Similar to Groove 11, with minimal Guitar/Synth activity and consistent Bass and drum patterns.
- Base Groove 13:** The Guitar/Synth part is silent, and the Bass line is also silent. The drums play a pattern of eighth notes with accents.
- Base Groove 14:** Features a slow-moving, ascending line in the Guitar/Synth, a corresponding ascending bass line, and a drum pattern of eighth notes with accents.

Example 26 (continued)

The middle verse is definitely more intense and energetic than the other two. The outer verses both have energy, but they are very different in character. The first uses the 16th note figure in the guitar, which gives the groove forward momentum. The last verse has a slow moving line in the guitar, which seems to pull the intensity back.

There are two separate chorus sections, which are labeled “Ch¹” and “Ch².” Ch¹ leads in with “This world is spinning around me,” and the main chorus is “Pull Me Under.” The first one could be considered to be a prechorus, but it never actually leads to the main chorus. That being said, it feels unstable and has direction as if it is leading toward a chorus even though it always jumps into another section instead. Ch¹ appears three times, but the middle repetition has a different groove. The bridges use the same pattern in that there are three of them, and the middle one actually uses groove 3B from the introduction, whereas the first and last bridges use 7. Ch² uses the same two grooves each time, which further helps establish it as the primary chorus.

The lack of groove repetition makes it difficult to draw a line between the first two A sections, but the return of the first verse marks the beginning of the second A section. Each consecutive A section gets shorter, so the first one has both verses, two first choruses, one main chorus, two bridges, and the guitar solo. The second A section drops the second verse and leaves out one of the first choruses, so it only needs one bridge as well. The final A section is only the main chorus repeated twice, which is not unusual.

The B section returns to the beginning, but the groove takes a very different turn and leads into an extended solo section. The extended coda also pulls material from the introduction, and it uses a variation of base groove 3, which leads to the abrupt ending. Discussions on message boards point toward evidence that this ending is a nod at the Beatles “She’s So Heavy,” which is also a long song that ends in the same manner.⁶⁰

⁶⁰ noxon, “The song stops so suddenly on my album? Do I have a misprint? Should I ask for a refund?,” Dream Theater World, December 27, 2015, <https://dreamtheater.club/questions/question/why-does-pull-me-under-stop-so-abruptly/>.

The vast amount of grooves in “Pull Me Under” shows that Dream Theater takes a similar approach to writing music as someone composing art music would take. A sonata’s recapitulation is often slightly different from the exposition, and this is especially true with later sonatas. This technique of repeating material differently each time dramatically affects the way in which music is heard, and this idea is discussed in more depth in Chapter Four.

Selected Short Songs

This type of analysis can be useful within the context of shorter songs as well, because approaching the music from this perspective makes it possible to understand the groove structure within a recording. The diagram also helps by highlighting any long song characteristics that may be present, and a few shorter songs will be analyzed in this fashion in order to demonstrate its benefits. Dave Matthews Band’s “Eh Hee” (2007) is an interesting song to investigate from the perspective of groove. Dave Matthews Band often uses polyrhythms, which can create metric dissonance as well,⁶¹ and Matthews tends to push and pull on the tempo as he sings, which could be a jazz or blues influence. Sometimes he sings in a three against two or three against four compound rhythm. As a result, his vocals play an important roll in establishing grooves, and “Eh Hee” (2007) is no exception.⁶² The piece itself is another rondo-like form or arch-like form. There are two base grooves, and Example 27 shows that the grooves do assist some in laying out the form. That being said, it is not as clearly defined as one might expect, and it becomes

⁶¹ Krebs, “Metrical Consonance and Dissonance,” 25.

⁶² Much of Dave Matthews’ music seems to have a similar feel to “Eh Hee” in that his singing is triplet based while the instrumental parts are in simple meters.

“Eh Hee” (2007) by Dave Matthews Band

	A				B			A'		C	A''		B'	A''' (Extended Coda)			
S	Intro	a	a	b	c	d	a	d	a	a	e	b	c	d	a	c	a+c
G	ab	lab	labce; +a'V ¹	laV ²	2V ³	la'ce	2V ³	la'bce	lde	lafgV ⁴	lde	ldfV ²	2'V ³	lde	lcdfV ²	+eh	{lcdfh>}a
T	0:00	0:10	0:18	0:47	0:58	1:10	1:22	1:34	1:45	1:57	2:09	2:20	2:32	2:43	2:55	3:13	3:30 4:20-4:27

a = sustained low tone

d = descending guitar/bass

g = organ

V² = “Drop the...”

b = bluesy guitar

e = “Eh Hee”

h = “Save the World”

V³ = “There’s always...”

c = clapping

f = low synth 16ths

V¹ = “Praise God...”

V⁴ = “Brothers, Sisters...”

Example 27

difficult to draw a line between base grooves and layers. For instance, the sections at 0:58 and 2:09 both use base groove 1, but the two grooves are very different. Example 29 shows that V² from the A section and V⁴ from the C section both have similar rhythms, and they both are combined with base groove 1. Furthermore, both sections’ melodic material is based on the F minor pentatonic scale, but enough layers accumulate within the C section for it to become distinct from the A section. It might even be possible to make the analysis less detailed and label groove *lafgV⁴* as groove 3. That approach would require every unique layer combination related to base groove 1 be labeled as prime or as a groove variation. Although using layers does not accurately demonstrate just how different aesthetically the grooves are, it at least shows groove relationships. The B section’s groove serves as a clear contrast from the one found in the A section, so it is easy to differentiate

Intro	A					B			A'		C	A''			B'	A''' (Extended Coda)		
Intro	A					B			A'						B'	A'' (Extended Coda)		
Intro	A					B	A'	B	A''		C	A'''			B'	A'''' (Extended Coda)		
Intro	A					B	A'	B	A'						B'	A'' (Extended Coda)		
Intro	A					A'						B	A''			A''' (Extended Coda)		
Intro	a	a	b	c	d	a	d	a	a	e	b	c	d	a	c	a+c		

Example 28: Optional Formal Structure within “Eh Hee”

$\text{♩} = 83$

A Section (a)

Layer e

Vocals

Hee Eh Hee Eh

Piano

Guitar

Bass

Bass/Piano (Layer a)

Guitar (Layer b)

Base Groove 1 + Layer c

Clapping
Hi-Hat
Snare
Bass Drum

A Section (b)

Vocals

V^1

Praise God Who has ma-ny names but the de-vil has ma-ny more. and with the

Piano

Guitar

Bass

Bass

Bass/Piano (Layer a')

Base Groove 1 + Layer c

Clapping
Hi-Hat
Snare
Bass Drum

A Section (c)

Vocals

V^2

Drop the De - vil to his knees

Piano

Guitar

Bass

Layer a'

Bass

Base Groove 1 + Layer c

Clapping
Hi-Hat
Snare
Bass Drum

Example 29: “Eh Hee” - Groove Transcriptions

B Section (d)

Base Groove 2

The musical score is arranged in four staves. The top staff is for Vocals, featuring a treble clef and a key signature of one flat (Bb). The lyrics are: "There's al - ways some - one who'll try to con - vince you that". Above the first measure is a "V³" marking, and above the last measure is a "V³" marking. The second staff is for Piano, featuring a treble clef and a key signature of one flat. It includes a "Piano" dynamic marking and a "3" marking above the first measure. The third staff is for Guitar and Bass, featuring a bass clef and a key signature of one flat. It includes a "Guitar" dynamic marking and a "3" marking above the first measure. The bottom staff is for Clapping, Hi-Hat, Snare, and Bass Drum, featuring a common time signature and a key signature of one flat. It includes a "Clapping" dynamic marking and a "3" marking above the first measure.

C Section (e)

Vocals

Bro - ther Si - ster Bro - ther Si - ster

Piano
Guitar
Bass

Organ (Layer g)

Bass (Layer a) + Synth (Layer f)

Base Groove 1

Clapping
H₂O-Hat
Snare
Bass Drum

Example 29 (continued)

them. While the A section uses only the F minor pentatonic scale, the B section uses G minor in its entirety, which shifts the mood. The first B section does have a portion of the A section in the middle, but it is short lived and returns to the primary material for the B section. It seems much easier and makes more sense to consider that short segment as part

of the B section. Admittedly, there are other options for the form, and Example 28 demonstrates other possible hearings.

Example 29 also demonstrates the polyrhythms that are achieved via the vocal parts. The A section begins with a six against four polyrhythm that is quite complex, and it is likely that Matthews is laying back within the tempo to create this effect. Matthews' pushing and pulling on the tempo can be difficult to transcribe. The B section is built on a three against four polyrhythm, which is a characteristic that relies on the triplets within the vocal part and the piano, and the C section also has a sixteenth-note triplet-based rhythm in the organ. Since the extended coda combines the beginning and the end of the A section, it also exhibits a polyrhythmic texture. The song ends with an extended coda that combines a number of layers, most of which are pulled from earlier moments within the recording. In particular, V² ("Drop the devil..."), layer e ("Eh Hee"), and layer h ("Save the world") are all clearly heard at 3:30, which is demonstrated in Example 27. This combination produces a busy texture that eventually fades until the song ends with the low F in the piano.

Groove analysis can be used to demonstrate collective song form within shorter songs as well. This feature is rare within long songs, but Mumford and Sons' "Roll Away Your Stone" (2010) makes use of the form within a short song, which is truly unusual. Example 30 illustrates the song's layout. The first song is a somewhat straightforward verse-chorus form except that the first chorus is replaced with an instrumental section. The second song, which is rather short, has one section that repeats twice with the groove variations 7A and 7B, and this final part of the recording can also double as an extended coda and terminal climax. However, it could be argued that the second song is not memorable enough to be a terminal climax.⁶³

⁶³ Osborn, "Subverting the Verse-Chorus," 23-47.

“Roll Away Your Stone” (2010) by Mumford and Sons

		Song One								Song Two			
		Introduction		A		A		A		Extended Coda/Terminal Climax			
S			Verse		Bridge	Verse	Chorus	Verse	Chorus	Trans/Intro		a	a'
G	1A	1B	2AV ¹	2B	4	2AV ¹	4'V ²	2AV ¹	4'V ²	5	6	7AV ³	7BV ³
T	0:00	0:11	0:25	0:45	0:51	1:01	1:29	1:46	2:14	2:44	2:53	3:03	3:36-4:20

Example 30

Swing (♩ = $\frac{3}{4}$)

♩ = 280

Banjo

Guitar

Bass

Bass Drum

Example 31: Groove 4 from “Roll Away Your Stone”

The groove structure and formal relationship is fairly simple in that each section has its own groove, but “Roll Away Your Stone” also exhibits three unusual features. The first one is Mumford’s tendency to push and pull on the tempo as he sings, which is similar to what happened in “Eh, Hee,” but unlike Dave Matthews Band, Mumford and Sons does not seem to be using polyrhythms. However, their earlier music, which is a bluegrass-like “folk-rock,”⁶⁴ does have a characteristic fast swing. This comes from influences such as

⁶⁴ Stuart Kemp, “Mumford & Sons to Take a Break,” *The Hollywood Reporter*, September 23, 2013, <https://www.hollywoodreporter.com/earshot/mumford-sons-take-a-break-634548>.

“Old Crow Medicine Show,”⁶⁵ and this fast swing feel is the second unusual feature found within “Roll Away Your Stone.” The swing is subtly hidden, because at 140 beats per minute, which feels like the pulse, it is actually the 16th notes that are swung. At 280 beats per minute it would be the 8th notes that are swung, and the half note would get the pulse. It is essentially in cut time, but this happens in bebop jazz as well. For example, John Coltrane’s “Giant Steps” is incredibly fast, and what appears to be quarter notes is actually notated as half notes, which effectively feels as if the 16th notes are swinging. When the recording of “Roll Away Your Stone” is slowed down, it becomes obvious that the swung layer within the banjo is not evenly divided. (see Example 31)

The third unusual feature found within the Mumford and Son’s recording is the metric modulation at the transition between the first and second song,⁶⁶ and Example 32 demonstrates this feature within “Roll Away Your Stone.” With the half note receiving the beat the tempo is 140 beats per minute throughout the first song, and the second song begins by adding a single measure of accented dotted quarter notes, which is preparing for the metric modulation. At the beginning of the second song the instrumentation drops down to guitar and foot stomping, and both are only playing dotted quarter notes. At that moment the quarter note becomes the eighth note. This is not a simple half time modulation, because it also moves into the compound meter of 6/8. Whereas the beat was a half note before the metric modulation, it is a dotted quarter note afterwards. As a result, the tempo drops by 33% to 93 beats per minute.

⁶⁵ *Big Easy Express*, directed by Emmett Malloy (Woodshed Films, 2012), Digital. (S2BN Films in Association with B.E.E., 2012).

⁶⁶ Henry Cowell, Richard F. Goldman, Kurt Blaukopf, Frederick Goldbeck, and Everett Helm, “Current Chronicle,” *The Musical Quarterly* 37, no. 1 (1951): 87-89.

Beginning of Second Song (2:44)

Swing (♩ = ♩³)

♩ = 280

♩. Attacks

Banjo

Guitar

Bass

Bass Drum

The musical score for "Attacks" is written for four instruments: Banjo, Guitar, Bass, and Bass Drum. The score is in 6/8 time and consists of 6 measures. The key signature has one sharp (F#). The Banjo part features a melodic line with eighth and sixteenth notes, starting with a repeat sign. The Guitar part plays a complex, fast-paced rhythm with many beamed sixteenth notes. The Bass part provides a steady, low-frequency accompaniment with eighth notes. The Bass Drum part plays a simple, rhythmic pattern with eighth notes. The score is marked with "Attacks" at the top, indicating the tempo or mood. The instruments are listed on the left: Banjo, Guitar, Bass, and Bass Drum. The measures are numbered 1 through 6 at the bottom right of each staff.

The musical score for 'The Ballad of the Flag' is presented in two systems. The first system shows the beginning of the piece, starting with a key signature of one sharp (F#) and a 6/8 time signature. The guitar part features a complex, rhythmic pattern of chords and single notes, while the bass drum part provides a steady, syncopated rhythm. The second system continues the piece, showing the guitar part playing a series of chords and the bass drum part maintaining its rhythmic pattern. The score is written for guitar and bass drum, with the guitar part in treble clef and the bass drum part in bass clef.

"Stars hide..."

The musical score for "Stars hide..." is written for four instruments: Banjo, Guitar, Bass, and Bass Drum. The key signature is one sharp (F#), and the time signature is 4/4. The Banjo part is in the treble clef and features a melody with eighth and quarter notes. The Guitar part is also in the treble clef and plays a rhythmic accompaniment of eighth-note chords. The Bass part is in the bass clef and provides a simple harmonic foundation with quarter notes. The Bass Drum part is in the bass clef and plays a steady quarter-note rhythm.

Example 32: Transition into Second Song in “Roll Away Your Stone”

Groove analysis can also be used to dissect extreme examples of varied groove within shorter songs, and “Intergalactic” (1998) by the Beastie Boys demonstrates an incredibly pure representation of this feature. (see Example 33) There are two basic sections that alternate throughout this piece. There are rap sections, and there are A sections, which are characterized by the “intergalactic planetary” robotic sample. The rap sections have heavy accents on the down beat of beat four, and there are a number of times when these accents occur on the upbeat.

“Intergalactic” (1998) by Beastie Boys

Introduction (1978) by Dennis Boyd														
	Intro		A			B			A'	C (B)				
S			a			b			a	c		b	c	b
G	a	1	b	bc	2bc'	1d R ¹			1abcde	3A R ²	3B R ²	(e) 1d R ¹	3C R ^{2'}	(e) 1d R ¹
T	0:00	0:04	0:07	0:18	0:23	0:32 0:40 0:48 0:59			1:08	1:17	1:20	1:27	1:35	1:44

	A''	D (B)				A'''				
S	a	b		d		a				
G	1abdef	1dg R ¹	1'd R ¹	4 R ^{2''}		1''abdef	bch	2bc'h	R ³	
T	1:54	2:12	2:22	2:24	2:29	2:40	2:53	3:10	3:15	3:24-3:50

a = “Intergalactic Planetary”

d = organ + soft bass

g = record scratch 2

b = fluctuating high-pitch frequency

e = string hit

h = background noise

c = robot gibberish

f = record scratch 1

█ = groove break

Example 33

Furthermore, the groove structure for “Intergalatic” seems almost random, making it impossible for a first time listener to even guess as to what might come next. On top of the continuous changes there are also seemingly random breaks within the groove, which are denoted with thicker gridlines in Example 33. These breaks are sometimes used as groove transitions, and sometimes they are part of the actual groove.

A detailed groove analysis also reveals formal relationships, since the first and last A sections are characterized by grooves 1a and 2bc. All the other A sections only contain groove 1a, so the resulting form is at least symmetrical in that it begins and ends with similar grooves. The rap sections all contain groove 1d, so they could be labeled as B. Prime symbols could be used to differentiate between them. (ABAB’AB”A) That being said, more than a third of these sections use a very different groove, and it is difficult to reconcile those differences using prime symbols. Another option would be to label each rap section separately. Each one is around 40 seconds long, and the first rap section is built entirely from groove 1d and could be labeled “B.” The next one, which could be labeled “C,” alternates between groove 1d and base groove 3. “D” could be used to designate the final rap section, which is split between groove 1d and 4, and the end result is a rondo-like variation form. The Beastie Boys’s use of groove in “Intergalatic” causes each section to return differently throughout the recording, and Example 33 shows that even the A section is different each time it returns. Although this is not as drastic as Dream Theater’s “Pull Me Under,” it is still a similar feature, and as was mentioned earlier, this technique will be discussed in Chapter Four.

Throughout this chapter groove analysis was used to bring attention to various characteristics within songs. Hypermeter, polymeter, polyrhythm, metric modulation, and long song characteristics were all discussed using groove analysis, so it can be used to

emphasize a wide range of compositional strategies. In the absence of notated music, groove analysis provides an alternative visual aide for demonstrating these qualities, and these diagrams also allow for in depth dissections of complex groove structures.

Chapter Three: Music and the Human Perception of Time

As was briefly mentioned in Chapter One, it is hypothetically possible that the variables at play within long songs can impact the listener's perception of duration. An experiment was run to test this hypothesis, and this chapter will explain the experimental process and examine the resulting data from that study. Before discussing the experiment, it is important to clarify the basis for the study itself. "Long song characteristics," by definition, need to be more prevalent within "long songs," so these features needed to be established by comparing data from the analyzed long songs and the sample of shorter songs. I needed to find consistent methods for identifying these features without bias in order to accurately classify long song characteristics. The next section will discuss this data in detail in order to demonstrate which of these features are more common within long songs. When these techniques are used within shorter popular songs, it may deceive the listener into perceiving more time has passed than actually has, and this is the hypothesis that the experiment tested.

A good example of a shorter song exhibiting a long song characteristic is Harry Chapin's "Cat's in the Cradle" (1974), which was used as an example in Chapter One as well. The song is written from a father's perspective, and the lyrics explain that he had little time for his son who yearned for his attention. In the end, he realizes that he should have been more attentive to his child, but now it is too late. His son has grown up and has little time for him, and at that point he realizes that his "boy" has "grown up just like" him. When the song is finished, the listener can get the impression that he or she has been on a journey. One's perception of time is highly subjective, since there is no way to measure it. However, a great deal of time has passed within the storyline, and it can be difficult to

perceive the fact that less than four minutes has transpired. It is hypothetically possible that any one of the long song characteristics could influence the listener's perception of time.

Short Songs and Long Songs: A Comparison

Before discussing the experiment it is essential to establish which variables are more common within long songs as compared to shorter songs. It is also necessary to confirm that the long song is truly an anomaly that resides outside what might be considered the norm, and the data supports both of these assertions. In order to make the case that there are characteristics that are more prevalent within this music, it was important to evaluate over 450 songs to produce a large enough sample for reliable data. Grooves, extended introductions, extended solos, extended codas, terminal climaxes, collective song forms, timbres, and narratives were all considered in this investigation. *Billboard* charting long songs were found using Joel Whitburn's *1955-2011 Pop Annual*, but many of the songs in his book are listed using the radio edit timings.⁶⁷ As a result, all songs over 3 minutes 45 seconds were validated using *Discogs* in order to confirm album timings.⁶⁸ Any songs with an album version over six minutes in length were added to the long song list, and in the end there were a total of 283 long songs discovered that charted between 1955 and 2011. There were a total of 27,050 songs that charted during that time,⁶⁹ so long songs make up less than 1% of the songs that charted on the *Billboard* Hot 100.

⁶⁷ Joel Whitburn, *Pop Annual 1955-2011*, 8th Edition, (Record Research Inc., 2012.)

⁶⁸ *Discogs*, accessed June 22, 2016, <https://www.discogs.com>.

⁶⁹ Whitburn, *Pop Annual 1955-2011*, 720.

Of the 283 songs found, 115 songs were analyzed. (The analyses can be found in Appendix D.) In order to make a comparison, 342 shorter songs were also randomly selected and evaluated. (Both the shorter song's and long song's characteristics are listed in appendices B and C.)

PEAK DATE	WEEKS			PEAK		R A N K	G O L D	Song Title	Songwriter	Artist	T I M E	Label
	CH	40	10	W K S	P O S							
8/27	8			1	61	301		Get It Right	Marcus Miller/Luther Vandross	Aretha Franklin	4:06	Arista
8/13	8			1		302		Who's Behind The Door?	Randy Jackson	Zebra	5:19	Atlantic
6/11	7			1		303		When I'm With You	Arnold Lanni	Sheriff	3:52	Capitol
3/26	7			2	62	304		Sex (I'm A...)	John Crawford/David Diamond/Terri Nunn	Berlin	3:30	Geffen
12/3	6			2		305		Blue World	Justin Hayward	The Moody Blues	3:38	Threshold
8/27	9			1		306		Words	F.R. David	F.R. David	3:27	Carrere
12/17	8			1		307		This Must Be The Place (Naive Melody)	David Byrne/Chris Frantz/ Jerry Harrison/Tina Weymouth	Talking Heads	3:50	Sire

Example 34: Excerpt from page 333 of Joel Whitburn's 1955-2011 Pop Annual

The songs were randomly selected from Joel Whitburn's *1955-2011 Pop Annual*. Each year within the book has around six pages of songs, so dice were rolled for each page. The number rolled by the dice was used to count down the page to find the corresponding song, and if there were more than six pages for a particular year, only the first six pages were used. If a long song was randomly selected, the longest song under six minutes with the same peak position would be substituted in its place in order to produce the most accurate results for the shorter songs. For instance, Aretha Franklin's "Get It Right" (1983) was randomly selected for 1983, but the song is actually over six minutes long. (The radio edit length is listed in Whitburn's *Pop Annual*.) The longest song that is not over six minutes long with the same peak position of 61 is Zebra's "Who's Behind the Door?" (1983). As a result, Zebra's song was substituted for Franklin's song. (see Example 34) Once the 342 songs were selected it was possible to glean a great deal of information. That being said, six songs per year still produces a small sample when compared to the 27,050 songs that

charted. One song with an abnormally long introduction or coda could skew the data, so to minimize this a running average will be used to compare long songs to short songs.

Characteristics to Compare

After analyzing the songs and tabulating the statistics, it was possible to see which characteristics truly are more prevalent within long songs. In order to reliably produce the data necessary for this study, the characteristics needed to be defined clearly so as to prevent ambiguity. Some of the characteristics are formal structures, and it was crucial to be able to accurately determine the lengths of those events within each recording. As a result, these sections within music require an unbiased and consistent method for identifying their boundaries within each song, so these formal structures will be examined further in order precisely define where each one begins and ends.

Varied Voice Timbre

Varied voice timbre is the technique of using multiple tone colors within the vocal lines of a song. This can easily be accomplished with more than one singer, but digital or analog effects, register changes, harmony, talking, rapping, or other similar methods are also effective. In the end, there was no obvious correlation between song length and voice timbre, but that is not to say that this characteristic does not effect the overall perception of the song. It is just a quality that is commonly found in recordings of all lengths, so it is not more prevalent within the music in question.

Lyrical Narrative

Obvious narratives are rare within long songs, but they are even more rare within all other songs. The story line needs to be reasonably simple and obvious enough to engage the listener. Lyrical narratives were found in 1.5% of the 342 randomly selected songs and 14% of the long songs. That means this particular characteristic is more than nine times as likely to occur within a long song. It takes more time to tell stories, so it truly makes sense for this to be the case.

Extended Sections, Collective Song Form, and Terminal Climaxes

Extended sections, collective song form, and terminal climaxes are defined by the form of the piece, so it is important to understand the overall form of the song in order to draw lines between each section. Trevor de Clercq sees introductions and “outros” as fulfilling a role within a song. He prefers the idea of “role” over function, because it is possible for the same musical material to serve various roles within different sections of a particular song.⁷⁰ As a result, material from the body of the song could potentially be used within an introduction or a coda. One example can be found in the Beatles’ “A Day in the Life” (1967). In this example George Martin, the Beatles’ producer, used the same orchestral music for the coda and the transition into the B section, so that music took on two separate roles.

For this discussion it is important to establish a consistent method for drawing lines between an introduction, a coda, and the main body of the song. Trevor de Clercq shows just how subjective this process can be when discussing Avril Lavigne’s “My Happy

⁷⁰ Trevor de Clercq, “Sections and Successions in Successful Songs: A Prototype Approach to Form in Rock Music.” (PhD diss., University of Rochester, 2011), 34.

Ending” (2004). “My Happy Ending” has two consecutive choruses at the end of the song, but the question is whether or not the second chorus should be part of the last A section or the beginning of the coda section. He leaves both choruses as part of the final A section and has the coda begin at the conclusion of the second chorus.⁷¹

Collective Song Form

Collective song forms are generally straightforward once a groove analysis is complete. If a recording consists of multiple songs, which cannot share material, then each song needs to be able to function and make sense as an independent piece of music. Collective song form occurred within 8.8% of analyzed long songs, but it was only present within 0.9% of the randomly selected songs. This formal structure appears to be almost ten times more likely to occur within long songs. Once again, this makes sense due to the fact that collective song form takes time to develop and complete, so any song that uses it will most likely be quite lengthy.

Terminal Climaxes

According to Osborn a terminal climax is a climatic ending that is generally built from new material that is more memorable than anything preceding it.⁷² It can be constructed from previously used material as long as said material is different and more memorable within the terminal climax. If the terminally climatic material is not entirely new, the material cannot be as important within the main body of the song.⁷³ Obviously, it is important to be familiar with the entire song’s form in order to define whether or not a

⁷¹ de Clercq, “Sections and Successions in Successful Songs,” 108-110.

⁷² Osborn, *Beyond Verse and Chorus*, 6.

⁷³ Osborn, “Subverting the Verse–Chorus,” 29-30.

section of music is more memorable than anything else preceding it. This study revealed that an astounding 15.79% of *Billboard*-charting long songs contained a terminal climax, but only 3.5% of the randomly selected songs had one, which means it is around five times more prevalent within long songs.

Introductions

An extended introduction is over thirty seconds long, and they were found in 51.8% of long songs and 14.3% of the random sample. An introduction is quite possibly the easiest structure to define. Once the overall form is established, the music leading up to the start of that form is usually functioning as introductory material. For instance, anything preceding the first statement of the A section of an AABA form is part of the introduction. A verse-chorus form usually begins with a verse, but it is possible for a song to start by stating the chorus. Either way, the introduction is the music that leads up to the first verse or chorus, whichever one comes first within the form. Introductions are almost always instrumental, but there are exceptions. One example is Eminem's "Beautiful" (2009), which has an introduction that uses sampled vocals from Rock Therapy's "Reaching Out" (2005).⁷⁴

An introduction is usually not the same as a verse, a chorus, an A section, or a B section; but it could be constructed from one of these other sections if the material is stated in an introductory manner. An example of this can be heard in the Stone Temple Pilots "Dead and Bloated" (1992). The overall form of the song is AABABA, and the recording actually begins by stating the A section *a cappella* using a megaphone. This first section of

⁷⁴ Jayson Rodriguez, "Eminem's 'Beautiful' Hits iTunes," *MTV*, May 5, 2009, <http://www.mtv.com/news/1611174/eminems-beautiful-hits-itunes/>.

music is finished without vocals, so this incomplete A section, which closes instrumentally, gives the impression that the material is introductory in nature. Even Scott Weiland, Stone Temple Pilot's lead singer, referred to the section as an "intro" at a concert performance in Kansas City.⁷⁵

Sometimes introductions can pull material from the body of the song and turn it into what Ken Stephenson refers to as a "strophe," which is a short excerpt of music that can be repeated in order to build an introduction.⁷⁶ A good example of this can be found in Skrillex, Diplo, and Justin Beiber's "Where Are You Now?" (2016). The recording begins with the strophe "I need you," a short segment from the end of the A section, being repeated over and over. Admittedly, vocal oriented introductions are the exception rather than the rule, and introductions that use Stephenson's "strophe" appear to be particularly rare.

Solo Sections

Extended solos are easily identifiable, since it only requires a solo to be at least thirty seconds long. This characteristic appeared in 36.8% of the analyzed long songs and 8.8% of the randomly selected sample, so it is more than four times as likely to occur within the recordings that exceed six minutes in length.

⁷⁵ NeonJefe, "Stone Temple Pilots - Dead and Bloated - Kansas City," March 23, 2010, Clip from Live Concert, 6:10, <https://www.youtube.com/watch?v=tX6208LFahI>.

⁷⁶ Stephenson, *What to Listen for*, 139.

Codas

“Codas,” “outros,” and “tags” will all be counted as “codas.” It can be subjective and difficult to distinguish these terms, and differentiating these ideas is not the goal of this discussion. Codas, in general, can be the most difficult section to separate from the main body of the song. In this research a coda is most easily defined as a final section that falls outside the parameters of the established form. The music within a coda does not need to be new, but if it is not new, it should at least serve as a signal to the listener that the recording is ending. Initially, a thirty-second coda was thought to be “extended,” but after analyzing the random sample, it is clear that thirty-second codas are common within all songs. As a result, one minute codas will be considered to be “extended,” and the random sample revealed that 7.3% of songs have this feature. However, 64.9% of the analyzed long songs end with an extended coda, which translates to them being almost nine times more likely to have this characteristic.

In order to produce the data needed to compare long songs and shorter songs, it was necessary to standardize methods for defining codas. This final section tends to mark a point where the music changes directions and begins moving toward an ending. In theory, a song’s form should be complete and make formulaic sense without the coda. All music varies, but for this discussion it is important to standardize a method for defining where codas begin in order to create an unbiased comparison. That being said, there are nine common ways in which most songs end, and it is not unusual for codas to use more than one of these techniques. These nine methods will be explained in detail in order to clarify the process that was used to establish where a coda begins.

1. No Coda

An AABA form could finish with two more statements of the A section, but those final two repetitions do not necessarily create a coda. If a verse-chorus form ends with two final choruses, once again, they could simply be part of the overall form. Johnny Cash's "God's Gonna Cut You Down" (2006) follows the form and ends without a coda, which makes the structure reasonably clearcut, so some songs are more easily defined than others. Lorn's "Acid Rain" (2014) lacks a verse, which makes the layout less obvious, but the form is AA'A' and ends abruptly without a coda.

2. Terminal Climax

The most obvious codas involve a terminal climax, but sometimes even these formal structures will at first appear to be something they are not. One example of this can be found in Guns N' Roses' "Sweet Child O' Mine" (1987), which is a compound ABABA form. (see Example 35) The second bridge, or B section, is followed by another chorus, but rather than ending here, the song takes off again with another guitar solo. If someone is listening to this recording for the first time, it might be possible to hear this solo as a third bridge leading to another chorus, but instead it builds into the climatic "Where do we

“Sweet Child O’ Mine” (1987) by Guns N’ Roses											Ex. Coda/Terminal Climax					
S	Introduction				A		B	A		B	A	Extended Solo Section				
					V	Ch	Br (solo)	V	Ch	Br (solo)	Ch					
G	a (<b)	1a	2Aa	2B	2Aa	2B	2B	2Aa	2B’	2B	2B	3	4	3’		
T	0:00	0:15	0:31	0:46	1:16	1:31	1:47	2:18	2:33	3:04	3:35	4:08	4:38	5:01-5:56		

Example 35

go now?” section. The song could have ended with the third chorus, so everything that follows that chorus, including the guitar solo, is additional material and is counted as a coda.

3. New Material

An even more extreme example of a misdirection leading to a coda is in Radical Face’s “Welcome Home, Son” (2007). A listener hearing this song for the first time would most likely assume the piece is developing into a straightforward AABA form. (see Example 36) It begins with two clear A sections, and each of one of them ends with the word “home” becoming a melismatic melody, which is arguably the most memorable passage within the recording. Following the second A section there is a brief

“Welcome Home, Son” (2007) by Radical Face														“Home” Melody	“Ew...Aw”			
S	Introduction			A (“home”)				A (“home”)				B	A	Coda				
G	a	1AabV ¹ ;	b ² V ²	1AV ³ ;	b ²	∴(-b ²);	b ²	2b ² V ⁴	1AV ³ ;	b ²	∴(-b ²);	b ²	2b ²	1Babc	2b ² V ⁴	3V ⁵	4b ² dV ⁵	4b ² efV ⁵
T	0:00	0:09	0:27	0:42	0:47	1:00	1:05	1:20	1:45	1:50	2:03	2:05	2:23	2:47	3:00	3:30	3:50	4:10 - 4:47

a = wind/chimes
 b = clapping
 c = high piano
 d = midrange piano
 e = piano (♯)
 f = snare drum

*V*³ = *V*¹’ + *V*²’

a = wind/chimes *b* = clapping *c* = high piano *d* = midrange piano *e* = piano (♩) *f* = snare drum
 $V^5 = V^1 + V^2$

Example 36

twelve-second instrumental interlude that appears to be the beginning of a B section.

However, it quickly leads back to another iteration of the melismatic “home” melody, but this time it actually has lyrics. At first a listener may find themselves wondering why this sections sounds familiar, because it is strikingly different once lyrics are added. Still, this feels like a B section within an AABA form, and an obvious A section never returns.

Instead another melismatic melody on the syllable “ew,” which is reminiscent of the introduction, is brought to the forefront as the recording comes to an end. It can be argued that the twelve second interlude is a short B section or a bridge, and the final lyrical version of the “home” melody is actually an A’ section, making the song structure an AABA’ form with an introduction and a coda. It is tempting say the coda begins after the second A section, but it actually begins after the third A section, which is somewhat concealed.

A simpler example of new material being used within a coda can be found within Sixpence None The Richer’s “Melody of You” (2002). The song is 4:46 long, but the coda makes up nearly a third of the music and is dominated by strings and piano. Bush’s “Glycerine” (1995) also has a coda that uses strings, and it serves as a straightforward example of new material appearing within the coda as well.

Terminal climaxes and codas involving new material tend to be more defined than other coda techniques encountered within popular music. Many of the other coda techniques can be murky and difficult to objectively define, but as was mentioned earlier, the goal within this particular investigation was to standardize a method for differentiating a coda from the main body of the song. This objective was crucial in the effort to produce an unbiased comparison of coda lengths. The final six coda techniques will be explained in detail, but they generally serve as signals to the listener that the song is ending. They are not clearcut in every situation, but hopefully the rest of this discussion will clarify the rationale used to define coda lengths within this investigation.

4. Strophe

Ken Stephenson's idea of a strophe can also be used within a coda,⁷⁷ and it is actually one of the more common techniques used. A strophe is a short excerpt pulled from the main body of the song,⁷⁸ and a listener will generally recognize this repeated figure as a signal that the music is ending. For example, a strophe occurs at 3:28 within Cyndi Lauper's "Time After Time" (1983), and this signals that the music is coming to a close. Gotye's "Somebody That I Used To Know" (2011) has a coda at 3:31, and it actually uses two alternating strophes. One is simply "somebody," and the other is the phrase "somebody that I used to know."

5. "Ad Lib" Coda

An "Ad lib" coda strays from the original melody of a previous section and tends to sound spontaneous, which can be difficult to unintentionally perceive. The coda in Spacehog's "In the Meantime" (1996) makes use of both an ad lib section and a strophe. At 3:15 the chorus restarts again, but the rhythm is loosened and feels more syncopated, which makes it sound as if that passage is somewhat ad lib. Although it is subtle, the difference is discernible and signals an ending is approaching. In this particular case the ad lib chorus is never fully finished. Instead, the end of the chorus becomes a strophe, which is repeated throughout the rest of the coda. (see Example 37 on the next page)

Since the coda needs to fall outside the body of the song's form, it is worth noting that a final chorus can be somewhat freestyled as well. If the song needs a final chorus to complete the form and the final chorus is in an ad lib style, then that final ad lib styled

⁷⁷ Stephenson, *What to Listen for*, 139.

⁷⁸ Ibid.

“In the Meantime” (1996) by Spacehog

Section	Introduction			A		A		B	A	Extended Coda (<i>Ad Lib</i>) (Strophe @ 3:27)		
				Verse	Chorus	Verse	Chorus	Bridge	Chorus			
Groove	a (b<)	1a	2a	1a	2a	1a	2a	3	2a	4	5	
Timing	0:00	0:12	0:35	0:58	1:20	1:43	2:06	2:29	2:53	3:15	3:48	4:00

Example 37

chorus must be part of the overall form rather than the coda. An example of this happening can be heard in The Lumineers “Big Parade” (2012), and in this case, the transition into the final chorus takes on the characteristics of being ad lib when the vocals are shouted and somewhat “laid back” within the beat. These elements are still signaling the end of the recording, but with this particular situation the song actually ends with one final chorus instead of a coda. It is also worth mentioning that this ad lib characteristic is often used in combination with a strophe, but this is not always the case, which is why it is separated as its own coda technique.

6. Vocals Drop Out

Some codas simply drop the vocals out of the mix and play through a previous section using only instruments. U2’s “Where the Streets Have No Name” (1987) does this in its coda when the music returns to material from the introduction. Toto’s “Africa” (1982) constructs its fifty-second long coda from the same instrumental music that is used in the introduction and the interludes. When recordings drop the vocals it is

usually a bridge, a transition, or a coda. If no other sections return from the main body of the song, then it is a coda.

7. Texture Thins

Texture thinning can simply mean a few instruments drop out in order emphasize the vocals, but it can also be an a cappella vocal section or anything in between. When the texture thins out, the music is usually implying that the ending is approaching, but this does not necessarily mean that the song will fulfill what it is implying. Many songs thin the texture in the last A section or the final chorus, so this feature is by no means restricted to codas. For example, Foster the People's "Pumped Up Kicks" (2010) thins its texture when the chorus returns after the bridge. However, the effect is short lived, and the entire groove returns with the next statement. OneRepublic's "Feel Again" (2012) thins the texture after the bridge as well, but it is only putting emphasis on its final statement of the A section, which makes up the last 20 seconds of the recording.

Panic! At The Disco's "Nine in the Afternoon" (2008) is another song that uses this technique, and there is no doubt that this song's ending transitions into a clearly defined instrumental coda. In this case, the coda's new material evokes the mood and character of Beatles' producer George Martin. This appears to be intentional, since the video also uses imagery that alludes to the album *St. Pepper's Lonely Heart Club Band* (1967).⁷⁹ The question is whether or not the statement of the preceding chorus should be included within the coda. It has a thinned texture, which is signaling the end of the song, but in this situation it is important to look at the other choruses within the recording as well. The only

⁷⁹ Panic! At the Disco, "Nine in the Afternoon," directed by Shane Drake, February 12, 2008, music video, 3:17, <https://www.youtube.com/watch?v=yCto3PCn8wo>.

other chorus within the song actually repeats twice, and the final chorus repeats three times, the last of which uses texture thinning. If there had been four repetitions, the situation would be even more complex, but with there being an odd number of choruses, it makes sense to include the last one within the coda. The biggest question is, “Would the song still make sense had it ended without this material?” In this case, it would have, so the texture thinned chorus marks the beginning of the coda.

A simpler example of texture thinning within a coda can be found in Passenger’s “Let Her Go” (2012). Following the bridge there is chorus with full instrumentation, but it is followed by another repetition with minimal instruments. This final statement also has an ad lib quality, so being that this last chorus takes on a finalizing character within the song and is not necessary to complete the form, it can be considered to be a coda. Another short example is Fun’s “We Are Young” (2011), which has a short ten-second tag that utilizes a thinned texture and is also counted as a coda.

8. Cumulative Coda

A cumulative coda makes use of Mark Spicer’s “cumulative form,” because takes two or more sections and combines them in a moment of polyphony.⁸⁰ Osborn discusses Spicer’s “cumulative form” in order to differentiate it from the “terminal climax,” and although the cumulative ending is often climatic, it relies on “recapitulatory” material, whereas a terminal climax almost always relies on new material.⁸¹ Like other song endings, Spicer’s “cumulative form” is not restricted to codas. In fact, Spicer uses The Beatles’ “Eleanor Rigby” (1966) as an example, and it does not have a coda.⁸²

⁸⁰ Spicer, “(Ac)cumulative Form in Pop-Rock,” 58-60.

⁸¹ Osborn, “Subverting the Verse-Chorus,” 24.

⁸² Spicer, “(Ac)cumulative Form in Pop-Rock,” 59.

“This Moment” (2016) by OK Go

			A				A				B		A'			
S	Introduction			V	PrC	Ch	V	Pre	Ch	Br		Ch (Thinned)		Coda (Cumulative Climax)		
G	a	1 {a>}	2Ab	3A	4	2Ab	3B	4	2Ab	5	2Abc	bc'		2Abc'	2B	
T	0:00	0:04	0:11	0:27	0:34	0:49	1:05	1:22	1:29	1:44	2:00	2:15	2:36	2:52	3:07	3:31-3:5

a = alarm-like sound

b = nostalgic piano

c = sustained synth

Example 38

“This Moment” (2016) by OK Go uses a cumulative coda, and the piece itself is a compound AABA form. The final A section has a chorus that makes use of a thinned texture, which is a signal that the song is ending soon. (see Example 38) The full groove returns for the cumulative coda at 3:07, and in this particular case, the climatic coda combines the bridge (or B section) with the main chorus. This final section is considered a coda, because the song’s form is complete before the coda emerges.

9. Fade-Out Coda

The fade-out ending was a popular technique with producers, because it allowed the “hook” to be the last part of the song heard as the recording faded off into the distance.⁸³ The fade is usually very slow, and initially the change in volume is very subtle. It usually takes at least ten seconds for the song to fade out completely, but some songs can take thirty seconds or more. This type of coda is also the most difficult to objectively separate from the rest of the song, but it is not unusual for this method to be combined with other ending types, which at times can assist in defining a beginning of a coda.

⁸³ Tom Cole, “You Ask, We Answer: Why Do Some Songs Fade Out at the End?” *NPR*, October 7, 2010, <https://www.npr.org/sections/therecord/2010/10/07/130409256/you-ask-we-answer-why-do-some-songs-fade-out-at-the-end>.

If there is nothing else to assist in finding the coda's beginning, there are essentially three options for defining it. The first option would be to say there is no coda at all, but this does not account for the fact that the fade-out takes on a finalizing character within the song's form. The second option would be to start the coda when the fade begins, but this fails to explain the form as a whole. It would often imply that the last repetition is incomplete and jumps into a coda, but this is not what is actually happening in most songs. The third option starts the coda at the beginning of the final repetition, and this makes the most sense within the majority of formal structures.

“Stayin’ Alive” (1977) by The Bee Gees

		A				A				B	A				B	B	B	Coda	Fade-Out (Coda?)
S	Intro	V1	PrC	Ch		V2	PrC	Ch		Br	V1	PrC	Ch		Coda?				
G	1A/1B	1A	1B	1C	1D	1A	1B	1C	1D	1A/1B	1A	1B	1C	1D	1A/1B				
T	0:00	0:13	0:23	0:33	0:49	0:58	1:12	1:21	1:38	1:47	2:15	2:24	2:33	2:50	2:59	3:29	3:54	4:20	4:32-4:41

Example 39

The Bee Gees’ “Stayin’ Alive” (1977) is illustrated in Example 39, and it works well to demonstrate the challenge of analyzing this kind of ending. There could be a strong argument for the coda to begin at 2:59, but this investigation requires a consistent method for finding a coda. Placing the coda at 2:59 leaves room for subjective interpretation. What would happen if the A section had repeated two more times at 2:59 instead of the B section repeating as it does? (That would create the form AABAAA.) Would that change whether the coda begins at 2:59? What would happen if another A section was added within the B sections at the end? (That might look something like AABABABB.) Songs can use various forms similar to these, and there is no doubt that some variations are more conclusive in nature than others. However, it is very difficult to define a coda consistently

in this way, because if the music is simply repeating an entire section from the body of the song, it becomes highly subjective to say when and where that repeated section takes on the finalizing characteristic of a coda.

In the case of “Stayin’ Alive,” the first option would leave the song without a coda. The B section would repeat four times making the form AABABBBB’. The final repetition is incomplete, because it begins to fade halfway through the last B section, which is why it is marked B’. That said, labeling it B’ does not seem to fully explain what is happening. The second option would start the coda where the music begins to fade, which would make it ten seconds long. The form would be AABABBBB’ plus a coda, but once again, this does not fully explain what is happening. There is no doubt that a listener is going to hear and understand that the song is fading away, but this option also leaves the final B section unfinished. Additionally, the coda placement is blurry and would make little sense within the phrasing structure. The third option would mean that the coda is the final 21 seconds of the song, and this method accounts for the entire form, which would be AABABBBB with a coda. The final B section becomes the coda, and it fades out just before the section ends making it sound as if the song could still be carrying on somewhere off in the distance. That is the effect of this kind of ending,⁸⁴ and defining the coda this way accounts for the song’s form in a way that is objective and consistent.

Now that the process for defining long song characteristics has been explained, we can look at the data in more depth and discuss any relationships that emerged. General statistics were already mentioned, but the next section will discuss the data in greater detail in order to bring attention to any noticeable correlations.

⁸⁴ Cole, “You Ask, We Answer.”

Comparing the Data: Extended Sections and Terminal Climaxes

Once consistent methods for identifying these characteristics were established, it was possible to reliably define these traits within the selected songs. The analyses could then be turned into data, and that data could then be applied in a way that demonstrates any correlations that may be present. This section will discuss the various ways in which this data can be used to extrapolate trends within the selected song sample.

For example, Chart 2 demonstrates that extended sections were much more pervasive between 1970 and the mid-1990s, and while terminal climaxes are uncommon within shorter songs, they appear to be less popular today than they were with earlier music. Most long songs use at least one extended section, and almost 16% of them use a terminal climax. This same data is presented in Chart 3A where each recording within the random sample is sorted by year and denoted as a dot, and a four-year running average also extends throughout the timeline. It is accompanied by Chart 3B, which provides the number of extended sections discovered within each five-year period. Once the

	# of Songs	# of Songs w/Extended Sections	Minutes of Music	Total # of Extended Sections	Average # of Extended Sections Per Minute	# Terminal Climaxes
Shorter Songs (1955-1969)	90	3 (3.33%)	227.34	3	0.0132	4 (4.44%)
Shorter Songs (1970-1983)	84	32 (38.1%)	300.6	44	0.1464	4 (4.76%)
Shorter Songs (1984-1997)	84	32 (38.1%)	342.738	42	0.1225	2 (2.38%)
Shorter Songs (1998-2011)	84	12 (14.3%)	323.04	12	0.0371	1 (1.19%)
Long Songs (1955-2011)	114	95 (83.3%)	783.033	172	0.2197	18 (15.79%)

Chart 2: Extended Sections and Terminal Climaxes Over Time

information from these graphs is combined it shows that average song lengths increased only slightly throughout the 1980s, while the number of extended sections peaked at around 1980 and proceeded to decrease over the next two decades. This means that, on average, up until the early-80s extended sections were taking up a growing percentage of each song's total length, but after peaking in the 1980s this percentage drops. There is a continued increase in average song length throughout the '80s, but the use of extended sections appears to plummet. This implies that the main body of each song's form grew longer over time. Between 1980 and 1995 the average song length increased by 30 seconds, which is around 13%, and the average number of extended sections decreased

Chart 3A: Average Song Length Over Time

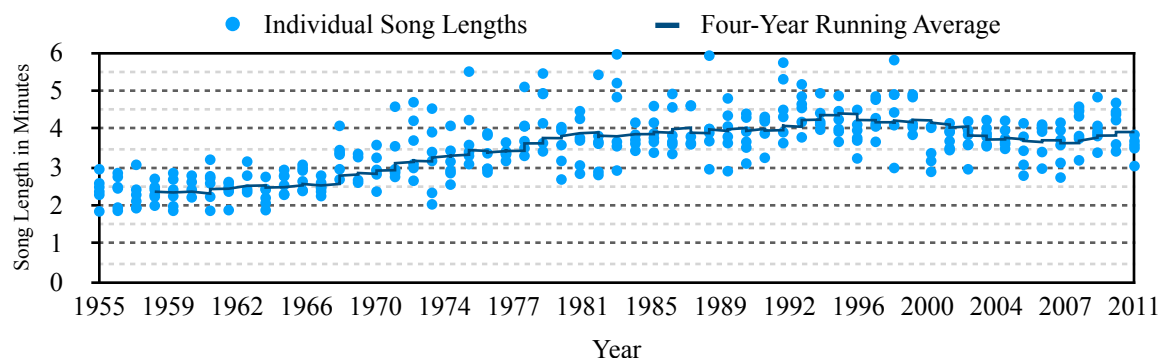


Chart 3B: Number of Extended Sections for Each Five-Year Period

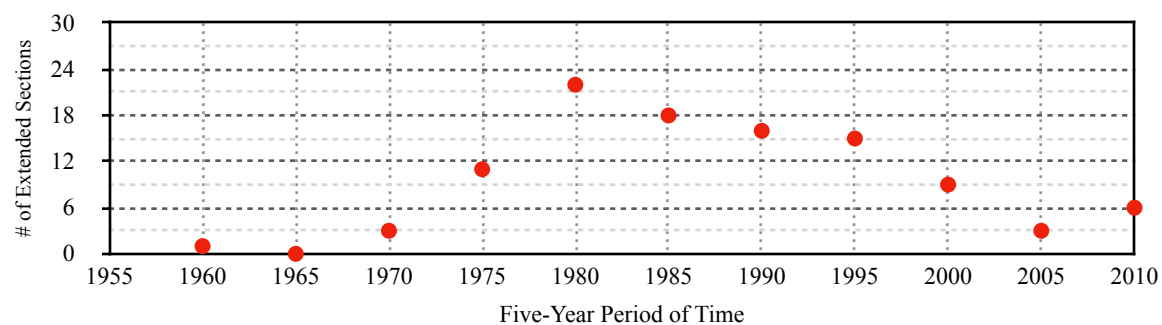
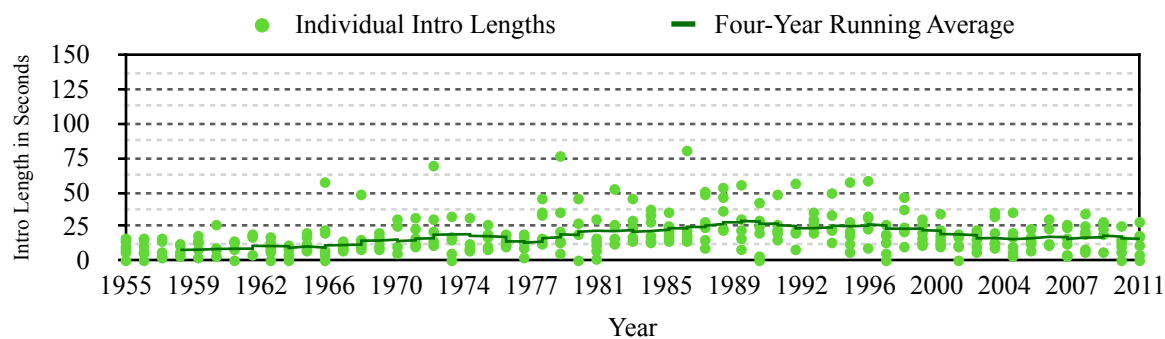
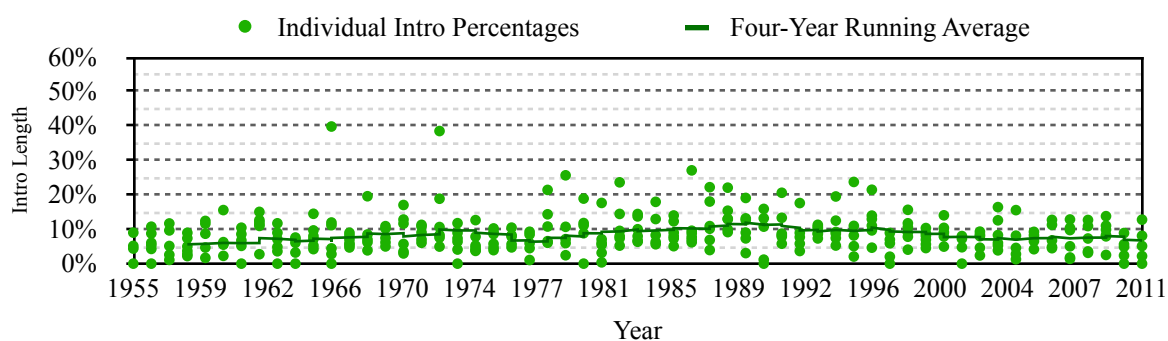
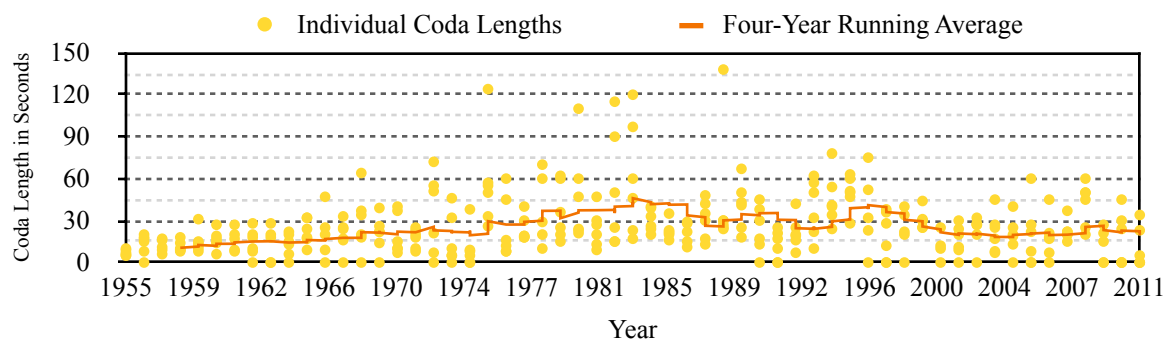
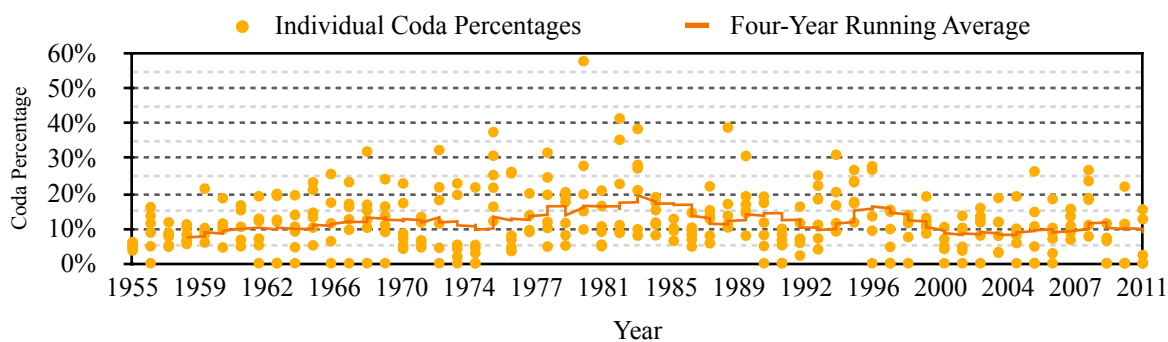


Chart 4A: Introduction Lengths Over Time**Chart 4B: Introduction Percentages Over Time****Chart 4C: Coda Lengths Over Time****Chart 4D: Coda Percentages Over Time**

by 33% during that same time period, which means that growth of the sections within the main body of the song's form had to play at least some part in this temporal increase.

Charts 4A through 4D are laid out similarly to Chart 3A in that each dot represents a particular song from the random sample, and each graph also has a four-year running average. It is necessary to see all five charts in order to fully grasp the relationships present within the data. Comparing Charts 3A and 4C shows that coda length continued to grow along side the actual song length throughout the 1970s, and Chart 4B illustrates that codas, on average, made up nearly 20% of each song when they peaked in the early 1980s. Introduction lengths slowly grew until reaching a climax in the late-80s and early-90s, which is at least visibly related to the song lengths in Chart 3A, but afterwards, both of these features decline until reaching 15-20 seconds in 2000. Between the late-1970s until 2011 most years averaged a song length between 3:45 and 4:15, so this timing only deviates by 11%-13% during that period. The coda length decreased by more than 50% during that same time, and the introduction doubled in size only to return to its original length by 2000. This is interesting, because it shows that after 1983 there is little evidence that codas or introductions affect the average song length. It also appears that the size of these sections was, to some degree, trend driven opposed to being exclusively influenced by recording length, and while this is partially true, there is still more to be gleaned.

The data in Chart 5A represents the sampled shorter songs and shows what happens as these recordings get longer, and each dot represents a specific song within this study. Songs that lack this section entirely are on the left, and introduction lengths increase as the chart moves to the right. The relative song lengths are shown in 5B, and it is easy to see that the timings fluctuate throughout the entire chart. However, a closer inspection shows that the overall trend is upward. On the far left side of the chart the songs are centered at

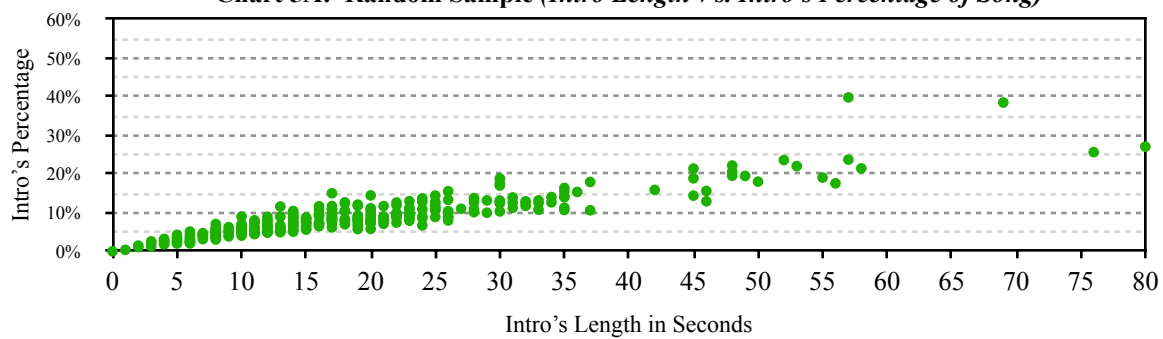
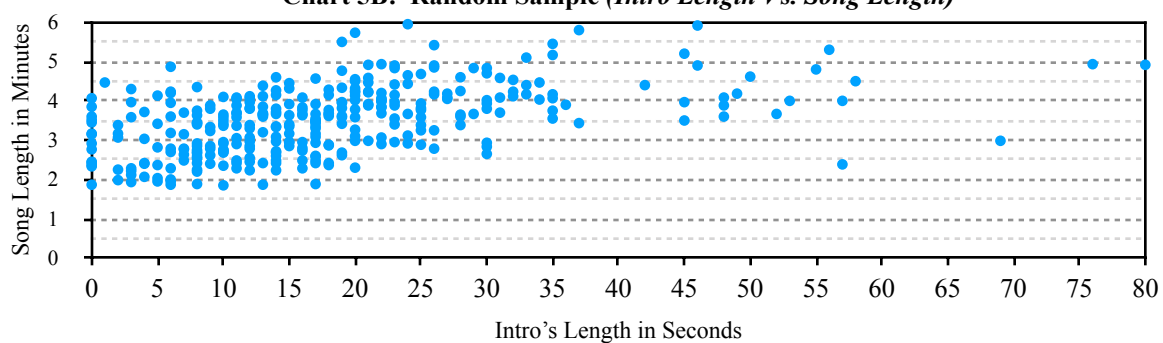
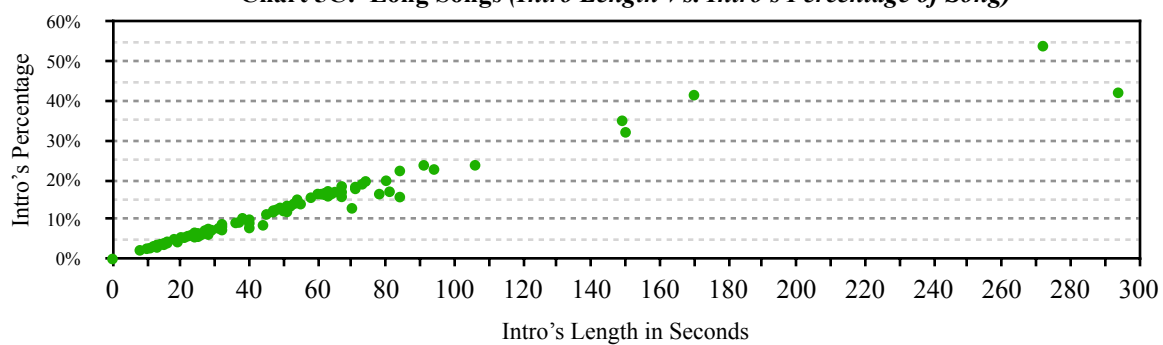
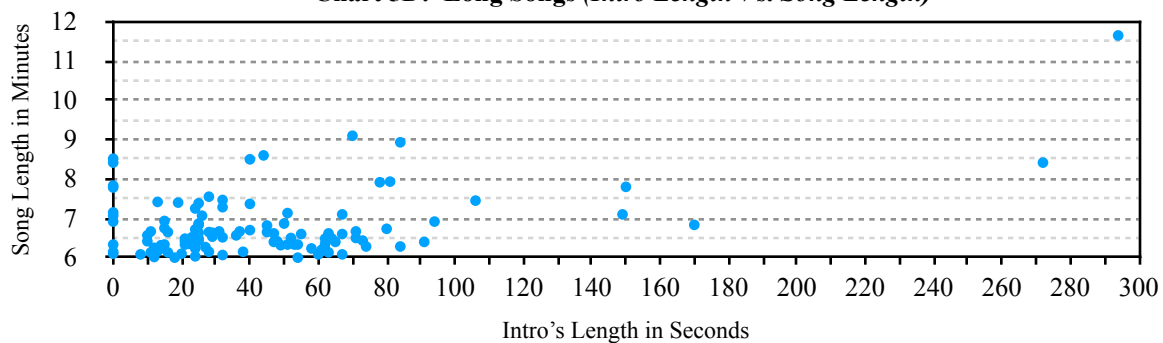
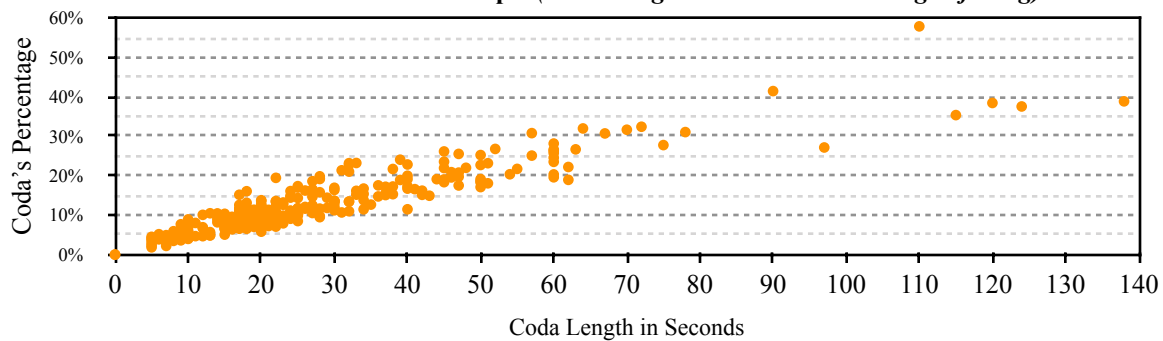
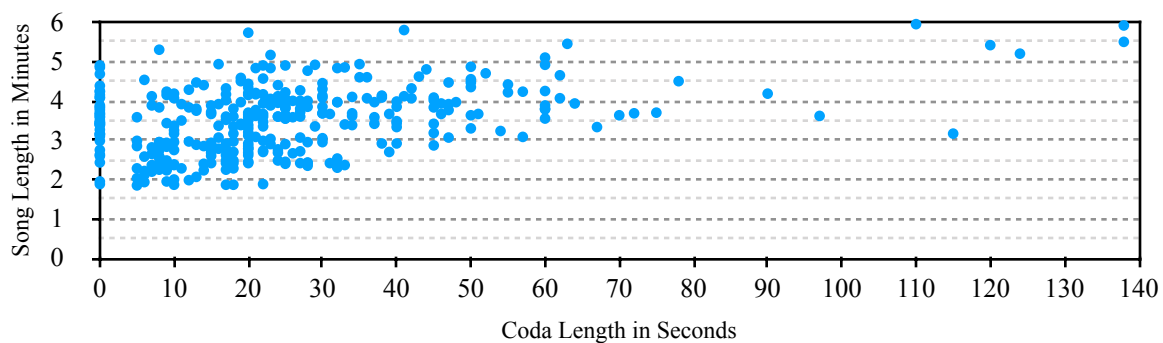
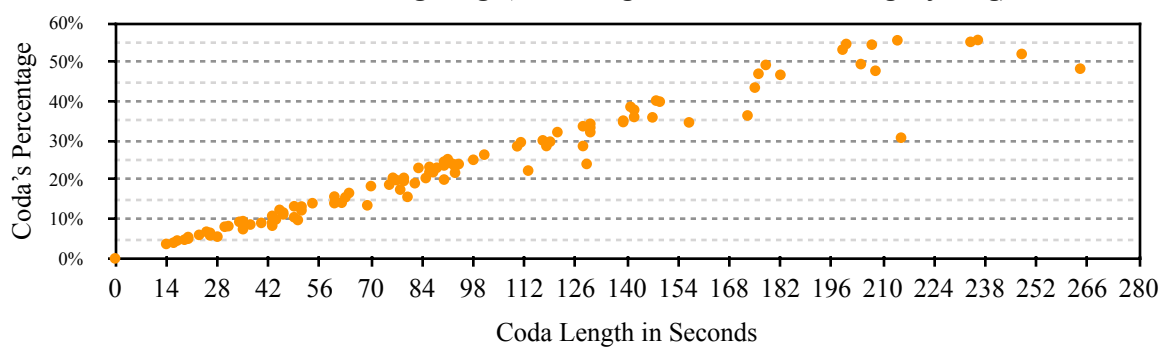
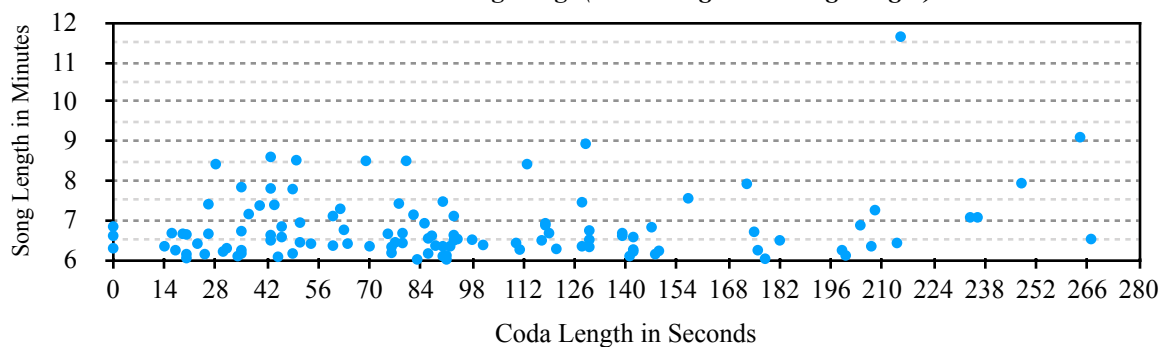
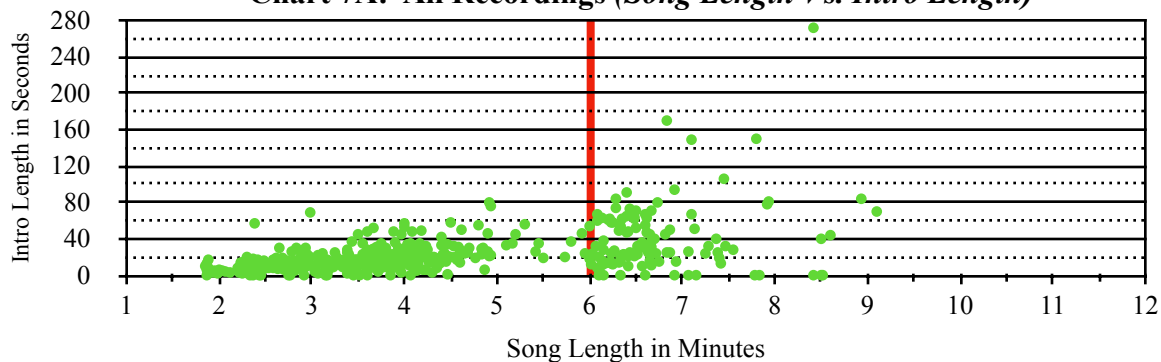
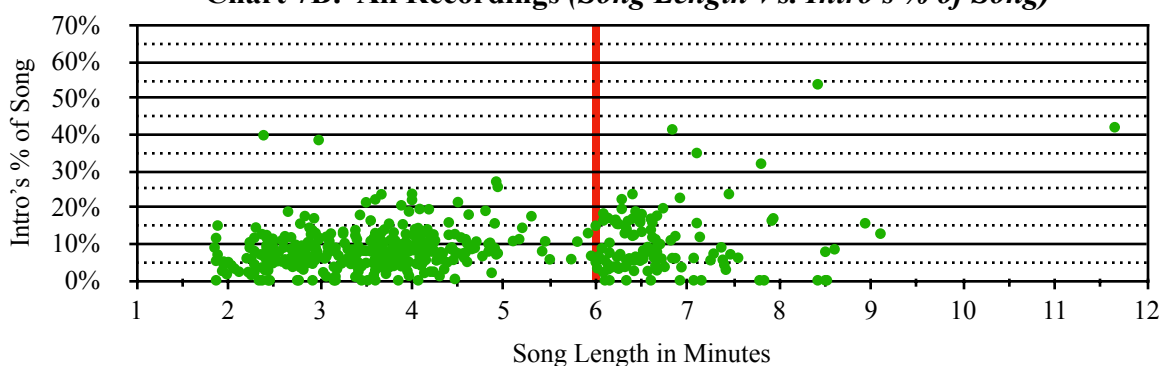
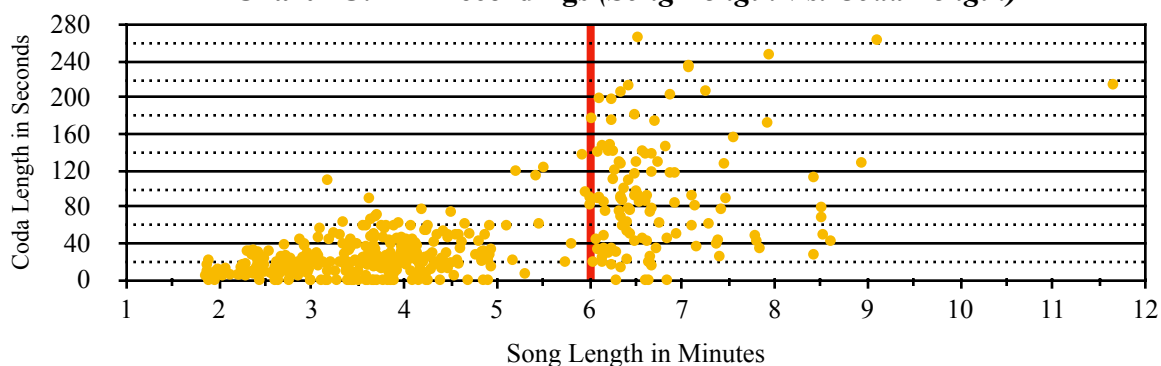
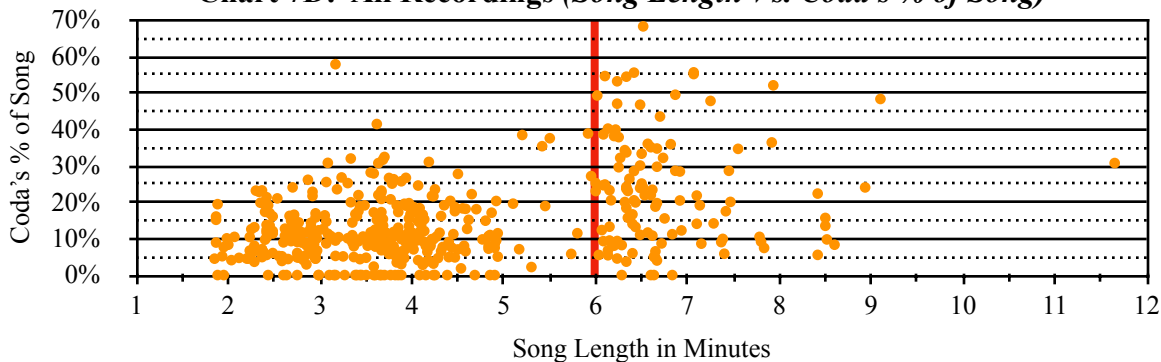
Chart 5A: Random Sample (*Intro Length Vs. Intro's Percentage of Song*)**Chart 5B: Random Sample (*Intro Length Vs. Song Length*)****Chart 5C: Long Songs (*Intro Length Vs. Intro's Percentage of Song*)****Chart 5D: Long Songs (*Intro Length Vs. Song Length*)**

Chart 6A: Random Sample (Coda Length Vs. Coda's Percentage of Song)**Chart 6B: Random Sample (Coda Length Vs. Song Length)****Chart 6C: Long Songs (Coda Length Vs. Coda's Percentage of Song)****Chart 6D: Long Songs (Coda Length Vs. Song Length)**

approximately three minutes, and when intros reach 20 seconds, they are hovering at around four minutes. As introductions get longer, their percentage of the recording grows linearly. This is due to the fact that most of the songs are between three to four minutes long, but introductions range from nothing to over one minute. Granted, longer introductions are more likely to occur within longer songs, which is visibly noticeable in 5A and 5B, but they also tend to take up a higher percentage of space, which means that other sections within the recording need to decrease proportionally in order to make room for these larger intros. The linear relationship that emerges makes this reasonably predictable in that the average intro percentage is a little less than half of its length. After 35 seconds the data becomes too sparsely populated to see exactly how far this continues, but the trend appears to diminish as the chart progresses to the right. Charts 5C and 5D have the long song data set up in the same manner as the random sample, and a similar linear appearance emerges within the introductions, except that it is more defined. The chart appears to have a steeper incline, but this is only due to the fact that it covers more area than 5A, which only goes up to 80 seconds in comparison to 5C's 300 seconds. Actually, once songs hit six minutes they appear to have a smaller incline, because intro percentages within this category average a little less than a quarter of their length, which means that the trend observed in 5A most likely does continue to diminish. Whereas a noticeable correlation was visible in 5A and 5B, the same connection is not apparent in 5C and 5D, because around 75% of the song lengths are between six and seven minutes. Interestingly, Chart 5C also visibly illustrates how much more common extended introductions are within songs over six-minutes in length. Similar to the random sample, it also demonstrates that long song introductions tend to take up a growing percentage of the music as they increase in size, but as was mentioned, this is at a slower rate of increase.

Charts 6A through 6D are setup in the same manner as 5A through 5D, but they represent the coda lengths, which also get longer as the graph moves to the right. Chart 6A and 6C reveal a linear pattern as well, except that coda lengths are slightly longer than the intros, and 6A and 6B also appear to exhibit a similar correlation to what was found in the intros of 5A and 5B. In this case, the coda relationship is not as pronounced, but it is still apparent. The long song codas in Chart 6C occur on a much larger scale, but they appear to have a much more clearly defined linear relationship as well. Still, as the codas in 6C get longer they tend to take up a larger chunk of the song as opposed to remaining proportional to the other formal structures. In this case, the coda's percentage grows at a regular and somewhat predictable amount throughout the range of the graph, and, on average, it can be calculated at around $y = 0.15x$. (y = percentage of the song, x = coda length in minutes) Of course, individual recordings can vary greatly, but this formula is accurate at predicting long song coda percentage in 79% (+/- 2%) of the music, which is interesting. This could partly be due to the fact that most long songs fall between six and seven minutes in length. (see Chart 6D) In the end, these charts all demonstrate the that larger introductions and codas take up a larger percentage of the recording instead of remaining proportional.

This can be further confirmed with Charts 7A through 7D, which combine all the previous data and sort it by song length, and the red lines mark where recordings reach six minutes within each chart. They are incredibly telling in that it is possible to visually see the difference between long songs and the random sample. It is also apparent that most of the random sample fell between two minutes and five minutes, so there is a data gap between five minutes and six minutes, which may be representative of chart-topping songs

Chart 7A: All Recordings (Song Length Vs. Intro Length)**Chart 7B: All Recordings (Song Length Vs. Intro's % of Song)****Chart 7C: All Recordings (Song Length Vs. Coda Length)****Chart 7D: All Recordings (Song Length Vs. Coda's % of Song)**

	<u>Under Six Minutes</u>	<u>Over Six Minutes</u>
Intro Average	18 Seconds	44 Seconds
Intro Standard Deviation	13 Seconds	45 Seconds
Coda Average	25 Seconds	94 Seconds
Coda Standard Deviation	21 Seconds	63 Seconds

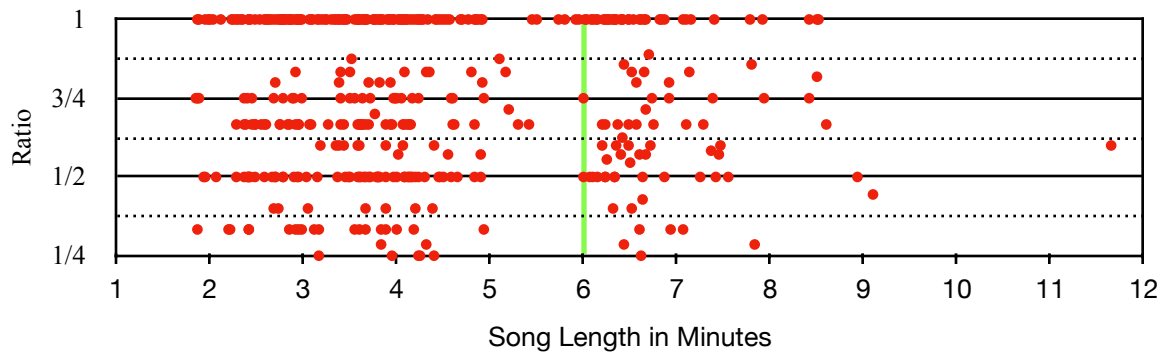
Chart 7E: Standard Deviation

in general. 7A shows that longer introductions are definitely more common once songs hit six minutes, and 7C clearly indicates just how prevalent extended codas are after crossing the same line. Comparing the lengths with the percentages also reveals correlations in that specific data points can be lined up and tracked between the charts. The standard deviation is reflected in these illustrations as well in that the data for both features becomes more widespread and heterogeneous once recordings cross the six-minute mark, and this is particularly pronounced within the codas. The standard deviations listed in Chart 7E demonstrate how chaotic the data truly is, and this is especially evident within recordings in excess of six minutes in length. It is this wide range of possibilities that makes this music incredibly interesting, and it also substantiates six minutes as an excellent starting point when looking for “long songs.”

Comparing the Data: Groove

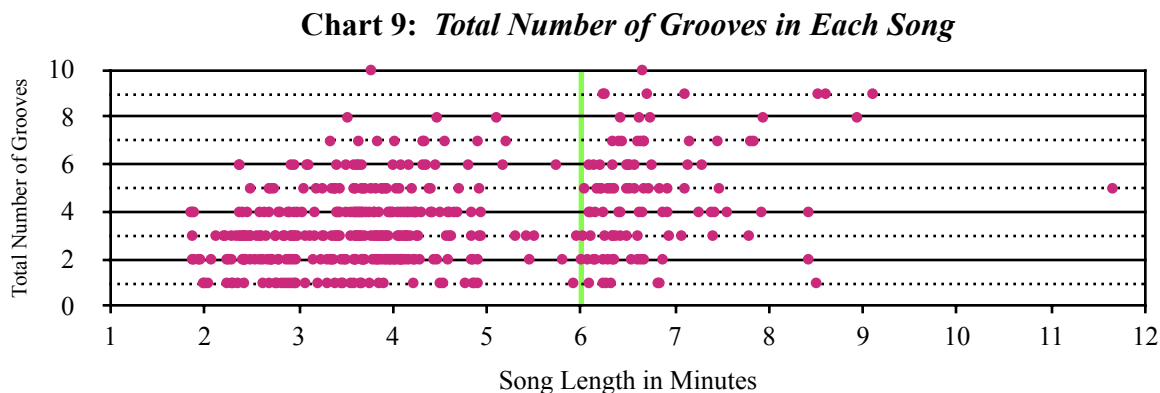
The same sample used in the previous discussion was used to produce data on the number of grooves in each recording, which was compared to song lengths, and the results were surprising. On average the random selection of songs had one groove for every minute of music, so this means that there is a one to one ratio of total grooves to minutes of music. In other words, a five-minute song will typically have around five total grooves. To clarify, this does not mean that the groove changed once every minute, because it actually changes much more than that. If a song starts with groove 1 and switches to groove 2, that would be a total of two grooves. However, if the song shifts back to groove 1, it would still only have a total of two, because there are only two grooves present within the recording. Long songs have a three to four ratio, which means an eight-minute recording, on average, will only have six grooves. As a result, they typically have more grooves than shorter recordings, but long songs also average less per minute when compared to the random sample. These relationships are much more complex than they seem, which will become more evident once this data is discussed in depth.

First of all, it will be advantageous to compare base grooves and total grooves, since differentiating them can be very subjective. These concepts depend heavily on the analyses' objective, so some recordings could be interpreted using either layers or groove variations. That being said, the aim of this study was to remain as consistent as possible and analyze each song in a similar manner, so before discussing this topic any further it is important to demonstrate the consistency of the analyses. Chart 8 illustrates the base groove to total groove ratio, and the data is sorted by song length. The point where songs reach six minutes is marked with a green line. A song's "total grooves" is the number of

Chart 8: *Base Groove to Total Groove Ratio*

grooves, including variations, so a song that consists of grooves 1A, 1B, 1C, and 1D would have one base groove, which is “base groove 1,” and four total grooves. Therefore, the ratio would be one to four ($1/4$). The highest number possible is a one to one ratio, which would mean the song had no groove variations, and when that happens the number of base grooves would be equal to the number total grooves. Some songs exceed a one to two ratio, which means there are more groove variations than actual base grooves. On average, songs in this study had approximately a three to four ratio, and Chart 8 shows that the data retained a consistently diversified pattern throughout much of the graph. Of course, there is a gap between five and six minutes, and the data begins to thin at around seven minutes.

Chart 9 demonstrates the relationship between song length and the total number of grooves, and admittedly, the results were unexpected in that it seemed that there would be a noticeable difference as song lengths increase. The data gap at five minutes is evident again, and after six minutes it is possible to see a slight increase in the number of songs presenting more than six grooves. However, this essentially translates to long songs only



averaging one or two additional grooves per song when compared to the random sample, which is surprising. Charts 10A and 10B continue to present unexpected results in that it seemed that grooves per minute of music would increase as songs get longer, but the opposite occurs. In 10A the total grooves per minute is shown to decrease as song lengths increase, and the overall pattern presented by the data points is striking. However, this is to be expected, because each of the dotted lines represents songs with a specific amount of grooves. For instance, the bottom line consists of songs that only present one groove throughout the entire recording, so at two minutes, which is where the line begins, this equates to 0.5 grooves per minute of music. Every dot on the line represents another song with only one groove, so by the time the line reaches four minutes there are only 0.25 grooves per minute. The next line up would contain two total grooves, so at two minutes it would have one groove per minute. The one above that has three grooves and presents 1.5 grooves per minute, and each subsequent line continues this trend, which can also be observed within the base grooves in Chart 10B. However, it is also possible to see that this pattern converges and somewhat stabilizes at around six minutes. At that point songs are averaging approximately one base groove for every two minutes of music in Chart 10B,

and there are approximately three grooves, in total, for every four minutes of music in 10A.

In the end, long songs still have more grooves, and it is possible that shorter songs utilizing unusually large amounts of grooves could potentially influence a listener's perception.

This hypothesis would be tested by the experiment in the next section.

Chart 10A: Total Number of Grooves per Minute of Music

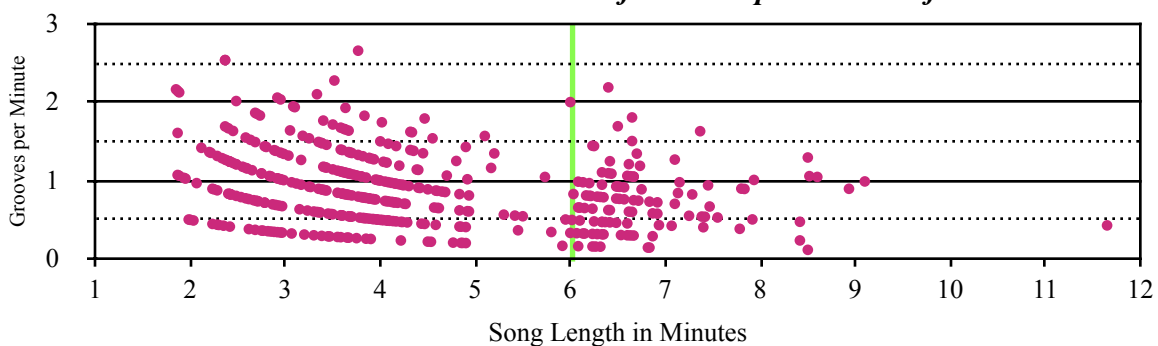
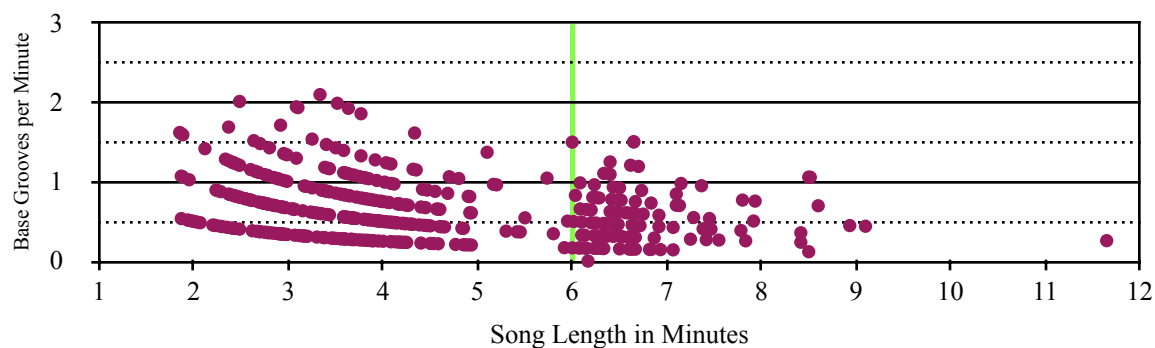


Chart 10B: Base Grooves per Minute of Music



The Experiment: An Overview

I ran an experiment to see what effect, if any, long song characteristics have on the human perception of duration. The experiment, titled “Perception and Music,” sought to investigate whether or not long song characteristics influence the human perception of time. There have been other studies that are relevant and should be mentioned, and those studies will be briefly touched upon in this section as well.

The discussion will begin by delving into the experiment that was run for this particular investigation. The basic idea is that shorter songs that share similarities with longer songs might be perceived as being lengthier than they actually are. In order to test the hypothesis, an experiment was carried out in-person at Southwestern Christian University’s Music Building. It took place in a classroom setting, and the songs were played using a sound system, which allowed multiple subjects to participate in each session.

The experiment was advertised via social media and on the campus at Southwestern Christian University via flyers. I also sent out emails to faculty, staff, and students. The participants ended up being a fairly small group, but they had diverse backgrounds. Faculty members, music majors, non-music majors, and individuals with no association to the college all participated. Some participants learned about the study from a friend, and they wanted to take part in the research as well. There were fifteen participants, and a third of them were college students. Seven of the participants were between the ages of 45 and 60, which means that approximately half of them were between the ages of 18 and 44.

They all listened to four songs that are two to five minutes in length. The songs were separated into two categories, and the means of these two groups were compared. One contained long song characteristics, and the other did not. Each participant heard

songs from both categories, and a dependent-t test was used to produce data that facilitated a comparison in the hopes of uncovering any apparent correlations concerning the perception of time. (The songs are listed on page 116.)

The volunteers were asked to fill out a survey about each song as the music played, and one of the questions had the participants estimate how much time had passed during that particular song. The results were compared in order to see if the long song techniques and structures influenced the listener's perception of duration. Everyone was asked to turn off cell phones and remove watches, and there were no clocks in the room. The survey also asked a number of other questions, so that the participants did not actually realize the main point of the experiment was to estimate the passage of time. (The following questions were included: How well do you know this song? How well do you like this song? This song fits best into which of the following genres? What instruments do you hear? How would you describe this song? How sure are you of the song's length? The complete survey can be found in Appendix F.) Incomplete disclosure was necessary in order to prevent participants from attempting to "time" songs, and if participants knew the main objective was to measure the perception of duration, it was possible listeners might have unconsciously aided or hindered the results. During the disclosure process they were informed that the purpose of the research was being withheld until the session was complete, and at the completion of each session, participants were debriefed and had another opportunity to deny consent. There were also some preliminary questions which asked for age, gender, country or state of origin, time of day, background as a musician, music preference, level of hunger, and current level of stress. These questions allowed for a number of secondary correlations to be established or ruled out.

There have been studies concerned with finding a connection between background music and time perception. For instance, Nicole Bailey and Charles S. Areni ran an experiment where participants spent 20 minutes completing word-search puzzles while background music played. The music consisted of either eight short songs or four long songs. In the end, individuals hearing eight songs had an exaggerated sense of duration, and participants listening to only four songs felt that less time had transpired. It is possible that individuals were unconsciously using a typical song length of three to four minutes to estimate time, but there is no evidence they did this consciously.⁸⁵ Similarly, Emily R. Waldum and Mark A. McDaniel sought to find a connection between background music and time-based prospective memory. Their research involved an experiment where participants answered trivia questions for 11.02 minutes. Some individuals were asked to complete these questions with popular music in the background, but the control group completed them in silence. Upon completing the questions each person was asked to estimate the amount of time that had lapsed.⁸⁶ Essentially, they found that both the age of the participants and the length of the songs influenced how accurate individuals were at estimating how much time had passed.⁸⁷ Bailey and Areni propose that these relationships could possibly be explained by Poynter's "segmentation-change model," which is an idea that duration is "based on remembering the sequence of events and inferring the duration of each one."⁸⁸ In this case, the events would be songs. The "Perception and Music" experiment, which was carried out for this investigation, sought to see if events within the

⁸⁵ Nicole Bailey and Charles S. Areni, "Background Music as a Quasi Clock in Retrospective Duration Judgments," *Perceptual and Motor Skills* 102, no. 2 (April 2006): 442.

⁸⁶ Mark A. McDaniel and Emily R. Waldum, "Why Are You Late? Investigating the Role of Time Management in Time-Based Prospective Memory," *Journal of Experimental Psychology: General* 145, No. 8 (August 2016): 1052-1053.

⁸⁷ McDaniel and Waldum, "Time-Based Perspective Memory," 1053-1055.

⁸⁸ Bailey and Areni, "Retrospective Duration Judgments," 436.

songs themselves can influence our perception of time, and in the case of this research, the events are long song characteristics and techniques.

Time estimations can be taken from two “perspectives.” A prospective time estimation is concerned with approximating the amount of time that is currently taking place, and a retrospective time estimation is interested in approximating a duration of time that already took place. With the later it is important that the individual was not aware of the estimation during the actual span of time that is being estimated.⁸⁹ The goal of the long song experiment in this study was for participants to make retrospective time estimations. That being said, each person had the questionnaire available throughout each song’s playing, so it was possible for them to see the question concerning the song’s length. There were other questions to answer as well, which hopefully distracted participants from counting or tapping in order to figure timings. That being said, by the second song they were definitely aware that at least one of the questions required them to estimate a duration of time that was taking place at that particular moment. As a result, it is possible that participants ended up making prospective time estimations as the songs played rather than retrospective time estimations once the songs were complete.

⁸⁹ Marc Wittmann, “The Inner Experience of Time,” *Philosophical Transactions: Biological Sciences* 364, no. 1525 (2009): 1956.

Song Categories Used within the Experiment

Song	Timing	Long Song Characteristics
“Little Secrets” (2008) by Passion Pit	3:56	Varied Groove, Extended Introduction, Extend Coda
“Intergalactic” (1997) by Beastie Boys	3:30	Varied Groove
“Roll Away Your Stone” (2009) by Mumford and	3:50	Varied Groove
“Little House” (2005) by The Fray	2:30	Varied Groove
“Pompeii” (2012) by Bastille	3:32	Varied Groove
“Immigrant Song” (1970) by Led Zeppelin	2:27	Varied Timbre
“Supremacy” (2013) by Muse	4:55	Extended Solo Section, Extended Intro
“Cats in the Cradle” (1974) by Harry Chaplin	3:45	Narrative
“2+2=5 (The Lukewarm)” (2003) by Radiohead	3:19	Collective Song Form, Varied Groove
“Long Distance Runaround” (1972) by Yes	3:30	Extended Introduction
“Wish You Were Here” (2001) by Incubus	3:30	Extended Introduction
“Panama” (1984) by Van Halen	3:33	Extended Introduction
“Time Moves Slow” (2016) by badbadnotgood	4:34	Extended Introduction, Extended Coda
“Sugar” (2015) by Robin Schulz	3:41	Extended Introduction
“Pumped Up Kicks” (2010) by Foster the People	4:12	Extended Introduction

Category #1

“I’m Gonna Be (500 Miles)” (1993) by The	3:30
“Hey There Delilah” (2006) by The Plain White Ts	3:50
“Somebody That I Used To Know” (2011) by Gotye	4:00
“Wonderful Tonight” (1977) by Eric Clapton	3:40
“Beautiful Day” (2000) by U2	4:00
“Feel It Still” (2017) by Portugal. The Man.	2:50

Category #2

The Results of the Experiment

The experiment was small in size and best serves as a preliminary study, but it will hopefully encourage further research in this area. There were fifteen participants, which is a enough to see general trends, but more studies need to be run in order to establish definitive correlations. Before looking at the findings, it is important to rule out other variables that could have influenced the results. The preliminary questions and other questions unrelated to each song's timing did not provide any clear correlations. Familiarity with the songs seemed to have no impact on the perception of time, which confirms Waldum's and McDaniel's findings.⁹⁰ The same study by Waldum and McDaniel also revealed a connection between age and time perception.⁹¹ However, a study by Marc Wittmann and Sandra Lehnhoff showed that age did not have a significant influence on short term time perception,⁹² and this investigation reflected similar results. It seems possible that the opinion of a song could potentially influence the perception of song length, but this particular study did not provide evidence for that either. There are other studies that provide evidence that stress influences how we view time,⁹³ so it was necessary to rule out factors such as hunger and stress. Generally speaking, the participants in this study were not under extreme stress nor were they extremely bothered by the music. Marc Wittmann found that anytime a situation arises where there is an "increased attention" on time, people tend to overestimate the length of time that has passed "when judging intervals in the range of milliseconds to seconds and minutes."⁹⁴

⁹⁰ McDaniel and Waldum, "Time-Based Prospective Memory," 1054.

⁹¹ Ibid., 1053-1055.

⁹² Marc Wittmann and Sandra Lehnhoff, "Age Effects in Perception of Time," *Psychological Reports* 97, no. 3 (December 2005): 927.

⁹³ Wittmann, "The Inner Experience of Time," 1960.

⁹⁴ Ibid., 1960-1961.

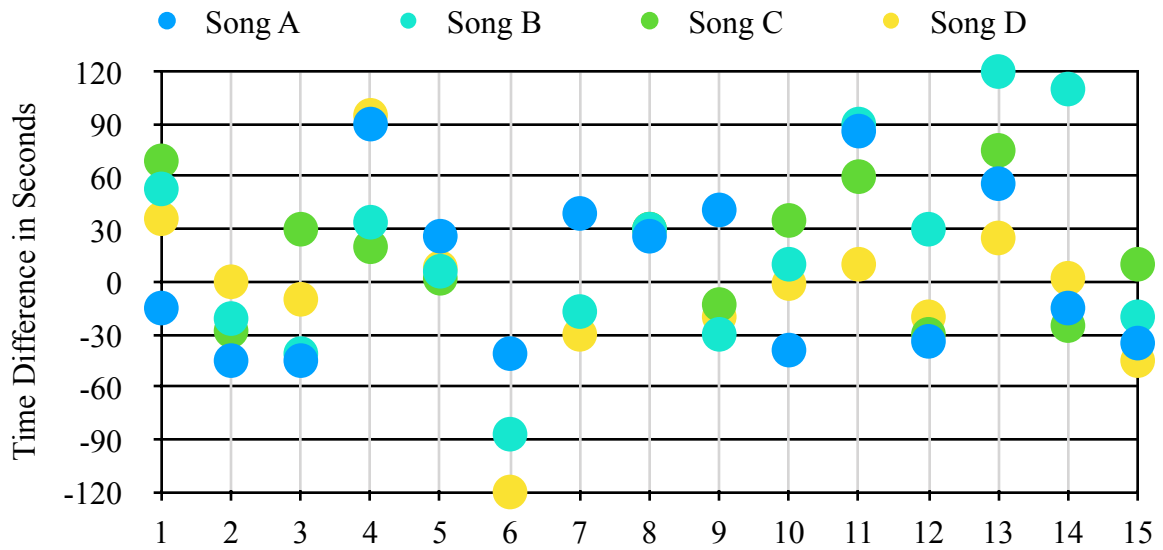


Chart 11A: Participant's Time Discrepancies as Compared to Actual Timings

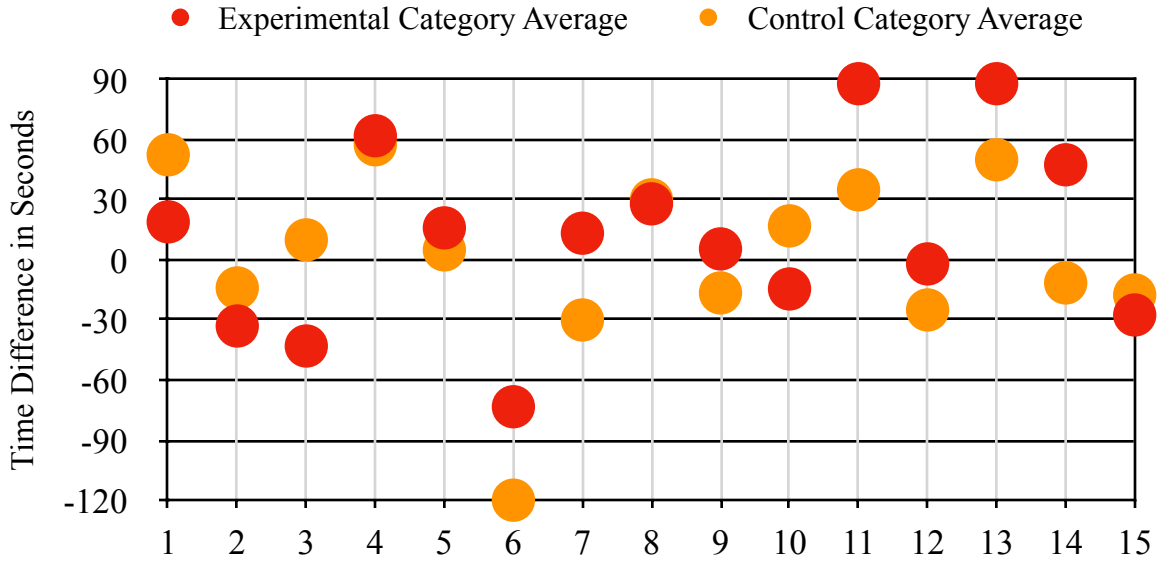


Chart 11B: Participant's Control and Experimental Time Discrepancies

Needless to say, there are numerous variables at play when estimating time. It seems as though some individuals were better at estimating time than others, and there could have been a number of unknown factors at play at the time of their participation in the experiment. However, it should be stressed that there is an overall consistency for how the participants experienced time, so it seems as though time perception was relative for each person. As a result, it is important to view this data from a number of angles. Chart 11A depicts the difference between the time estimation and the actual song length, and in doing so it illustrates the consistent manner in which each individual perceived the durations. The x-axis represents each individual participant, and the y-axis is the difference between that specific participant's time approximation and the actual duration of the song. A negative number means the estimate was under, and a positive number means it was over. The chart shows that a person that was better at estimating song lengths tended to have the time estimations clumped closer together within 30-60 seconds of the actual time. However, individuals with time estimations that were further off from the actual timing tended to have results that were much more widespread. It is also possible to see that some individuals consistently overestimated or underestimated song lengths, but either way, the perception of time was consistent. Chart 11B demonstrates the overall correlation by comparing the experimental category to the control category, and it is constructed in the same manner as 11A.

The goal of this time perception experiment was not to see how a population interprets time. Instead, the aim was to see if there is a noticeable difference in how individuals perceive song lengths when specific characteristics are present, so the control category and the experimental category needed to be compared and tabulated for each

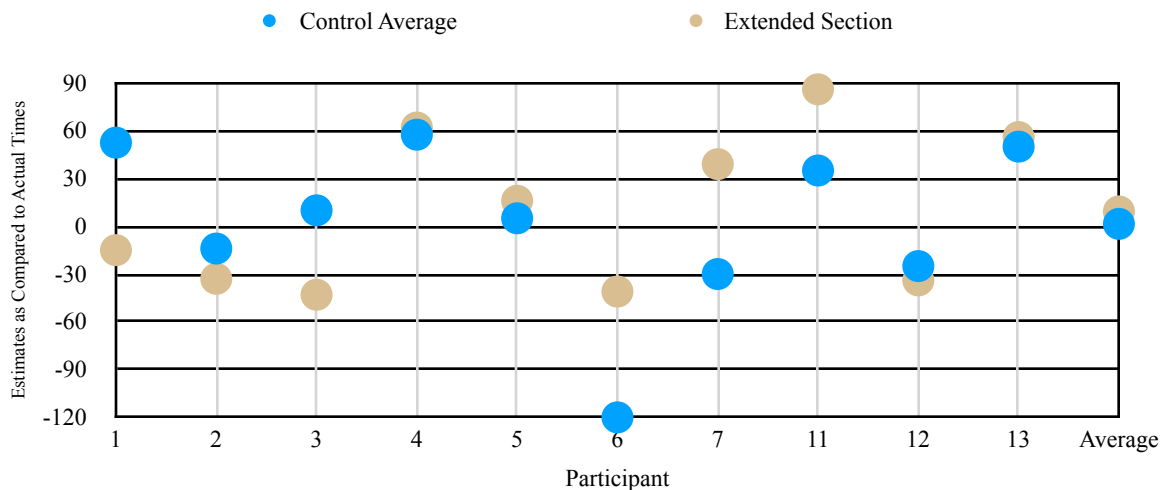


Chart 12A: Participant's Time Discrepancies as Compared to Actual Timings

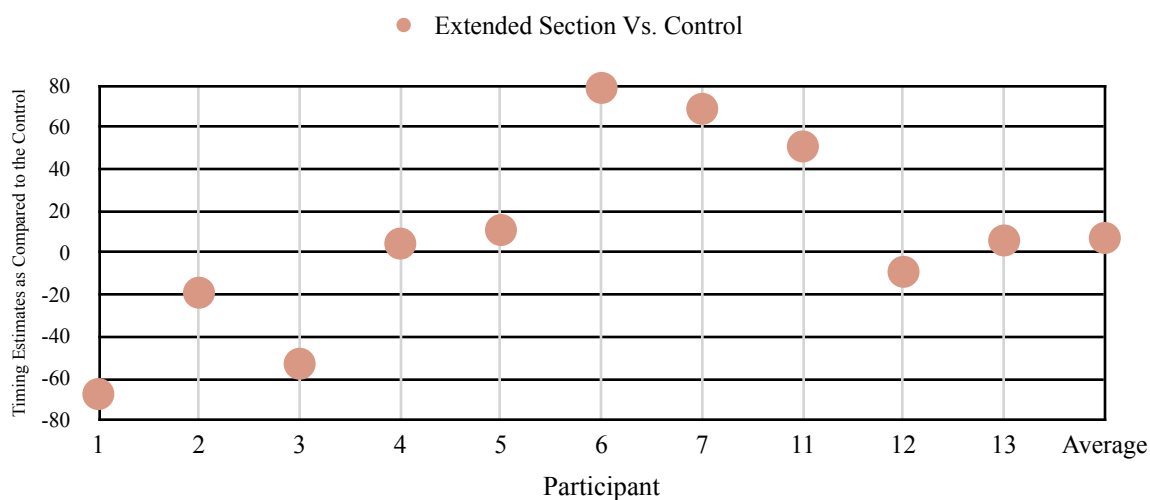


Chart 12B: Participant's Perception of Extended Sections as Compared to Control

person. Then, all the participants could be compared based on the differences in their individual estimations in each category, which is relative to that particular person. This same data could also be used to compare individual songs and long song characteristics.

For instance, one participant's control song average was 35 seconds more than the actual song length, and the varied groove song was 90 seconds over the actual song length. The difference is 55 seconds, and this is the information that is actually compared between

each person. Another participant was 120 seconds under the actual timing on the control group and 92 seconds under when varied groove was present. As a result, the varied groove was still 28 seconds over when compared to that individual's perception of the control category.

There were not enough participants to compare individual extended sections, so for this study they were all combined into one characteristic. Doing this meant that a total of 10 participants listened to this broad category, and a larger study could look more closely at introductions, codas, and solo sections. On average, songs with extended sections were overestimated by around nine seconds, which is negligible considering the songs were 240 to 300 seconds long. Charts 12A and 12B demonstrate where the data points fell. Four participants' approximations were very consistent when compared to the control songs. Three participants underestimated the songs with extended sections when compared to the control, and three overestimated the lengths by 50 seconds or more. Chart 12A shows that there is a consistent pattern as to where the data points fall, and this could lead to speculation that the participants at least had a consistent perception of time rather than random guesswork.

The results are diverse, which is intriguing. The four individuals who were incredibly consistent are interesting in themselves, because two of them invariably overestimated the timings by 60 seconds. Furthermore, the other six participants whose approximations were less consistent could have been influenced by any number of factors. For instance, a person who underestimates the length could have been more focused on the main body of the song, which would be shortened by the longer extended sections, and someone who overestimated the length may have been focused on the extended sections themselves. Although the charts appear to demonstrate general relationships that exist for

each individual, the goal of the study was to see if long song characteristics influence the human perception of song length, and for this particular characteristic the data is inconclusive. It does show that some people are not influenced at all, but more data is necessary to establish what is happening to the other six individuals.

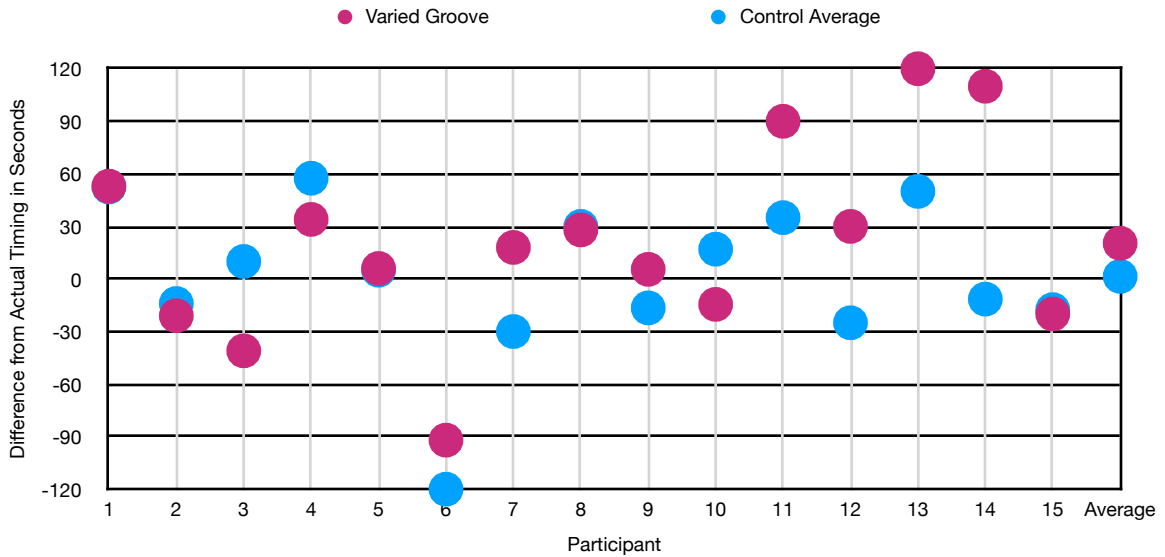


Chart 13A: Participant's Time Discrepancies as Compared to Actual Timings

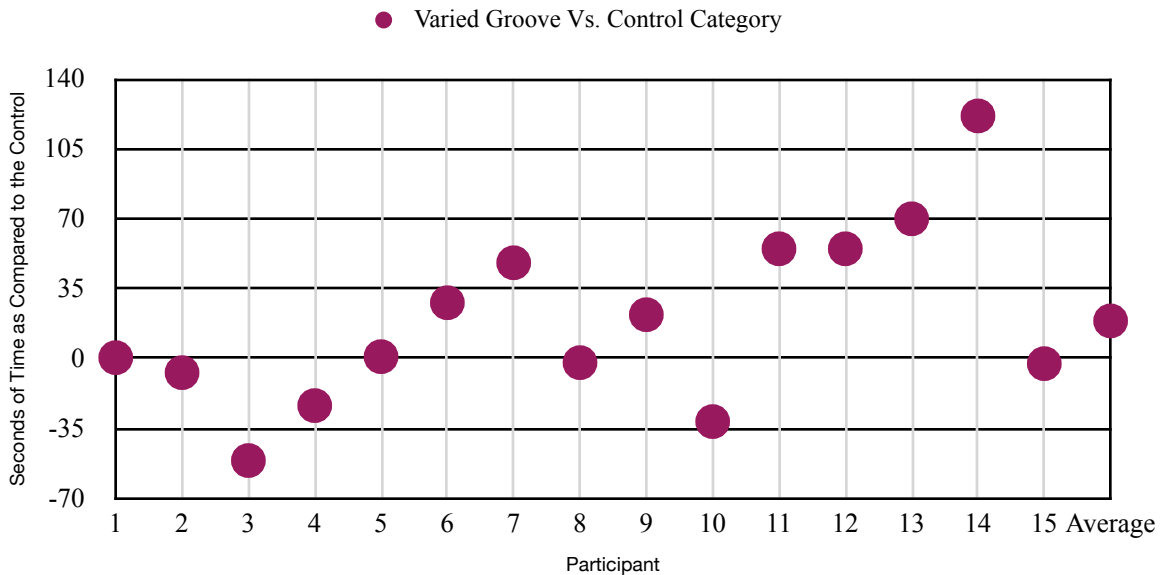


Chart 13B: Participant's Perception of Varied Groove as Compared to Control

All fifteen participants listened to at least one song containing a varied groove. On average, each person overestimated these songs by around 19 seconds as compared to the control, and this discrepancy is enough to at least warrant further research. Charts 13A and 13B show data for each participant. Five of the them showed no influence when compared to the control, which equates to 33%. With the extended sections around 40% showed no influence, but it is worth noting that these individuals were not the same participants. Only participant number 5 remained somewhat consistent while both of these long song characteristics were in play. Chart 13A also displays a general quality of invariability for each individual. It is not an exact correlation, but it does seem to demonstrate that each person consistently overestimated timings, underestimated timings, or accurately estimated timings. Seven individuals overestimated as compared to the control songs, while three underestimated. Both were substantial in that they were by approximately 30 seconds or more when compared to the control.

Discussion

The results of this preliminary study at least warrant further investigation. Additional research could be much more effective by writing music for the experiment, since customized music would allow for better control over the variables. It is not unusual for more than one of these characteristics to occur within any given song. Therefore, there are often multiple variables at play, but if the music is written specifically for this research, those variables could be controlled. This would also allow the pieces to be shortened permitting each participant to listen to more examples. Although there is not yet conclusive evidence for any connections, general trends could be emerging, but more research is necessary. Both, extended sections and groove, showed a slight overall average

influence on song length estimation. A closer inspection reveals that the influence of these two factors appears to be very pronounced with certain individuals, but there is no difference at all observed in a number of other participants. There is good reason to suspect that these characteristics do influence our perception of time, and the most logical reasoning behind this idea is summed up by Wittmann and Lehnhoff:

In retrospective time estimation, the duration of a time span that has already elapsed has to be estimated. In this case, people estimate duration from the amount of processed and stored information. The more events that have been stored in memory during a time span, the longer the duration experienced in retrospect. Time intervals with many contextual changes are, therefore, experienced as being subjectively longer than intervals filled with fewer events (Ornstein, 1969; Block, 1990).⁹⁵

Extended sections and groove changes could very well be considered to be “events that have been stored in memory during a time span.”⁹⁶ Therefore, it is logical to at least entertain the thought that these factors could play a part in a person’s perception of song length.

⁹⁵ Wittmann and Lehnhoff, “Age Effects in Perception of Time,” 922.

⁹⁶ Ibid.

Chapter Four: Dissecting a Groove

Thus far, this dissertation has been primarily concerned with using groove as a tool for dissecting songs, and in this final chapter the discussion will turn to groove itself. We are not always consciously aware of it, but it impacts us in ways that are truly bizarre. This mystery of how groove affects us will be discussed early in the chapter, and using relevant literature this section will attempt to pull together a number of ideas from various sources in order to better understand what it takes to build a groove. Timbre, meter, accents, melody, and harmony can all impact this quality within music, and they are all touched upon. The chapter also examines hypermeter and repetition as they relate to this topic.

The Mystery of Groove

I was in the middle of researching this topic when my daughter, Addi, was born. As a result, I spent a great deal of time working on this dissertation with a baby in my lap. Sometimes she slept, and sometimes she just sat quietly and listened to music with me. She was around nine months old when we were at my parents' house for the holidays, and at that time she had just started walking. There was music playing in the background, and Addi pulled herself up on the couch and began bobbing up and down. She had only been walking for a few days at this point, and we definitely had not consciously taught her to dance. I grabbed my phone and began filming this scene, and around twenty seconds into the video the song changed. As a result, the beat, or groove, changed as well, which influenced Addi's movement in the video. She was not moving precisely with the beat, but her movements slowed down and sped up demonstrating that she could at least discriminate a difference in the music.

As a music educator, who has taught elementary music in the past, I know that the concept of “beat” can be learned, because I have taught it to kindergarteners. There is no doubt that our notion of “beat” is influenced by our perception of strong and weak pulses, which is also something that is taught in kindergarten. The strength of the beat, or pulse, is best described by Fred Lerdahl and Ray Jackendoff in their discussion on “grouping,” which is examined in detail within the section titled “The Essence of Groove.”⁹⁷ For now it is important to understand that when we hear a pulse that sounds like the first beat of a measure, we are actually perceiving a hierarchy within the beats themselves, because some of them are stronger than others. Once this realization is made, it is possible to take the next step and at least wonder how this perception influences our ability to “feel” groove.

If we look back to the video of my nine-month old daughter moving to music, there are questions to be asked. There is no doubt that Addi had been exposed to music her entire life. There have been many times that my wife and I would sing to her and bob up and down in order to sooth her, or we would hold her while music was playing and move to the beat. It seems that her exposure to these events at least gave her some kind of perception of beat or groove, even if that perception was very primitive. How did her concept of beat, however developed it was at that time, influence the way she experienced a groove? The true answer is that there is no real way to know. This is similar to wondering if everyone sees the color red exactly the same way, but in reality it is only possible to determine whether or not a person can discriminate a color. We can never see exactly what that person is seeing and realistically compare it to another person’s observations.

⁹⁷ Fred Lerdahl and Ray Jackendoff, “Introduction to Rhythmic Structure,” in *A Generative Theory of Tonal Music* (Cambridge, MA: MIT Press, 1983), 18, 25-28.

I say this to explain that our understanding of beat may or may not impact our perception of groove. Recognizing pulses within music does not matter as much as the ability to discriminate between two grooves, so the latter does not necessarily require the former. Over the years I have had older students who struggled with the concept of beat, but this struggle did not define them as musicians. Some of them were very capable of performing at high levels of musicality, and they all had one thing in common; they loved music. I cannot say with certainty that they could or could not discriminate one groove from another, but I find it difficult to believe that they could not. One thing I did learn from these students is that whether or not a person has a clear perception of beat does not appear to impact the ability to at least appreciate a groove.

Along the same lines, Guy Madison ran an experiment in order to establish groove as an inherent quality that exists on a spectrum within music.⁹⁸ Similar to the concepts of “happy” and “sad,” or “calm” and “tense,” or “simple” and “complex,” one’s awareness of a groove can be situated on a continuum from “groove” to “not a groove,” which creates a gray area in between both of these extremes.⁹⁹ It seems that some music “grooves” harder than other music, and within his study Madison defined the idea of groove as “wanting to move some part of the body in relation to some aspect of the sound pattern.”¹⁰⁰ This is quite different from Feld’s definition,¹⁰¹ but it is worth noting, considering this is the definition Madison’s study used. Participants in his study were shown fourteen terms (“Bouncing,” “Driving,” “Flowing,” “Happy,” “Intensive,” “Calm,” “Groove,” “Rapid,” “Rocking,” “Simple,” “Solemn,” “Steady,” “Having Swing,” and “Walking”), and they

⁹⁸ Madison, Guy, “Experiencing Groove Induced by Music: Consistency and Phenomenology,” in *Music Perception: An Interdisciplinary Journal* 24, no. 2 (2006): 201.

⁹⁹ Ibid., 201, 204.

¹⁰⁰ Ibid., 201.

¹⁰¹ Feld, “Getting Into the Kaluli Groove,” 76.

listened to short excerpts of music and were asked to assert, on a scale of zero to ten, how “appropriate” the word was at describing each one. Madison used this data to compare these terms and see which ones were related to each other, and the study demonstrated that the concepts of “driving” and “intensive” were closely associated with the idea of groove, which increased and decreased in “appropriateness” in relation to the other two terms. The ideas of “rapid” and “bouncing” also appeared to have a slight connection to groove.¹⁰² Overall, he found that “groove seems to be no more difficult to discriminate and rate than other dimensions found for music experience in music research.”¹⁰³

Madison goes on to explain that the experiment did not associate any relationship between groove and “any of the rhythmic or movement qualities.”¹⁰⁴ It seems that the perception of groove is qualitative in nature, since our impression of music will be largely based on individual perspective. Vijay Iyer describes this quality “as an isochronous pulse that is established collectively by an interlocking composite of rhythmic entities,”¹⁰⁵ which is very similar to Feld’s definition. Iyer states that it causes us to hear “a human, steady pulse” within music, but he also claims that musicians performing “groove-based music” can exhibit “microscopic sensitivity to musical timing.”¹⁰⁶ In other words, there seems to be varying degrees of awareness when it comes to these “micropulses.” Iyer goes on to explain that musicians can also have their own “feel” for this “isochronous pulse,” which means everyone relates to this feature within music differently.¹⁰⁷ This means that my

¹⁰² Madison, “Experiencing Groove,” 206.

¹⁰³ Ibid., 205.

¹⁰⁴ Ibid., 206.

¹⁰⁵ Vijay S. Iyer, “Microstructures of Feel, Macrostructures of Sound: Embodied Cognition in West African and African-American Musics,” Ph.D. diss., University of California, Berkeley, 1998, 15.

¹⁰⁶ Ibid., 106.

¹⁰⁷ Iyer, “Microstructures of Feel, Macrostructures of Sound,” 106-107.

daughter, Addi, might have appreciated the groove conveyed through music, but a nine-month old's understanding of this concept is going to be very different from an adult's. An adult might appreciate the quality of groove at a level that Addi did not, but it is possible that she might simply experience it in a way that is different. The subjective nature of deciphering this quality makes it difficult to discuss with certainty. That is to say, if groove exists on a spectrum, it is difficult to quantify how much groove any given section of music has. On the other hand, it is possible to at least recognize the building blocks from which grooves are made, and if we can dissect grooves, we can at least call attention to the aspects that differentiate them.

It also seems necessary to clarify that I am discussing groove from my own perspective, and my point of view may differ from someone else's. This is not to say my interpretation is right, and another person's is wrong. My discussion primarily focuses on the rhythmic aspect of groove, but it is difficult for me to ignore the possibility that someone else may have a different perspective on this topic.

The Importance of Groove

Popular music is heavily dependent on groove, which in some cases is a song's most defining quality. Some songs may use this feature to create a catchy beat, but others might use it to establish a particular character or assist in conveying lyrics. In these instances a groove can take on the task of conveying an extramusical idea or emotion. In other words, it may exist on a continuum between "groove" and "not a groove," but it could be seen as crossing over into another one of Madison's spectrums, such as "happy" and "sad" or "calm" and "tense."¹⁰⁸ For instance, Led Zeppelin's "Immigrant

¹⁰⁸ Iyer, "Microstructures of Feel, Macrostructures of Sound," 206.

Song” (1970) is, without a doubt, a reference to Viking invaders, and the groove is aggressive and comes across as a battle cry of sorts. Twenty One Pilots’ “Car Radio” (2011) is about a stereo being stolen resulting in the song’s character stewing in his own thoughts instead of drowning them out with the radio. The groove conveys the character’s unstable psychological state and adds to the effectiveness of the song’s lyrics. Jeff Buckley’s recording of “Hallelujah” (2007) is simply his voice and a clean electric guitar, and the combination is both intimate and haunting, which is a stark contrast when compared to the original recording by Leonard Cohen. One of the obvious differences between these two versions is groove. Although this quality can persist without carrying any extramusical meaning, it can also take on an extra dimension when it conveys moods, concepts, emotions, or anything else that is not explicitly musical in nature.

The Essence of Groove

Groove has already been defined by Steven Feld as “an unspecifiable but ordered sense of something that is sustained in a distinctive, regular and attractive way, working to draw the listener in.”¹⁰⁹ This “ordered sense of something” is heavily dependent on the meter, which Harold Krebs divides into three classes of layers. The “pulse layer” is the quickest and “most pervasive series of pulses.” “Micropulses” make up a layer that moves faster than the “pulse layer” and can be seen as “embellishments,” and the third layer is the “interpretive layer,” which has accents occurring at a “constant number of pulse-layer attacks.”¹¹⁰ The discussion continues, and he describes the “interpretive layer” by connecting it to Fred Lerdahl and Ray Jackendoff’s discussion on “phenomenal” accents.¹¹¹

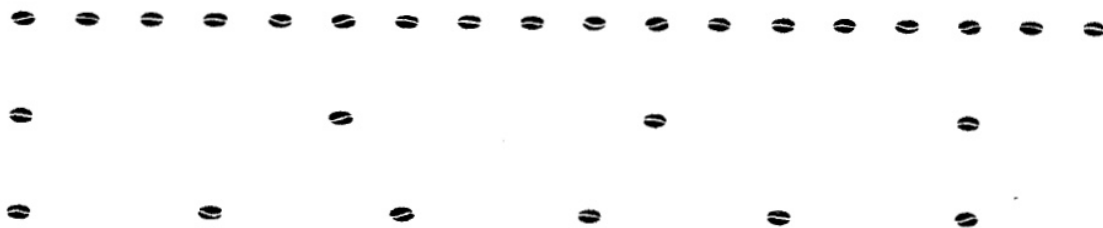
¹⁰⁹ Feld, “Getting Into the Kaluli Groove,” 76.

¹¹⁰ Krebs, “Metrical Consonance and Dissonance,” 23.

¹¹¹ Lerdahl and Jackendoff, “Introduction to Rhythmic Structure,” 17.

He goes on to explain that agogic accents, registral accents, and “dynamic accents,” which would be notated by using hairpins, carets, *sf*, *fp*, or similar symbols, can all fall under the umbrella of “phenomenal accent.” “Density accents,” which occur when the texture is suddenly thicker, and “new-event accents,” which are characterized by “changes in harmony and melody” are phenomenal as well.¹¹²

An “interpretive layer” interacts with the “metric layer” to create consonance or dissonance. With metric consonance the attacks within these two layers line up in a way that agrees and is without conflict, but with dissonance the attacks within the two layers do not line up. There can also be multiple interpretive layers creating “compound dissonances.”¹¹³ Krebs uses coffee beans to illustrate this idea, and one of the illustrations is found in Example 40. The pulse layer is on top, the other two layers are in a three against five dissonance, and all three of them line up every sixteenth metric pulses.¹¹⁴



Example 40: “Figure 2.1.” from Krebs, “Metrical Consonance and Dissonance,” 32

¹¹² Krebs, “Metrical Consonance and Dissonance,” 23.

¹¹³ Ibid., 31.

¹¹⁴ Ibid., 32.

Although Krebs discusses this in relation to the music of Robert Schumann, these ideas also apply to this topic in that these same concepts can establish and change grooves. Led Zeppelin's "Kashmir" was analyzed in Chapter Two, and it makes use of Krebs' "metrical dissonance." More specifically, "Kashmir" uses "grouping dissonance," which is a term coined by Peter Kaminsky. Grouping dissonance sets up two or more conflicting layers that line up or converge at a regular interval. In the case of Example 40, that interval is every sixteen metric pulses.¹¹⁵ In the end, a song's layers can agree to form consonance or disagree in order to form dissonance, and these layers are defined by their grouping.¹¹⁶

Fred Lerdahl and Ray Jackendoff differentiate between the ideas of grouping and beat, and although a non-accented metronomic pulse can provide a tempo, it does not necessarily provide a beat. A beat is felt, and each beat within a meter can be perceived as possessing a distinct weight relative to the other pulses. Quite simply, some beats are strong, some are weak, and others fall in between these two extremes at varying degrees. Meter is experienced in this way, because the grouping creates accents that define each beat. This occurs at various levels, so for instance, a phrase could be grouped together as a period. However, the period could be broken down and grouped into an antecedent and a consequent, and each of those sections could also be divided into smaller units, which could be broken down further as well. Lerdahl and Jackendoff use Haydn's Symphony No. 104 to demonstrate this idea, and their illustration can be seen in Example 41.¹¹⁷

¹¹⁵ Krebs, "Metrical Consonance and Dissonance," 32.

¹¹⁶ Ibid., 31.

¹¹⁷ Lerdahl and Jackendoff, "Introduction to Rhythmic Structure," 18, 25-28.

components interact, so each beat's strength is the result of these groupings that listeners and performers perceive, which Lerdahl and Jackendoff discuss in detail.¹²² Ultimately, there is at least one accent pattern that comes to the forefront and is recognized as the dominant "interpretive layer,"¹²³ and this layer can be seen as the "metrical layer," which is truly understood as a pattern of strong and weak beats.¹²⁴ The other interpretive layers will take on one of two relationships with the "metrical layer." A layer can create consonance by being directly in sync with the metrical layer, or it can be out of sync with it and create dissonance, which results in an "antimetrical layer."¹²⁵ As was mentioned earlier, "grouping dissonance" occurs if two layers have accent patterns that at least converge at a regular interval within the meter. In the case of Led Zeppelin's "Kashmir" (Example 14), groove 1A has one layer that is in 3/4 and another layer that is in 4/4. The layers converge every 24 eighth notes, and this pattern creates grouping dissonance.¹²⁶

The other rhythmic dissonance Krebs discusses is "displacement dissonance," and it never converges. An example might be two 3/4 layers that are offset by one beat and would never line up.¹²⁷ Nicole Biamonte describes this feature best when she refers to it as "out of phase," and she discusses Krebs' ideas in reference to popular music. She describes his "grouping dissonance" as "hemiola-type" and labels the "displacement dissonance" as "syncopation-type." She also discusses Keith Water's idea of further dividing grouping dissonance into two more categories.¹²⁸ One is "Measure-preserving," and it converges

¹²² Lerdahl and Jackendoff, "Introduction to Rhythmic Structure," 26.

¹²³ Krebs, "Metrical Consonance and Dissonance," 28-29.

¹²⁴ Lerdahl and Jackendoff, "Introduction to Rhythmic Structure," 26.

¹²⁵ Krebs, "Metrical Consonance and Dissonance," 29-44.

¹²⁶ Ibid.

¹²⁷ Ibid., 34.

¹²⁸ Nicole Biamonte, "Formal Functions of Metric Dissonance in Rock Music," *Music Theory Online* 20, no. 2 (June 2014), <http://www.mtosmt.org/issues/mto.14.20.2/mto.14.20.2.biamonte.html>.

every measure and essentially turns into a polyrhythm. An example would be a 2/4 measure where one layer is simply two quarter notes and the other layer is a quarter-note triplet. The two layers would still line up every measure, but the rhythmic dissonance would be evident. Water's other category is "tactus-preserving," which is where the measures themselves do not line up. Led Zeppelin's "Kashmir" represents this type of dissonance, since groove 1A has three 4/4 measures set against four 3/4 measures.¹²⁹

Before going further, it is worth noting that groove layers and Krebs' "interpretive layers" are related, but they are actually quite different. For instance, Tool's "Schism" (see Example 18) begins with "groove layer a," which is described as "bass1." The guitar joins the bass and plays the same riff at 0:27, but it is labeled "layer b." However, both of these "groove layers" contribute to the same "interpretive layer," because they produce the same accents.

Lerdahl's and Jackendoff's "groupings" and Krebs' "interpretive layers" play an integral role in establishing grooves within popular music. Timbre, pitch, chord progressions, melody, harmonic rhythm, and dynamics also contribute to the overall perception of groove, but "groupings" and "interpretive layers" are the most defining attribute. Once a groove is established, if the timbre, melody, dynamics, or progression remain the same while the interpretive layers change, listeners will perceive that the groove has changed. However, if the interpretive layers remain the same while these other characteristics change, the new groove is likely to be perceived as a variation of the original. Admittedly, groove perception is subjective and can vary from person to person. There are most definitely exceptions, but this applies most of the time.

¹²⁹ Keith Waters, "Blurring the Barline: Metric Displacement in the Piano Solos of Herbie Hancock," *Annual Review of Jazz Studies* 8: 19–37.

For example, the chorus in Boston's "Foreplay/Longtime" (1976) has a groove that is dependent on the acoustic guitar, but the final statement of this passage is played using an electric guitar, which provides a dramatic change in timbre. However, this transformation does not create a new base groove, because it is clearly connected to the material from the chorus, which results in a groove variation. Whereas, Empire of the Sun's "Walking on a Dream" (2008) uses the same chord sequence throughout the recording, but the groupings and the interpretive layers change providing new base grooves. Similarly, Nirvana's "Smells Like Teen Spirit" (1991) also uses the same progression for the verse and the chorus. In this case the chords are implied within the verse, since the bass line is covering the background pitch material. The base grooves change between the two sections by thickening the texture and altering the interpretive layers for the chorus. On the other hand, The Rolling Stones "Sympathy for the Devil" (1968) uses a single base groove throughout much of the recording, but the song actually changes keys for the chorus. The verse is in A major, but the chorus adds a B major chord pushing the key to E major. This change is somewhat concealed, because rhythmically the groove remains the same. The Talking Heads "Once in a Lifetime" (1980) uses the same bass guitar dominated groove throughout the recording, but the melody and timbres change as the song progresses. The verse is spoken, which is supposed to resemble a "radio preacher." There is singing and vocal harmonies within the chorus that are meant to represent a church choir and congregation,¹³⁰ and although these changes in melody and harmony are dramatic, the end result is still a single groove permeating the entire recording.

¹³⁰ "On the Record: David Byrne Took Inspiration from Preacher," *The Rapid City Journal*, June 20, 2013, https://rapidcityjournal.com/blackhillstogo/arts-music/sound-check/on-the-record-david-byrne-took-inspiration-from-preacher/article_76398add-c3f5-5435-a396-cec4619680d2.html.

Melody and harmonic rhythm appear to have substantial impacts on groove as well. However, it could be argued that their influence is only apparent, because they create or alter the accents that lie at the foundation of interpretive layers and groupings. There are some instances where these two elements create drastic shifts within the sound, but it could still be argued that these changes are not enough to constitute a new base groove. Portugal. The Man's "Feel It Still" (2017) uses the same groove underneath various melodic ideas, and changes in melody refreshen the music and prevent it from becoming stale. However, it would be difficult to argue that these changes are enough to constitute a new base groove. An even more extreme example is Passion Pit's "Sleepyhead" (2010) in which the bridge has a synthesizer melody that could potentially appear, at least on the surface, to changed the base groove. This middle section is characterized by the synth part, so it supplies the primary groove layer within that portion of the song. However, the other groove layers are still present, and if a listener's awareness is on those other layers, the same base groove is evident.

Harmonic rhythm provides significant alterations to groove in that it can expand or contract the listener's hypermetric focus. David Temperley describes hypermeter as "meter above the level of the measure."¹³¹ What this means is that if a song is in 4/4, a listener can most likely feel a pulse on every quarter note, but it might also be possible to perceive a beat on the half notes at the hypermetric level and produce the same pattern of four beats. One might potentially find four more beats that stress the whole note. For instance, Blind Melon's "No Rain" (1993) has an A section that begins by changing chords every measure, but toward the end of the A section the progression only changes chords

¹³¹ David Temperley, "Hypermeterical Transitions," *Music Theory Spectrum* 30, No. 2 (Fall 2008): 23.

every two measures. The result is that the A section begins with a pulse layer,¹³² to use Krebs' terminology, that appears to be faster than that of the A section's ending. The hypermetric expansion broadens the listeners focus on the meter, so the beat can be felt at a slower pace toward the end of the A section even though the primary change is the harmonic rhythm. It could be argued that this might be significant enough to constitute a new base groove, but there is still enough material retained between the two areas to consider them the same as well.

Another key example, which highlights hypermeter's impact on groove, can be observed in "dubstep" where most recordings have a "drop" section that generally moves into a halftime feel. The result, like that found in "No Rain," is a hypermetric expansion. The difference is that the groupings and interpretive layers are creating this change, and this kind of hypermetric expansion or contraction often results in a full shift in base groove. One example is Glitch Mob's remix of "Seven Nation Army" (2011). In this case, the first "drop" occurs at 1:08 in the recording, and the tempo is cut in half causing the distance between accents within the interpretive layers to also double resulting in a new base groove. Interestingly, the bass riff remains the same tempo throughout both of these sections.

David Temperley also discusses "hypermetric shifts" that occur when a hypermetric beat is altered in some way. This can be accomplished by having two strong or weak measures in a row, which "shifts" the strong measure within the hypermeter itself.¹³³ The "shift" is dramatic, but it does not have a long lasting impact on the groove. For example, Passion Pit's "Little Secrets" (2010) has a hypermetric shift between the second

¹³² Krebs, "Metrical Consonance and Dissonance," 23.

¹³³ Temperley, "Hypermetrical Transitions," 305.

$\text{♩} = 100$

Watch the ba - sin drain as your life lines wane
and you can't ex - plain As your friends com - plain
you've caused all this pain and you proud - ly name
your whole fa - mily's name
Let this be our lit - tle se - cret No one needs to know we're fee - ling

Example 42: Hypermetric Shift at 2:22 in “Little Secrets”

prechorus and chorus. This event begins at 2:22 within the recording and is transcribed in Example 42 using Temperley’s notation for strong and weak hypermetric pulses, which is denoted by dots above those prospective measures within the music.¹³⁴ The transcription shows that the prechorus is immediately followed by a strong first measure of the chorus resulting in the hypermetric shift. The shift is apparent, but the long term impact on the groove is short lived in that the listener’s ears quickly adjust to the new strong beat placement.

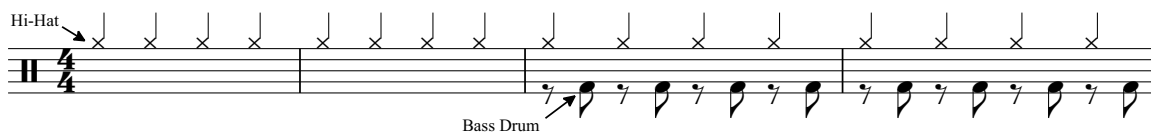
¹³⁴ Temperley, “Hypermetrical Transitions,” 307.

Another possible aspect of groove that is worth mentioning is a backbeat, which is somewhat contradictory within the established beat hierarchy in that it emphasizes weak beats. The weak beats, in this case, are usually emphasized by high-pitched sounds, as opposed to a bass drum or a bass guitar. This means backbeats are normally marked by a snare hit, a hi-hat, a guitar, keyboard, or something similar. In 4/4, beats two and four are emphasized, and in 3/4, it is feasible to accent the second or third beat or possibly both. However, this can lead to a polka-like feel, which is usually not the goal in popular music. As a result, in 3/4 the backbeat will often occur on the downbeat of every other measure, which essentially creates a 6/8 feel at the hypermetric level. When this happens the backbeat appears to be landing on the second beat of a compound duple meter, and therefore, a weak beat is still emphasized. There are a few examples of asymmetric meters within popular music, and these recordings still have the capacity for this rhythmic component. For example, Pink Floyd's "Money" (1973) is in 7/4, and the backbeat falls on the second, fourth, and sixth beats. In his study on Electronic Dance Music, Mark Butler mentions that backbeats can even be eighth-note upbeats,¹³⁵ and he also points out that this feature can be used to produce a metric shift. If a high-pitched sound, such as a hi-hat, is heard at a regular interval within the meter, a pulse pattern can be established making it seem as though the hi-hat is emphasizing the downbeat. The listener would hear each beat as though it were starting with the hi-hat, but if a lower sound, such as bass drum, were to enter one eighth-note off from the hi-hat, the listener would be forced to reorientate themselves to a new downbeat. At that point the hi-hat would become the backbeat, which in this case would also be the upbeat, and the bass drum would become the downbeat. This

¹³⁵ Mark Butler, *Unlocking the Groove: Rhythm, Meter, and Musical Design in Electronic Dance Music*. (Bloomington: Indiana University Press, 2006), 325.

is illustrated with two possible hearings in Example 43, and Butler uses Krebs' idea of "displacement dissonance" to describe what is happening.¹³⁶ This situation would lead to the metric layer, which in this case is the hi-hat, transforming into an interpretive layer, which, again, is a term coined by Krebs. The end result is a metric shift due to the backbeat's role being subservient to the downbeat.

Hearing #1



Hearing #2



Example 43: Metric Shift Using a Backbeat¹³⁷

It is worth noting that a backbeat is not a requirement of groove. For instance, Radiohead's "Daydreaming" (2016) does not make use of a backbeat, but it would be difficult to argue that it does not display a groove. Admittedly, backbeats are ubiquitous within popular music, but grooves can certainly exist without them.

From this discussion it is possible to understand the importance of groupings and interpretive layers within grooves. Although other musical ideas can be layered on top of these two rhythmic aspects, it would be difficult to alter the base groove without changing

¹³⁶ Mark Butler, *Unlocking the Groove*, 142.

¹³⁷ This example is related to Butler's Ex. 4.5 and Ex. 4.6 on pg. 142 and Ex. 4.9 on pg. 147.

the interpretive layer; so timbre, melody, harmony, harmonic rhythm, and hypermeter can all influence the perception of a groove. However, they do not necessarily lead to a full transition to a new base groove unless they in some way modify the interpretive layer.

The Perception of Repetition and the Impact It Has on Groove

In the end, groove within popular music has one attribute that is undeniably of utmost significance, and that is repetition. Once again, Steven Feld asserts that groove is “an unspecifiable but ordered sense of something that is sustained in a distinctive, regular and attractive way, working to draw the listener in.”¹³⁸ If we focus on the words “ordered” and “sustained,” it is possible to deduce that repetition is used to achieve these qualities, but why is this feature crucial in the development of a groove?

Repetition is not only essential in establishing a groove, it is vital in creating anything that is considered musical.¹³⁹ Even Arnold Schoenberg admitted that “intelligible” music required the presence of repetition, and the music of all cultures make use of this feature.¹⁴⁰ Elizabeth Hellmuth Margulis brings up Diana Deutsch’s research when she discusses this topic in her video “Repetition and Musicality.”¹⁴¹ Deutsch ran an experiment involving a spoken sentence first being presented in its entirety as normal speech. Her sentence was as follows: “The sounds as they appear to you are not only different from those that are really present, but they sometimes behave so strangely as to seem quite impossible.” This statement was then fragmented down to the phrase “sometimes behave so strangely,” which was repeated, and this repetition resulted in a

¹³⁸ Feld, “Getting Into the Kaluli Groove,” 76.

¹³⁹ Elizabeth Hellmuth Margulis, “Repetition and Musicality,” February, 2015, Video Lecture, 11:03, <http://doi.org/10.30535/smtv.1.1>.

¹⁴⁰ Ibid., 3:05.

¹⁴¹ Ibid.

simple spoken phrase becoming something that one might consider to be musical.¹⁴²

Deutsch goes on to explain that all speech is actually musical in that it has pitch, but it is possible that, in passive conversation, we fail to recognize this quality within speech due to our focus being on the actual words. Therefore, she hypothesizes that our ability to discern pitch is “inhibited,” but once a phrase of spoken language is repeated, our focus can shift and allow us to hear the musical aspects of human speech.¹⁴³

It is worth noting that rhythmic elements become apparent with repetition as well. Steve Reich’s *It’s Gonna Rain* (1965) takes a recording of a street preacher and loops various portions of the sentence, “It’s gonna rain.” As a result, pitch becomes evident, but the piece also has rhythmic features that are of interest in that many times within the recording the spoken words appear to “swing.”

Margulis took Deutsch’s research on repetition even further and ran a number of experiments involving individuals without formal musical training. In one experiment she took “sequences” of sounds that were somewhat musical and played them for participants. They listened to various versions of the same “sequences” during the first phase of the study. Through random selection some participants heard a sequence stated one time, while others listened to it being repeated. During the “test phase” the same sequence was played by itself, and the participants who had listened to it in its repeated form felt that it sounded more musical.¹⁴⁴

¹⁴² Diana Deutsch, Trevor Henthorn, and Rachael Lapidis, “Illusory Transformation from Speech to Song,” *The Journal of the Acoustical Society of America* 129, no. 4 (April 2011): 2246.

¹⁴³ Deutsch, Henthorn, and Lapidis, “Illusory Transformation,” 2251.

¹⁴⁴ Margulis, “Repetition and Musicality,” 4:30.

Margulis also sought to see what repetition did within actual composed music, so she took rondo forms from the 18th century and created two versions of the same pieces. She uses a typical rondo where the A section is altered slightly with each return. (A B A' C A'' D A''' is the example she gives.) She then took the same rondo form and altered it by making each A section exactly the same, which would be ABACADA, and she called this the “verbatim” version. The result was that participants heard the original version as being more complex, but the “verbatim” version was more memorable. Individuals were also more likely to “tap, move, and sing along” with the verbatim version, which was interpreted as making the recording more musical.¹⁴⁵ Margulis’ research involving rondo form also applies to popular music, because when repetitions of the same section utilize contrasting grooves, the music can be interpreted as being more complicated. As was discussed in Chapter Two, “Pull Me Under” by Dream Theater unfolds in this way, and as a result, the relationship between form and groove is loosened resulting in a formulaic structure that is certainly perceived as complex.

In another experiment, which relates to groove, Margulis used previously composed music by Luciano Berio and Elliott Carter. She took segments from their music and repeated it “without concern for artistic effect.” The end result was that the more repetitive versions of this music were perceived as being more artistic by individuals without previous musical training.¹⁴⁶

Interestingly, groove within popular music reflects the results of this research as well. Every popular song has at least one thing in common, and that is a repetitive groove. That being said, there are countless unique grooves found within music, but each one is

¹⁴⁵ Margulis, “Repetition and Musicality,” 6:15.

¹⁴⁶ Ibid., 7:30.

held together and made to function through repetition. Some of them might be dependent on a single measure that is looped, but other grooves, such as Radio Head's "Pyramid Song (2001)," may have repetitions involving complex hypermetric structures.

Timothy Hughes referred to this repetitive quality as "flow,"¹⁴⁷ and he describes three kinds of grooves that use this feature. "Autotelic" is the first one he mentions, and it is built in a way that leads the listener back to the beginning of the groove each time it repeats. It can use rhythm, harmony, melody, or any other technique to bring the music back around in a loop. He describes it as "self-generating,"¹⁴⁸ and instead of moving toward an ending, these grooves are drawn back toward their beginning.¹⁴⁹ An example of this can be heard in the first groove from Led Zeppelin's "Kashmir" (1975) where the well known guitar riff ascends until it is finally drawn back to its beginning and repeated again. Hughes' second type of groove ends with completion each time it is stated, which creates a "wave-like" pulse,¹⁵⁰ akin to what happens in the Rolling Stones' "Sympathy for the Devil" (1968). He also describes another kind that causes an "undulating" sensation, and he compares this third type of groove to a "Shepard Tone," which is an aural illusion that ascends or descends into infinity. He refers to it as the "auditory equivalent" of the "barber's pole,"¹⁵¹ and a good example of this can be found in Radiohead's "Daydreaming" (2016). As was explained earlier, perception of groove can be subjective, so there is likely to be some ambiguity when categorizing some of them. One example might be the Talking Heads "Once in a Lifetime" (1980) where focusing on the bass riff may lead to a hearing

¹⁴⁷ Timothy S. Hughes, "Groove and Flow: Six Analytical Essays on the Music of Stevie Wonder," Order No. 3111084, University of Washington, 2003, 16.

¹⁴⁸ Ibid., 15.

¹⁴⁹ Ibid., 32.

¹⁵⁰ Ibid., 15.

¹⁵¹ Ibid.

that lines up with the second type, since it ends with completion each time it loops.

Focusing on the vocals could give the impression that it pushes toward the beginning of each repetition, and from this perspective it could possibly be interpreted as an “autotelic” groove. However, if one steps back further and looks at the piece as a whole, it does seem to take on the “barber pole” character similar to the last type of groove, since the speaking vocals combined with the synthesizer and bass riff almost feel like a moment of musical stasis. This especially can be said to happen during the chorus, so depending on how someone hears this particular groove, it might be possible to feel strongly about any one of these.

All in all, there is no doubt that groove relies heavily on repetition, and the art of repeating can become incredibly elaborate. As a result, it leaves room for ample discussion, since there are a number of methods available to dissect, discuss, interpret, and understand this quality within a song. Depending on the groove, one or more of these methods can be utilized to increase our understanding of what is happening within the music.

All things considered, are there any limits concerning what can be repeated to form a groove? Pink Floyd repeats the sounds of a cash register in order to form the groove at the beginning of “Money” (1973). The song itself is in 7/4, so the groove is somewhat unusual due to the meter as well. There is a chance that we will hear a beat or rhythm in any sound that is repeated in a similar way to how we hear pitch. Pitch can be heard throughout the repeated segments of Reich’s *It’s Gonna Rain*, but a beat can be felt throughout the first half of the piece as well. Since repetition has the capacity to create the illusion of artistry,¹⁵² it is practically limitless as to what kind of sounds and rhythms can

¹⁵² Margulis, “Repetition and Musicality.”

be looped to create a groove. The possibilities that can arise through combinations of timbre, rhythm, and pitch are difficult to comprehend, but it is this limitless freedom that enables music to be unique. Some grooves are even built on tones that fall outside the realm of equal temperament. The artist Lorn experiments with sounds that are seemingly “out of tune,” and the groove, and music for that matter, is still held together by repetition. The effect repetition has on listeners is strong enough that it can normalize sounds that might otherwise make little or no sense musically.¹⁵³

Conclusions

This research began eight years ago when I became interested in “long songs” that exceeded the expected length of three to four minutes, and since these recordings were often at least twice the duration of what could be considered typical, it seemed as though they would need to incorporate processes that distinguished them from the vast majority of songs. The investigation took some unexpected turns throughout the study, and the first surprise was that there were many songs that I had always incorrectly assumed were long. I took note of this music as I continued to search for actual “long songs,” because it seemed peculiar that my memory of these recordings was skewed. At that point I still had not come to a conclusion as to what constituted a “long song,” but I initially decided that seven minutes would be sufficient. As I began to examine this music it became apparent that there were a substantial amount of grooves being presented throughout each recording, so in a somewhat imprecise manner, I began counting them. I randomly selected shorter songs from my own library in order to compare them to the longer recordings. This process brought my attention to the Beastie Boys “Intergalactic” (1998), which I had

¹⁵³ Deutsch, Henthorn, and Lapidis, “Illusory Transformation.”

always assumed to be around five minutes in length, but it was actually closer to three and a half minutes. As I tried to count the grooves within the song I quickly realized a more detailed analysis would be necessary to fully grasp what was happening. This resulted in me going through the recording and documenting every change that I could discern within the groove, and this would eventually motivate a full groove analysis of the music. It proved to be especially beneficial at highlighting other aspects within the song, so I used it with other recordings as well. Common long song features began to emerge, and my attention returned to the shorter songs that I had misjudged. I was curious if any commonalities could connect them to the lengthier recordings I had examined, and astonishingly, these shorter songs incorporated many of the characteristics indicative of long songs. It was initially promising to see that, at least from my viewpoint, these elements could skew my perception of duration, and the next logical step was to speculate as to whether or not others were influenced in the same manner. Of course, this curiosity culminated in the experiment concerning time perception.

I also found myself wondering if long songs and their prevalent characteristics were statistically unusual. This interest led me to Andy Baio's blog post on the "Whitburn Project,"¹⁵⁴ and it seemed apparent that more research needed to be carried out in order to better understand this music's place within the repertoire. There were a number of questions that needed to be addressed toward the beginning of this investigation. First of all, are 'long songs' truly unusual, and if they are, what characteristics, besides length, set them apart from other music? I needed a consistent and realistic method for finding songs and comparing them to a larger whole, and it was not feasible to find every long song ever

¹⁵⁴ Baio, "The Whitburn Project."

written in order to compare them to all the popular music ever recorded. As a result, I followed the example of the “Whitburn Project” and limited my research to only music that had charted on the *Billboard* Hot 100. It was also necessary to establish a length that constituted a “long song” within this study, and in order to gain a larger sample, the boundary was lowered to six minutes from the initial seven. Also, if I were to use Joel Whitburn’s *Pop Annual* as a resource, then would the timings used to categorize this music come from the radio edit or the album? Almost all recordings of substantial length have a radio edit, so once again, creating an adequate sample required me to use the album as a standard. It is assumed that albums hold the original conception of each piece as well, but I must concede that this may not always be the case. The overall project was ambitious, but it was going to be necessary in order to confirm which characteristics were prevalent within this music and what impact, if any, they have on our perception of song duration.

Groove analysis originally arose from the need to differentiate “varied groove,” but it proved to be useful in emphasizing other elements within this music as well. This was the most surprising consequence of this project, and it stemmed from the need to track grooves throughout entire recordings. These analyses could be enhanced further by adding transcriptions as needed, which made this approach remarkably flexible in that it could provide an enormous amount of detail or simply display a general overview of the structure. All in all, scholars have managed to cooperatively advance our knowledge of groove, and it is certainly a topic that deserves to continue development as there is still more to glean. If we return to Steven Feld’s description one final time, it is possible to at least ask questions in search of practical ways to expand the application of this topic.

Feld's assertion is that groove is "an unspecifiable but ordered sense of something that is sustained in a distinctive, regular and attractive way, working to draw the listener in."¹⁵⁵

What does it mean to be "ordered" and "sustained" in a "regular way?" Repetition is often used to achieve these qualities within music, but it could be argued that order can be found in what is seemingly random. For example, serialized music appears random on the surface, but upon closer examination a great amount of order can be revealed within it. It could also be argued that any piece of music that lacks order was organized around the idea of avoiding obvious organization. Could this be defined as the repetition of disorder? Of course, this is debatable, and the fact still stands that we, as individual listeners, associate the idea of "beat" with "groove." If there is not a "regular" pattern of beats, much like Krebs' "interpretive layer,"¹⁵⁶ then most people will not recognize the music as having a "groove." The term "regular" that Feld mentions alludes to repetition, and this concept seems to be key in establishing a groove.

Although grooves can become incredibly complex, the word itself is associated with music that, in the past, has been marginalized to some extent. For instance, in 1941 Theodore Adorno discussed popular music in an inferior manner as compared to "serious" music. He said that popular music is "standardized,"¹⁵⁷ and he also claimed that recording artists possessed what he called "pseudo-individualization," which can be thought of as a popular musician's brand, sound, style, genre, and other characteristics that listeners use to

¹⁵⁵ Feld, "Getting Into the Kaluli Groove," 76.

¹⁵⁶ Krebs, "Metrical Consonance and Dissonance," 23.

¹⁵⁷ Theodor W. Adorno with the assistance of George Simpson, "On Popular Music: I. The Music Material," *Soundscapes* 2 (2000), http://www.icce.rug.nl/~soundscapes/DATABASES/SWA/On_popular_music_1.shtml.

identify artists.¹⁵⁸ Adorno claimed that this music needs to be “fundamentally the same as all the other current hits and simultaneously fundamentally different from them.”¹⁵⁹

In contrast, Milton Babbitt compared the level of determinacy within “popular” music and “serious” music, and he was very careful when he explained that the “level of determinacy” does not serve as a method for measuring a piece’s quality.¹⁶⁰ Babbitt stated:

As a public service, let me offer those who still patiently await the revelation of the criteria of Absolute Good an alternative criterion which possesses, at least, the virtue of immediate and irrefutable applicability: "There is no such thing as 'serious' and 'popular' music. There is only music whose title begins with the letter 'X,' and music whose title does not.”¹⁶¹

Likewise, groove does not adequately provide a way to judge the quality of a piece of music. The presence of a groove does not devalue a composition’s artistic worth, and it can be argued that it is simply another attribute of music that could benefit from further study. When we dissect a song’s groove structure and analyze a recording from this perspective, we can understand the various components that differentiate this quality and begin to see it as a compositional technique that can be discussed and studied in order to better understand the music it encompasses. Groove analysis provides a method to better comprehend how this quality relates to other elements within music, and it could potentially be expanded into other areas of music theory.

¹⁵⁸ Adorno, “On Popular Music: I.”

¹⁵⁹ Theodor W. Adorno with the assistance of George Simpson, “On Popular Music: II. The Music Material,” *Soundscapes* 2 (2000), http://www.icce.rug.nl/~soundscapes/DATABASES/SWA/On_popular_music_1.shtml.

¹⁶⁰ Babbitt, “Who Cares.”

¹⁶¹ Ibid.

APPENDIX A

Legend for Appendices B, C, and D

Long Song Grooves

of Base Grooves (# of Groove Variations) [L# of Layers]

For Example, “4 (3) [L6]” signifies that there are four base grooves, three groove variations, and six layers.

Short Song Grooves

of Base Grooves (Groove Analysis Details)

For instance, “2 (1A, 1B, 2abcdef)” shows that there are two base grooves, and that the first base groove has a variation. The second base groove has six layers added to it throughout the recording.

Timbre Abbreviations



M = Male Voice
 F = Female Voice
 Reg = Register Change
 R = Rapping
 T = Talking
 Instr = Instrument
 Ch = Large group of voices (such as a choir)
 H = Harmon
 (E) = Effects
 Gr = Gruff
 MV = multiple voices (any combinations)
 X = Varied Timbre (other)
 I = Instrumental

Other Relevant Information

“Peak” = Peak Position on the *Billboard* Chart
 “Intro” = Length of Introduction
 “Coda” = Length of Coda
 “Timing” = Length of Song
 “X” means the song contains that characteristic.

APPENDIX A

Abbreviations for Groove Analysis Diagrams

General Diagram Abbreviations			
G = Groove	S = Section	T = Timing	+ = Combined
Quotation marks are used to differentiate between “prime” versions of <u>related</u> events or sections of the same type. <i>One example would be Ch, Ch', Ch", and Ch'''</i> . If Ch were a chorus within a song, then this would show that each chorus differs from the last. Another example is a', a", and a'''. If “a” were a groove layer, then this would demonstrate that each of these layers is different in some way.			
Superscripts (X ¹ , X ² , X ³ , etc.) are used to differentiate between <u>unrelated</u> events of the same type. <i>For instance, Ch¹ and Ch² would be two different choruses within the same song, but they are not related by musical material. They are unique. V¹ and V² are two different verses that are unrelated. (V¹ and V² is <u>not</u> “first verse” and “second verse.” That information can be gained by seeing the order in which the verses appear.) Sometimes vocals play an important roll in the groove structure. V¹, V², and V³ could be used to describe grooves as well, but in this case it would be “vocals 1,” “vocals 2,” and “vocals 3.” (This would show that these are three separate layers within the groove structure, and they would not necessarily line up with the verses in any particular way.</i>			
Abbreviations Related to Form			
Intro = Introduction	Tr = Transition	Trans = Transition	V = Verse
Br = Bridge	PrC = Prechorus	PreCh = Prechorus	Ch = Chorus
Ex = Extended	Improv = Improvisation	In = Instrumental	Instr = Instrumental
Ad = Advertisement	G. Solo = Guitar Solo	M = Male Voice	F = Female Voice
Abbreviations Related to Groove			
<i>Groove borders or boundaries can depict:</i>  = groove breaks briefly at this time point  = cumulative, add to previous groove material		<X = X fades <u>from</u> nothing	
		X> = X fades <u>to</u> nothing	
		>X = X gets softer or fades to background	
X→Y = X morphs to Y	-X = X is removed	X< = X gets louder or comes to forefront	
V = vocals - <i>sometimes vocals can function outside a groove as a separate layer</i>			
{ } = occurs as one separate event. <i>An example is 1Aabc{XY<} = X and Y get louder within groove</i>			
() = occurs one time close to this time point - can be placed at the beginning, middle, or end of groove <i>Some examples are</i> (X)1Aabc = X occurs one time at the beginning of this groove 1Aabc(X) = X occurs one time at the end of this groove 1A(X)abc = X occurs one time in the middle of this groove			

Analyzed Short Songs with Characteristics

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Sincerely	The McGuire Sisters	1955	1	2:57	3 (3A/B)	0:16		0:10				F/H
Ain't That A Shame	Pat Boone	1955	1	2:22	2 (2A/B)	0:00		0:07				M
Gum Drop	The Crew-Cuts	1955	10	2:35	4 (2A/B/C)	0:08	X	0:06				MV
Rollin' Stone	The Fontane Sisters	1955	13	1:51	2(2A,B)	0:10		0:05				MV
Rock-A-Beatin' Boogie	Bill Haley & His Comets	1955	23	2:17	2 (1A,B,C)	0:06		0:05				MV
Burn That Candle	The Cues	1955	86	2:29	1A,B,C	0:14		0:09				X
I Almost Lost My Mind	Pat Boone	1956	1	2:27	2	0:00		0:20				M
Gonna Get Along Without Ya Now	Patience & Prudence	1956	11	1:52	2	0:06		0:18				F/I
Stranded in the Jungle	The Jayhawks	1956	18	2:45	2 (2A/B)	0:10		0:08			X	MV
La Mer	Roger Williams	1956	37	2:51	5	0:15		0:15				F/I
Memories Are Made Of This	Mindy Carson	1956	53	2:29	3	0:16		0:17				MV
Crazy With Love	Teresa Brewer	1956	73	1:57	1(abc)	0:05		0:00				X
Wake Up Little Susie	The Everly Brothers	1957	1	1:57	1 (a-1a-1B)	0:06		0:09				MV
Valley Of The Tears	Fats Dominoes	1957	8	1:56	1 (1A,1B)	0:03		0:06				M
Ivy Rose	Perry Como	1957	18	3:04	3	0:02		0:16				MV

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Plaything	Nick Todd	1957	41	2:07	1 (1A, 1B)	0:03		0:06				MV
Dreamy Eyes	The Four Preps	1957	56	2:17	3	0:16		0:11				M/H/X
S Wonderful	Ray Conniff	1957	73	2:25	2 (1A,1B)	0:14		0:17				I
All I Have To Do Is Dream	The Everly Brothers	1958	1	2:17	1	0:03		0:09				M/H
Oh Lonesome Me	Don Gibson	1958	7	2:29	2	0:11		0:09				M
Dream	Betty Johnson	1958	19	2:25	1 (1A, 1B)	0:04		0:08				MV
With Your Love	Jack Scott	1958	28	2:00	1 (1A, 1B)	0:06		0:10				MV
You're Making A Mistake	The Platters	1958	50	2:42	3	0:06		0:18				MV (Whistle)
Just Young	Andy Rose	1958	69	2:14	1 (1A, 1B)	0:12		0:14				MV
Come Softly To Me	Fleetwoods	1959	1	2:25	1 (1A, 1B, 1C)	0:18		0:31				MV
I Want to Walk You Home	Fats Dominoe	1959	8	2:15	1(ab)	0:02		0:08				M
You Were Mine	The Fireflies	1959	21	1:52	2 (1a)	0:13		0:10				MV
I'm A Hog For You	The Coasters	1959	38	1:59	1 (1A, 1B, 1C)	0:02		0:12				M/H
I'm Been There	Tommy Edwards	1959	53	2:41	1 (ab)	0:14		0:15				X
Alright, Okay, You Win	Peggy Lee	1959	68	2:51	1 (1A, 1B, 1C)	0:08		0:09				F/I
The Theme From "A Summer Place"	Percy Faith	1960	1	2:24	1 (1A, 1B, 1C)	0:09		0:14				X
Harbor Lights	The Platters	1960	8	2:47	3 (1A,1B)	0:26		0:19				MV

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
I'll Save The Last Dance For You	Domita Jo	1960	22	2:13	1 (1Aab-1B)	0:03		0:06				MV
Is a Blue Bird Blue	Conway Twitty	1960	35	2:37	1 (1A, 1B, 1C)	0:09		0:17				M
Big Boy Pete	The Olympics	1960	50	2:25	2	0:08		0:27				MV
Swingin' Down The Lane	Jerry Wallace	1960	79	2:25	2	0:09		0:15				M
Wonderland By Night	Bert Kaempfert	1961	1	3:12	3 (2A, 2B)	0:13		0:20				I
This Time	Troy Shondell	1961	6	2:35	1	0:08		0:08				M
Heart and Soul	The Cleftones	1961	18	1:52	2 (1A,1B)	0:00		0:17				MV
I'm Hurtin'	Roy Orbison	1961	27	2:43	2	0:14		0:27				X
Ready For Your Love	Shep & The Limelites	1961	42	2:46	1	0:00		0:08				MV
Cherie	Bobby Rydell	1961	54	2:14	1	0:14		0:09				MV
Duke of Earl	Gene Chandler	1962	1	2:22	2 (1a)	0:18		0:10				MV
You Belong to Me	The Duprees	1962	7	2:37	2 (1A,1B)	0:19		0:20				M/H/I
Soul Twist	King Curtis & The Noble Knights	1962	17	2:35	1 (1A,1B)	0:17		0:08				I
The Push and Kick	Mark Valentino	1962	27	2:26	2 (1A,1B)	0:04		0:28				V+I
How Is Julie?	The Lettermen	1962	42	1:53	2 (2a)	0:17		0:00				MV
Ain't That Loving You	Bobby Bland	1962	86	2:29	1abcd	0:17		0:18				X
I Will Follow Him	Little Peggy March	1963	1	2:25	1abcde	0:17		0:18				MV

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Maria Elena	Los Indios Tabajaras	1963	6	3:09	1	0:00		0:00				I
Harry the Hairy Ape	Ray Stevens	1963	17	2:47	2 (1abc)	0:06		0:20				X
Come and Get These Memories	Martha & The Vandellas	1963	29	2:25	2 (2A,2B)	0:13		0:28	X			MV
Rainbow	Gene Chandler	1963	47	2:45	1 (1A, 1Ba)	0:08		0:00				MV
The Last Leaf	The Cascades	1963	60	2:21	a,1,2	0:10		0:28				MV
Chapel of Love	Dixie Cups	1964	1	2:45	1a,2,3A,3B	0:00		0:15				F/H
The Shoop Shoop Song (It's in His Kiss)	Petty Everett	1964	6	2:12	1 (1A, 1B)	0:08		0:06				MV/I
Stay	The 4 Seasons	1964	16	1:53	1 (1A, 1B, 1C)	0:08		0:22				MV
I'll Keep You Satisfied	Billy J. Kramer	1964	30	2:04	3	0:04		0:13				I
Funny Girl	Barbra Streisand	1964	44	2:25	2	0:11		0:20				X
Something You Got	Alvin Robinson	1964	52	2:26	1abcd	0:00		0:00				X/I
Mrs. Brown You've Got a Lovely Daughter	Herman's Hermits	1965	1	2:46	1ab	0:07		0:24	X			MV
Fever	The McCoys	1965	7	2:47	1abc	0:12		0:17				M/H
All I Really Want to Do	Cher	1965	15	2:56	a,1,2	0:17		0:09				F
We're Gonna Make It	Little Milton	1965	25	2:32	1abcd	0:08		0:32				M/I
It's Just a Little Bit Too Late	Wayne Fontana & The Mindbenders	1965	45	2:17	3 (1A,1B)	0:11		0:18				M/Reg

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Comin' on Too Strong	Wayne Newton	1965	65	2:18	2 (1abc)	0:20		0:32				MV
Winchester Cathedral	New Vaudeville Band	1966	1	2:23	2(2A,2B)	0:57		0:09				X-I
Walk Away Renee	The Left Banke	1966	5	2:38	1 (1A, 1Ba)	0:07		0:00				MV
The Sun Ain't Gonna Shine (Anymore)	The Walker Bros.	1966	13	3:04	4	0:22		0:47				MV/I
All Strung Out	Nino Tempo & April Stevens	1966	26	2:55	2 (1A,1B)	0:00		0:20				MV
I've Got To Be Somebody	Billy Joe Royal	1966	38	2:59	4(1abc)	0:20		0:00				M/H
Spread It On Thick	The Gentrys	1966	50	2:24	1a	0:04		0:25				M/MV/H
Respect	Aretha Franklin	1967	1	2:22	2(1abcde)	0:10		0:33	X			F/H
Don't You Care	The Buckinghams	1967	6	2:27	3 (1A,1B)	0:12		0:25				M/H/I
Knight in Rusty Armor	Peter & Gordon	1967	15	2:36	3 (1Aab,1Bc)	0:14		0:00				M/H/I
The World We Knew (Over and Over)	Frank Sinatra	1967	30	2:47	1Aa, 1B	0:09		0:16				MV/I
Beautiful People	Bobby Vee	1967	37	2:29	3 (1a)	0:07		0:24				MV/I
Lay Some Happiness On Me	Dean Martin	1967	55	2:15	1 (1Aa, 1B)	0:08		0:17				MV
(Sittin' On) The Dock of the Bay	Otis Redding	1968	1	2:41	3 (2Aa,2B)	0:10		0:20				M/X (Whistle)
My Special Angel	The Vogues	1968	7	2:57	2 (1A, 1B, 1C)	0:15		0:18				MV
It's Wonderful	The Young Rascals	1968	20	3:20	7	0:14		1:04				MV (Whistle)
Battle Hymn of the Republic	Andy Williams	1968	33	3:27	1abcde	0:08		0:00				MV

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
In the Midnight Hour	The Mirettes	1968	45	3:23	1 (1A,1B-abcdefg)	0:12		0:34				MV
Dancing Bear	Mamas & Papas	1968	51	4:05	5 - a (2A,2B)	0:48		0:37				MV
Wedding Bell Blues	The 5th Dimension	1969	1	2:42	2 (1Aa,1B)	0:10		0:39	X			F/H
Everybody's Talkin'	Nilsson	1969	6	2:40	1 (1A, 1B)	0:08		0:26				MV
Yesterday, When I Was Young	Roy Clark	1969	19	3:16	4 (3A/3B-2a)	0:20		0:00				M/X
I Guess The Lord Must Be In New York City	Nilsson	1969	34	2:42	1 (1A, 1B)	0:08		0:22				MV
Odds and Ends	Dionne Warwick	1969	43	3:21	2 (1A,1B)	0:15		0:22				F/X (Whistle)
(We're Got) Honey Love	Martha & The Vandellas	1969	56	2:36	3 (2A, 2B, 2C)	0:17		0:14				MV
I Want You Back	Jackson 5	1970	1	2:56	3 (1A, 1B, 1C, 1D, abc, 3d)	0:30		0:15				M/H
Cecelia	Simon and Garfunkel	1970	4	2:55	1abcde	0:10		0:40				M/H
Walkin' In The Rain	Jay & The Americans	1970	19	2:49	1ab	0:05		0:07				M/Reg
Do It	Neil Diamond	1970	36	2:22	1Babcd	0:05		0:10				M/H
Stealing in the Name Of The Lord	Paul Kelly	1970	49	3:35	5 (a)	0:25		0:37				M/H
And My Heart Sang (Tra La La)	Brenda & The Tabulations	1970	64	3:15	2	0:25		0:10				F/H
One Bad Apple	The Osmonds	1971	1	2:45	2 (2A,2B)	0:10		0:10				MV/H
Desiderata	Les Craine	1971	8	4:35	3	0:31		0:18				MV/H/T
I Love You for All Seasons	The Fuzz	1971	21	2:57	1 (1A, 1B)	0:16		0:08				F/H

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Chicago	Graham Nash	1971	35	2:51	2 (1A,1B)	0:12		0:20				H/MV
I'm So Proud	The Main Ingredient	1971	49	3:33	1	0:23		0:25				MV/H
Don't Make Me Pay For His Mistake	Z.Z. Hill	1971	62	2:54	1 (1A, 1B)	0:11		0:23				M/I
Me and Mrs. Jones	Billy Paul	1972	1	4:42	3	0:30		0:51				M/H
Tumbling Dice	The Rolling Stones	1972	7	3:42	3 (3A/B)	0:11		1:12	X			M/H
Hey Big Brother	Rare Earth	1972	19	2:59	4 (3ABC)	1:09	X	0:00				M/H
Automatically Sunshine	The Supremes	1972	37	2:39	2 (1A/Bab)	0:30		0:07				MV/H
You Are The One	Sugar Bears	1972	51	3:05	1ab	0:14		0:21				MV/H
Starman	David Bowie	1972	65	4:13	5	0:21		0:55				M/H/I
Midnight Train To Georgia	Gladys Knight & The Pips	1973	1	3:55	1	0:15		0:46				F/MV/H
Stuck In The Middle With You	Stealer's Wheel	1973	6	3:24	3 (1a)	0:15		0:00				M/Reg/H
Misdemeanor	Foster Sylvers	1973	22	2:20	1 (1A, 1B, 1C, 1D)	0:00		0:32				MV/H
Jesus Is Just Alright	The Doobie Brothers	1973	35	4:32	3 (1A, 1B) (abcd)	0:32	X	0:05				MV/H
Pretty Lady	Lighthouse	1973	53	3:10	3	0:17		0:10				I/H
Kids Say the Darndest Things	Tammy Wynette	1973	72	2:50	1abcde	0:05		0:05				F/T
Seasons in the Sun	Terry Jacks	1974	1	3:26	2 (2A,2Bab)	0:08		0:09				M/Reg
Everlasting Love	Carl Carlton	1974	6	2:33	2 (1A,1Babc)	0:12		0:08				M/Reg/H/I

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Walk Like A Man	Grand Funk	1974	19	4:05	5 (1A, 1B)	0:31		0:00				M/H
No Charge	Mela Montgomery	1974	39	3:09	1 (1A, 1B)	0:07		0:00			X	F/T
Old Home Filler-Up An' Keep On-A-Truckin' Cafe	C.W. McCall	1974	54	2:51	2Aab, 2B	0:09		0:05			X	M/H
Silly Milly	Blue Swede	1974	71	2:55	2 (1A, 1B)	0:08		0:38				M/Reg/H/I
Love Will Keep Us Together	The Captain & Tennille	1975	1	3:24	6 (1a)	0:08		0:33				F/H
Love Won't Let Me Wait	Major Harris	1975	5	5:30	2 (1abc)	0:19		2:02				M/H
Holdin' On To Yesterday	Ambrosia	1975	17	4:14	2 (1A, 1B)	0:26	X	0:55				M/H
Just Too Many People	Melissa Manchester	1975	30	3:35	4 (1A, 1B, 2A, 2B)	0:10		0:26				F/H
What Can I Do For You?	LaBelle	1975	48	3:05	3 (2Aa, 2B)	0:17		0:57	X			MV/H
Rhyme Time People	Kool & The Gang	1975	63	3:18	3	0:17	X	0:50				MV/H
If You Leave Me Now	Chicago	1976	1	3:53	2	0:11	X	1:00				M/H
Love Hurts	Nazareth	1976	8	3:50	3 (2a)	0:19		0:08				M/Reg
Good Hearted Woman	Waylon Jennings & Willie Nelson	1976	25	2:57	2	0:10		0:08				MV/H
Hit The Road Jack	Stampeders	1976	40	2:52	1 (1A, 1B)	0:18		0:45				MV/H/T
Easy As Pie	Billy "Crash" Craddock	1976	54	2:58	2 (1ab)	0:14		0:12				M/H
Party	Van McCoy	1976	69	3:22	1 (1A, 1B, 1C)	0:11		0:16				H/T(F)
Best Of My Love	Emotions	1977	1	3:39	3 (2a)	0:13		0:30				F/MV/H

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Jet Airliner	The Steve Miller Band	1977	8	3:20	2 (2A,2B)	0:09		0:40				M/H
Luckenbach, Texas (Back To The Basics Of Love)	Waylon Jennings	1977	25	3:10	2	0:02		0:15				M/MV/H
Draw the Line	Aerosmith	1977	42	3:21	4 (2A/B)	0:17		0:18	X			M/Reg
Baby Love	Mother's Finest	1977	58	3:23	4	0:02		0:19				F/H
Everybody Ought To Be In Love	Paul Anka	1977	75	3:25	2 (1A/B, 2A/B)	0:19		0:19				M/H/I
Stayin' Alive	Bee Gees	1978	1	3:41	1a b c d e f g h i j k l	0:13		1:10				MV/H
You Never Done It Like That	Captain & Tennille	1978	10	3:18	3 (1AaB)	0:12		0:20				F/H
Ffun	Con Funk Shun	1978	23	4:04	2(1a)	0:35		1:00				MV/H/I
Flying High	Commodore s	1978	38	5:06	4AB	0:33		1:00				H/M
Reach For It	George Duke	1978	54	3:30	1AB	0:45	X	0:10				H/MV/T
It's Over	Electric Light Orchestra	1978	75	4:05	7 (ABs)	0:16		0:29				H/M
Da Ya Think I'm Sexy?	Rod Stewart	1979	1	5:27	3(1ab)	0:35	X	1:02				I/M
Shine A Little Love	Electric Light Orchestra	1979	8	4:09	3 (2A,2B)	0:14		0:20				M/H
Shadows In The Moonlight	Anne Murray	1979	25	3:25	2AB	0:05	X	0:36				F
Mary Jane	Rick James	1979	41	4:55	4a (3A/B)	0:21		1:00				M/H
Rock And Roll Dancin'	Beckmeier Brothers	1979	53	3:38	3 (1A,1B)	0:13	X	0:25				M/Reg/H
(Bringing Out) The Girl In Me	Maxine Nightingale	1979	73	4:56	2ab	1:16		0:15				F/Reg/H

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Another Brick In The Wall Part II	Pink Floyd	1980	1	3:10	1A, 1B, 1C, 2A, 2B	0:00	X	1:50		Part 2		MV/T
Dreaming	Cliff Richard	1980	10	3:37	1 (1A, 1B, 1C)	0:19		0:21				M/H
I Believe In You	Don Williams	1980	24	4:03	1	0:27		0:23				M
First Time Love	Livingston Taylor	1980	38	2:41	2 (1A, 1B)	0:19		0:24				H/MV
Sweet Sensation	Stephanie Mills	1980	52	3:35	2 (1abcd)	0:19		1:00				F/Reg/H
Somewhere In America	Survivor	1980	70	3:58	3 (2A,2B)	0:45		0:47				M/H
Bette Davis Eyes	Kim Carnes	1981	1	3:46	2 (1Aab, 1B)	0:16		0:47				F
Tell It Like It Is	Heart	1981	8	4:28	1A/B, 2A/B/C	0:01		0:13				F/Reg/H
Heart Like A Wheel	The Steve Miller Band	1981	24	2:50	1 (1A, 1B)	0:30		0:09				M/H
Let Me Love You Once	Greg Lake	1981	48	4:16	3	0:14		0:27				M/E
96 Tears	Garland Jeffreys	1981	66	3:03	3 (2abcde)	0:11		0:30				M/E
Let's Put The Fun Back In Rock N Roll	Freddy Cannon & The Belmonts	1981	81	3:42	2	0:07	X	0:20				M/H
Abracadabra	The Steve Miller Band	1982	1	3:37	4	0:16	X	1:30				M/E/H
Yesterday's Song	Neil Diamond	1982	11	2:48	1a	0:16		0:15				MV/H/I
My Girl	Donnie Iris	1982	25	3:49	2 (1A, 1B, 1C)	0:12		0:25				M/H
Man On The Corner	Genesis	1982	40	3:40	1abcdefg	0:52		0:50				M/H/Reg/E
Machinery	Sheena Easton	1982	57	2:53	1Aa, 1B	0:25		0:15				F/H

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Electricland	Bad Company	1982	74	5:25	2 (1A, 1B)	0:26	X	1:55				M/Reg
Billie Jean	Michael Jackson	1983	1	4:50	1Aabc, 1B, 1C	0:29		0:23				M/Reg/H
Always Something There To Remind Me	Naked Eyes	1983	8	3:40	3 (2ab, 3A, 3B)	0:14		0:46				M/Reg
That's Love	Jim Capaldi	1983	28	3:33	2 (1A, 1B, 1C)	0:17	X	1:00				M/H
Cold Blooded	Rick James	1983	40	5:57	2	0:24		1:37				M/Reg/H
Who's Behind the Door?	Zebra	1983	61	5:12	5 (1A, 1B, 4A, 4B)	0:45		2:00	X			M/Reg/T(E)
Don't Make Me Do It	Patrick Simmons	1983	75	2:55	3 (1a, 2a, 3abcd)	0:24		0:17				M/H
Wake Me Up Before You Go-Go	Wham!/George Michael	1984	1	3:51	4	0:13		0:40				MV/H/I
Breakdance	Irena Cara	1984	8	3:26	2 (abcdefgh)	0:37	X	0:39				F/H/MV(E)
Rock You Like A Hurricane	Scorpions	1984	25	4:10	4 (2A/B, 3A/B)	0:33	X	0:20				M/H/Reg
Body Rock	Marai Vidal	1984	48	3:37	2 (1A, 1B, 1C)	0:18		0:33				F/H
Turn Around	Neil Diamond	1984	62	3:43	4	0:14		0:26				M/H
I Will Follow	U2	1984	81	3:36	3 (2AB ab)	0:28		0:24				M/H
The Power Of Love	Huey Lewis & The News	1985	1	3:53	3	0:21	X	0:23				M/H/I
Angel	Madonna	1985	5	3:40	1A,1Bab,1C	0:16		0:22				F/H
A Nite At The Apollo Live! The Way You Do The Things You Do/My Girl	Hall & Oates w/ David Ruffin & Eddie Kendrick	1985	20	4:36	7 (1A, 1B, 3A, 3B, 4A, 4B)	0:14		0:35		X		M/MV/H

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Lay It Down	Ratt	1985	40	3:23	2 (1A, 1B, 1C, 1D)	0:25		0:20				M/Reg/H
What Is This	I'll Be Around	1985	62	3:46	1 (1A, 1Bab)	0:18		0:21				M/Reg/H
Back In Stride	Maze Feat. Frankie Beverly	1985	88	4:10	2 (1A, 1B)	0:35		0:16				M/H
Walk Like An Egyptian	Bangles	1986	1	3:21	3 (abcd)	0:14		0:29				MV/H/Whistle
Tonight She Comes	The Cars	1986	7	3:50	2 (2h, 1abcdefg)	0:22	X	0:11				M
(Forever) Live And Die	Orchestral Manoeuvres In The Dark	1986	19	3:36	2A, 2B	0:19		0:22				H
Somewhere	Barbra Streisand	1986	43	4:55	2 (1A, 1B, 1C, 1D, 1E, 1F)	1:20		0:28				F
Say It, Say It	E.G. Daily	1986	70	4:34	3	0:17		0:22				F/Reg/H
Love In Siberia	Laban	1986	88	3:40	3	0:17		0:15				MV/H
I Still Haven't Found What I'm Looking For	U2	1987	1	4:36	2 (1A, 1B)	0:28		0:35				M/H
Come Go With Me	Expose	1987	5	3:36	4 (2A,2B, 2C)	0:48		0:17				F/MV/H
Coming Around Again	Carly Simon	1987	18	3:38	1 (1A, 1B, 1C)	0:15		0:48				F/Reg/H
Shelter	Lone Justice	1987	47	4:37	2 (2A/B/Ca)	0:50		0:42				F/H
Crazy Crazy Nights	Kiss	1987	65	3:48	3 (1A,1B)	0:09		0:13				M/H
So Much For Love	The Venetians	1987	88	3:40	2 (2Aabc,2B)	0:24		0:30				M/H
Sweet Child O' Mine	Guns N' Roses	1988	1	5:55	1A, 1B, ab, 2A, 2B, 3, 4	0:46	X	2:18	X			M/Reg
I Don't Want To Live Without You	Foreigner	1988	5	3:54	4	0:36		0:24				M/H

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You Don't Know	Scarlett & Black	1988	20	3:41	1ab	0:22		0:30				M/H
In God's Country	U2	1988	44	2:57	2 (1A, 1B, 1C, 1D, 1E)	0:23		0:30				M
Rain In The Summertime	The Alarm	1988	71	4:00	1Aab, 1B	0:53		0:25				M/H
You're Not My Kind Of Girl	New Edition	1988	95	4:00	1	0:22		0:27				M/H/T
Another Day In Paradise	Phil Collins	1989	1	4:48	3 (3Aa,3B)	0:55		0:43				M/H
Love In An Elevator	Aerosmith	1989	5	3:38	7	0:16	X	1:07				M/Reg/H
Who Do You Give Your Love To?	Michael Morales	1989	15	4:04	3 (2a)	0:22	X	0:41				Reg/H
Love Cries	Stage Dolls	1989	46	3:48	2 (2A,2B)	0:30		0:18				M/H
New Thing	Enuff Z'Nuff	1989	67	4:21	5 (2A,2B)	0:08		0:50				M/Reg/H
Name And Number	Big Noise	1989	97	2:54	5 (1A, 1B)	0:22	X	0:25				M/MV/H/I
Release Me	Wilson Phillips	1990	1	3:40	6	0:29		0:38				F/H
What Kind Of Man Would I Be?	Chicago	1990	5	4:18	7 (1A,1B)	0:03		0:30				M/H/I
Unchained Melody	Righteous Brothers	1990	19	3:31	2 (1a)	0:00		0:17				M/Reg
Cuts Both Ways	Gloria Estefan	1990	44	3:06	2 (1A, 1B)	0:20		0:00				F/Reg
Never Enough	The Cure	1990	72	4:24	2 (2A, 2B, 2C)	0:42		0:13				M
Hungry	Lita Ford	1990	98	3:56	3 (2A,2B,2C) (ab)	0:25	X	0:45				F/Reg/H
The First Time	Surface	1991	1	4:15	3	0:20		0:00				M/MV/H/I

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Temptation	Corina	1991	6	3:53	2 (2A,2B,ab)	0:48		0:00				MV/T
Live For Loving You	Gloria Estefan	1991	22	4:14	2 (1A, 1B, 1C, 1D) (a)	0:21		0:25				H
This Is Ponderous	Blue Train	1991	46	4:12	1, 2abcdefgh	0:22		0:21			X	MV/T
What A Price To Pay	Michael Damian	1991	60	4:19	1 (1A, 1B, 1C, 1D)	0:15		0:17				M/I
Blind Faith	Warrant	1991	88	3:15	5 (2A/B)	0:26		0:10				M/Reg/H
Don't Let The Sun Go Down On Me	George Michael/ Elton John	1992	1	5:44	2 (1A, 1B) (ab)	0:20		0:20				M/MV/H
Justified & Ancient	The KLF w/ Tammy Wynette	1992	11	3:38	5	0:08		0:25				F/MV/T/H
Hearts Don't Think (They Feel)!	Natural Selection	1992	28	3:55	1A, 1B, 1C, 1D, 1E, 2A, 2B	0:21		0:16				M/H
The Closing Of They Year (Main Theme from Toys)	Wendy & Lisa	1992	53	4:19	1A, 1B, 2A, 2B	0:20		0:42				MV/H/I
Yeah, Yeah, Yeah!	Voices	1992	72	4:30	2 (1A, 1B)	0:20		0:19				MV/H/I
Sad But True	Metallica	1992	98	5:18	6	0:56	X	0:07				M/Reg
Again	Janet Jackson	1993	1	3:47	1 (1A, 1B)	0:20		0:57				F/I
What's Up	4 Non Blondes	1993	14	4:51	1 (1A, 1B, 1C)	0:30		0:32				F/Reg/I
I Feel You	Depeche Mode	1993	37	4:33	4 (1A, 1B, 1C, 4A, 4B)	0:20		0:50				M/E
Numb	U2	1993	61	4:11	2 (1A, 1B, 1C)	0:27		0:10				M/MV/T
I'm In A Philly Mood	Daryl Hall	1993	82	5:10	2abc	0:35	X	0:22				M/H
I'll Sleep When I'm Dead	Bon Jovi	1993	97	4:39	5 (1Aa, 1B)	0:24	X	1:02				M/Reg/H

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All I Want To Do	Sheryl Crow	1994	2	4:07	3 (2A,2B)	0:13		0:41				F/T
Mary Jane's Last Dance	Tom Petty & The Heartbreakers	1994	14	4:25	2 (1A, 1B, 1Ca)	0:23	X	0:54				M/I
Long View	Green Day	1994	36	3:59	3	0:22		0:40				M/H
Just Another Day	Queen Latifah	1994	54	4:24	1 (1A, 1B, 1C, 1D)	0:33		0:24				F(R)/H
Since I Don't Have You	Guns N' Roses	1994	69	4:11	4	0:49		1:18				M/Reg
Come Clean	Jeru The Damaja	1994	88	4:56	1 (1A, 1B, 1C)	0:22		0:34				M(R)/MV
This Is How We Do It	Montell Jordan	1995	1	3:56	2 (2A, 2B, 2C, 2D, 2E)	0:12		1:03				M/MV/H/R
Can't You See	Total w/ Notorious B.I.G.	1995	13	4:52	2a	0:06		0:50				F/MV/H/T
All I Want For Christmas Is You	Mariah Carey	1995	35	4:00	3 (3A/B)	0:57		0:28				F/Reg/H
Hooked On You	Silk	1995	54	4:28	3 (abc)	0:21		0:47				M/H/MV
Dancing Days	Stone Temple Pilots	1995	63	3:40	2 (a)	0:18		0:51				M/I
Tonight's The Night	BLACKstreet w/SWV	1995	80	4:15	1 (ab)	0:28		1:00				F/M/R/MV/H
You're Makin' Me High	Toni Braxton	1996	1	4:07	2 (abc)	0:32		0:23				F/MV/H/E
I Go Blind	Hootie & The Blowfish	1996	13	3:14	4 (2A,2B)	0:09		0:52	X			M/MV/H
In the Meantime	Spacehog	1996	32	4:30	5 (ab)	0:58		1:15				M/Reg
Popular	Nada Surf	1996	51	3:46	2 (1A,1B, 2A, 2B)	0:25		0:00			X	M/T/Reg
The Thanksgiving Song	Adam Sandler	1996	67	3:42	4	0:31		0:00				M/T

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So Many Ways	The Braxtons	1996	83	3:58	1	0:23		0:32				MV/H
4 Seasons Of Loneliness	Boyz II Men	1997	1	4:51	2 (1A, 1B, 1C, 1D)	0:36		0:00				MV/H
Show Me Love	Robyn	1997	7	3:40	2 (abcd)	0:13		0:00				F/H
1# Crush	Garbage	1997	29	4:46	1A, 1B (abc)	0:19		0:28				F/H
Come On	Billy Lawrence w/MC Lyte	1997	44	4:08	2 (a)	0:05		0:38				MV/T/H
Last Christmas	Wham!/George Michael	1997	58	4:17	1ab	0:18		0:12				MV/H
Down For Yours	Nastyboy Klick w/Roger Troutman	1997	69	4:04	1	0:00		0:36				F/M(E)/T/MV
The Boy Is Mine	Brandy & Monica	1998	1	4:54	1A, 1B, 1C	0:46		0:00				F/T/H/MV
They Don't Know	Jon B	1998	7	4:26	2 (2A,2B)	0:24		0:20				M/H/MV/E
Am I Dreaming	Ol' Skool w/Keith Sweat & Xscape	1998	31	5:48	2	0:37		0:40				M/MV/H
Hey Now Now	Swirl 360	1998	47	4:06	4 (1A, 1B, 2A, 2B, 4A, 4B)	0:10		0:34				M/H/Reg
Freak Out	Nutta Butta w/Teddy Riley & Anonymous	1998	63	4:54	1	0:23		0:00				M/T/H/MV
I Can Love You Better	Dixie Chicks	1998	77	2:59	2 (2A,2B)	0:21		0:22				F/MV/H
Livin' La Vida Loca	Ricky Martin	1999	1	4:03	1 (1A, 1B, 1C)	0:11		0:25				M/H
Sweet Lady	Tyrese	1999	12	4:50	1abcd	0:30		0:31				M/MV/H
You Had Me From Hello	Kenny Chesney	1999	34	3:51	3	0:13		0:45	X			M/H/Reg

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I Can't Get Over You	Brooks & Dunn	1999	51	4:08	2 (1A, 1B)	0:20		0:30				M/H
Malibu	Hole	1999	81	3:50	2 (1A, 1B, 1C)	0:16		0:44				F/H
Another Way	Tevin Campbell	1999	100	4:54	1 (1A, 1B)	0:26		0:25				M/H/Reg
It's Gonna Be Me	NSYNC	2000	1	3:10	3 (1A, 1B)	0:15		0:00				M/MV/H
She Bangs	Ricky Martin	2000	12	4:02	1 (1A, 1B, 1C) ab	0:34		0:25				M/H
It Must Be Love	Alan Jackson	2000	37	2:53	1 (1A, 1B)	0:18		0:12				M/H/Reg
Change Your Mind	Sister Hazel	2000	59	4:02	5	0:22		0:25				M/H/Reg
Monica	Before Dark	2000	77	4:04	2	0:12		0:12				F/MV/H
Toca's Miracle	Fragma	2000	99	3:22	2 abcdef	0:10		0:10				F/T/H/Reg
Fallin'	Alicia Keys	2001	1	3:30	abcdefgh	0:10		0:20				F/H
Never Had A Dream Come True	S Club 7	2001	10	3:55	5 (2A,2B)	0:17		0:11				F/H
Run	George Strait	2001	34	3:57	2 (ab)	0:19		0:24				M/H
Look At Us	Sarina Paris	2001	59	3:27	2 abcdefgh	0:00		0:00				F/E
Miss California	Dante Thomas w/ Pras Michel	2001	85	4:09	2 (2A,2B)	0:18		0:09				T/H/E
Like, Wow!	Leslie Carter	2001	99	3:41	2 (1A, 1B, 1C)	0:11		0:30				F/H
What's Luv?	Fat Joe w/ Ashanti	2002	2	3:51	1	0:22		0:27				MV/H/T
Here Is Gone	Goo Goo Dolls	2002	18	3:58	2 (1a) (2A, 2B, 2C)	0:19		0:32				M/MV

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I Should Be Sleeping	Emerson Drive	2002	35	2:57	3 (1A, 1B, 1C)	0:15		0:28				M/H
What If A Woman	Joe	2002	63	4:12	3	0:06		0:20				E/MV
WhatChulookinat	Whitney Houston	2002	96	3:35	3 (2A, 2B)	0:20		0:00				F/MV/H/T
Be Here	Raphael Saadiz w/ D'Angelo	2002	99	3:36	2 (1A, 1B, 1C)	0:10		0:27				M/MV/H
All I Have	Jennifer Lopez w/LL Cool J	2003	1	4:14	1 (1A, 1B, 1C)	0:32		0:08				F/MV/H/T
Like Glue	Sean Paul	2003	13	3:53	1 (1A, 1B, 1C)	0:09		0:07				M/E
I Believe	Diamond Rio	2003	31	3:33	4	0:35		0:25				M/MV/H
(I Hate) Everything About You	Three Days Grace	2003	55	3:48	3 (1Aa, 1B, 1C)	0:12		0:27				M/Reg
Officially Missing You	Tamia	2003	83	4:01	2 (1a)	0:20		0:45				F
Break You Off	The Roots W/Musiq	2003	99	3:36	1 (1A, 1B, 1C, 1D)	0:13		0:17				M/T/H
I Don't Wanna Know	Mario Winans w/P. Diddy & Enya	2004	2	4:13	1 (1A, 1Bab)	0:20		0:25				M/MV/T/H
Through The Wire	Kanye West	2004	15	3:45	4	0:35		0:13				M/MV/E/H
Talk About Our Love	Brandy w/ Kanye West	2004	36	3:36	3	0:06		0:00				F/M/MV/H/T
I'm Really Hot	Missy Elliott	2004	59	3:29	1abcdef	0:17		0:40				M/R/E
Alone	Lasgo	2004	81	3:58	2abcdef	0:03		0:19				F
Whatever U Want	Christina Milian w/ Joe Budden	2004	100	3:39	2ab	0:10		0:20				M/F/R/MV/H
Gold Digger	Kanye West w/Jamie Foxx	2005	1	3:26	2a	0:17		0:00				M/MV/R

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Mockingbird	Eminem	2005	11	4:09	1	0:23		0:00				M/R/H
Chariot	Gavin DeGraw	2005	30	3:48	3 (1Aa, 1B, 1C)	0:14		1:00				M/Reg/H
Axel F	Crazy Frog	2005	50	2:47	abcdefg	0:07		0:08				M(E)/I/T
Save Me	Shinedown	2005	72	3:28	2 (1A, 1B abc, 2A, 2B)	0:17		0:22				M/Reg/H
Good Times	Tommy Lee	2005	95	3:04	3 (1abc)	0:12		0:27				M/Reg/H
I Wanna Love You	Akon w/ Snoop Dogg	2006	1	4:05	1abc	0:11		0:45				MV/R/M
Dance, Dance	Fall Out Boy	2006	9	2:58	5 (1A, 1B abc)	0:12		0:18				M/Reg/H
Torn	LeToya	2006	31	4:01	2 (1A, 1B, 1C, 1D) ab	0:30		0:17				F/H
Beautiful Love	The Afters	2006	55	3:56	4 (1A, 1B, 1C, 1D)	0:30		0:21				M/H/Reg
Remedy	Seether	2006	70	3:24	4 (1abc, 2d)	0:23		0:00				M/Reg/H
Tu Recuerdo	Ricky Martin w/La Mari	2006	89	4:07	2 (1A, 1Ba)	0:12		0:07				M/F/H/Reg
Beautiful Girls	Sean Kingston	2007	1	3:43	2 (1Aab, 1B, 1C, 1D)	0:04		0:15				M/H/E
Big Things Poppin' (Do It)	T.I.	2007	9	3:58	1 (1A, 1B, 1Ca)	0:12		0:37				M/H/R
Like This	Kelly Rowland w/ Eve	2007	30	3:35	5 (2abc)	0:03		0:18				MV/R
Doe Boy Fresh	Three 6 Mafia w/ Chamillionaire	2007	54	4:10	3 (1A, 1B) abcd	0:26		0:20				MV/R
I Who Have Nothing	Jordin Sparks	2007	80	2:44	2 (ab)	0:16		0:22				M/Reg
Given Up	Linkin Park	2007	99	3:07	3 (1A, 1B, 1C, 3A, 3B)	0:24		0:00				M/Reg

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Bleeding Love	Leona Lewis	2008	1	4:20	3 (1Aabcde, 1B, 2A, 2B)	0:19		0:20				F/Reg/H
Change	Taylor Swift	2008	10	4:35	4	0:21	X	0:50				F/Reg/I
Get Silly	V.I.C.	2008	29	3:45	3abc	0:08		1:00				M/MV/R
Nine In The Afternoon	Panic At The Disco	2008	51	3:11	7 (1abcde)	0:06		0:45				M/H/Reg
Now Or Never	High School Musical 3 Cast	2008	68	4:28	4 (1abcdef, 2A, 2B, 2C, 2D, 2E)	0:34		0:50				MV/H/Reg
You Are The Best Thing	Ray LaMontagne	2008	90	3:49	3 (1A, 1B)	0:25		0:25				M/Reg/H
3	Britney Spears	2009	1	3:23	3 (1A, 1B, 1C) (abcdef)	0:28		0:00				F/E/H
Cowboy Casanova	Carrie Underwood	2009	11	3:53	4 (2A,2Ba)	0:23		0:15				F/Reg/H
Put It On Ya	Plies w/ Chris J	2009	31	3:49	1 (1A, 1B)	0:19		0:00				MV/T/H
LOL :-)	Trey Songs w/Gucci Mane & Soulja Boy Tell'em	2009	51	4:05	1 (1A, 1B, 1C, 1D)	0:27		0:00				MV/T/H
Playa Cards Right	Keyshia Cole w/ 2Pac	2009	63	4:50	1 (1A, 1Ba)	0:23		0:21				MV/E/H/T
Amazing	Kanye West w/Young Jeezy	2009	81	3:57	2 (1Aa, 1Bb)	0:06		0:27				MV/E/H/T
OMG	Usher w/ will.i.am	2010	1	4:27	3 (1abcde)	0:15		0:30				MV/E/H/T
My Chick Bad	Ludacris w/ Nicki Manaj	2010	11	3:36	1A, 1B (abcde)	0:00		0:24				MV/E/H/T
There Goes My Baby	Usher	2010	25	4:41	2 (1A, 1B, 1C)	0:25		0:00				M/E/H
Got Your Back	T.I w/Keri Hilson	2010	38	4:23	2 (1A, 1B, 1C, 1D)	0:13		0:00				MV/E/H

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
I Am	Mary J. Blige	2010	55	3:25	3 (2A,2Ba,2C,2D)	0:10		0:45				F/H/Reg
Bet I	B.o.B. w/ T.I. & Playboy Tre	2010	72	4:14	4	0:06		0:00				MV/H/T
Black And Yellow	Wiz Khalifa	2011	1	3:35	2 (1A, 1B, 1C)	0:11		0:05				R/M/H/E
Mistletoe	Justin Bieber	2011	11	3:02	1A, 1B (abcde)	0:04		0:23				M/H
Rain Over Me	Pitbull w/ Marc Anthony	2011	30	3:51	3 (1A, 1B, 1C)	0:00		0:00				MV/H/T
Bang Bang Pow Pow	T-Pain w/Lil Wayne	2011	48	3:39	1abc	0:28		0:00				MV/T/E/H
Friday	Rebecca Black	2011	58	3:30	1A,1Ba,1C,1D,1E	0:17		0:00				MV/T/E/H
Beautiful	Christina Aguilera & Beverly McClellan	2011	74	3:41	2 (1a)	0:18		0:34				MV/H

Analyzed Long Songs with Characteristics

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Green Christmas	Stan Freberg	1958	44	6:50	<u>5</u> (5)	0:25		0:00		X	X	T/M/Ch
Like a Rolling Stone	Bob Dylan	1965	2	6:08	6 (1)	0:11		0:20				M
Hey Jude	The Beatles	1968	1	7:04	3 (1) [L2]	0:00		<u>3:56</u>	X			M/MH/Ch
MacArthur Park	Richard Harris	1968	2	7:24	<u>3</u> (3)	0:19		0:26				M/F/Ch
The Minotaur	Dick Hyman	1969	38	8:30	<u>1</u> (1) [L7]	<u>0:40</u>	X	<u>1:09</u>				N/A
They Can't Take Away Our Music	Burden, Eric, and War	1970	50	6:49	<u>1</u> (1) [L6]	<u>0:45</u>		<u>2:27</u>				M/Reg/Ch
I Stand Accused	Isaac Hayes	1970	42	11:39	5 (3)	<u>4:54</u>		<u>3:35</u>			X	T/M/Ch
What the World Needs Now Is Love	Tom Clay	1971	8	6:17	2 (2)	<u>1:24</u>		0:31	X		X	T/FCh/Ch
Layla	Derek and the Dominoes	1971	10	7:04	3 (3)	0:26	X	<u>3:54</u>		X		M/MH
<i>Stairway to Heaven</i>	<i>Led Zeppelin</i>	1971	N/A	8:02	<u>5</u> (5) [L3]	<u>0:50</u>	X	<u>1:58</u>	X			M/Reg
Roundabout	Yes	1971	13	8:36	<u>9</u> (6)	<u>0:44</u>	X	0:43				M/MH/MH (E)
Sweet Inspiration/Where You Lead	Barbra Streisand	1972	39	6:24	<u>14</u> (8)	<u>1:05</u>		0:54	X	X		F/Reg/Ch
Jubilation	Paul Anka	1972	65	6:29	3 (3)	0:25		<u>3:02</u>	X			M/MH/Ch
American City Suite	Cashman and West	1972	27	7:47	3 (3)	0:00		0:49		X		M/Reg
Tiny Dancer	Elton John	1972	45	6:14	<u>4</u> (2) [L3]	0:14		0:17				M/Reg/Ch

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Taxi	Harry Chapin	1972	24	6:40	<u>7</u> (5)	0:11		0:16			X	M/Reg/Ch
Better Place to Be (Parts 1 & 2)	Harry Chapin	1972	86	8:31	<u>9</u> (9) [L4]	0:00		0:50			X	M/Reg
Time	Pink Floyd	1973	6:52	7:06	<u>5</u> (5)	2:29	X	1:00	X	X		M/Ch (E)
Give It to Me	J. Geils Band	1973	30	6:31	<u>6</u> (5)	0:23	X	4:27				M/MH
Free Bird	Lynyrd Skynyrd	1974	19	9:06	<u>9</u> (4)	1:10	X	4:24	X			M
Kashmere	Led Zeppelin	1975	N/A	8:25	<u>4</u> (3)	0:00		1:53				X/MH
I Cheat the Hangman	Doobie Brothers	1975	60	6:34	<u>5</u> (4)	0:10		2:22	X			M/MH
Someone Saved My Life Tonight	Elton John	1975	4	6:45	<u>6</u> (4)	0:15		1:03				M/Reg/Ch
Get the Funk Out of Ma Face	The Brothers Johnson	1976	30	6:01	<u>3</u> (3)	0:12		2:58				R/M
Do You Feel Like We Do	Peter Frampton	1976	10	6:12	<u>6</u> (4)	1:01	X	2:22				M/MH
Queen of My Soul	Average White Band	1976	40	6:05	<u>6</u> (6)	0:08	X	1:30				M/Ch
Paradise by the Dash Board Light	Meat Loaf	1977	39	8:30	<u>11</u> (9)	0:00		1:20	X	X	X	M/F/Ch
Hotel California	Eagles	1977	1	6:30	<u>6</u> (1) [L2]	0:52	X	2:10				M/MH
The Killing of Georgie	Rod Stewart	1977	30	6:29	<u>6</u> (4)	0:21		1:57	X	X	X	M/Ch
Foreplay/Long Time	Boston	1977	22	7:48	<u>7</u> (6)	2:30	X	0:43		X		M/MH
Deacon Blues	Steely Dan	1978	19	7:25	<u>4</u> (2)	0:13	X	1:18				M/Ch

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
It's Late	Queen	1978	74	6:26	<u>7</u> (6)	0:25	X	0:51				M/MH
Whole Lotta Love	The Wonder Band	1979	87	6:00	<u>8</u> (12) [L3]	0:54		1:31				M/Ch (E)
Fool in the Rain	Led Zeppelin	1979	21	6:08	<u>2</u> (2) [L1]	0:16		0:25				R/M
Sequel	Harry Chapin	1980	23	6:39	<u>12</u> (10)	0:16		0:26			X	M/Gr/Ch
Rapture	Blondie	1980	1	6:31	<u>5</u> (2)	0:32	X	1:34				F/Reg/R
Brite Eyes	Robbin Thompson Band	1980	66	6:20	<u>7</u> (7) [L2]	0:21	X	3:27	X			M/Reg
1999	Prince	1982	12	6:19	<u>1</u> (1) [L7]	0:49		2:10				F/M
Mama	Genesis	1983	73	6:37	<u>4</u> (1)	1:03		0:43				M/Reg
Left in the Dark	Barbra Streisand	1984	50	7:08	<u>6</u> (5)	0:51		1:22			X	T/F/Ch
Sunset Grill	Don Henley	1985	22	6:16	<u>1</u> (1) [L12]	0:27	X	2:01				M/Ch
We Are the World	USA for Africa	1985	1	7:15	<u>4</u> (2)	0:24		3:28				Various MF/Ch
Sweet Child of Mine	Guns n' Roses	1987	1	5:56	<u>7</u> (4) [L2]	0:46	X	2:21	X			M/Reg
December 1963 (Oh What a Night)	Four Seasons (Liebrand Remix)	1988	1	6:14	<u>1</u> (1) [L10]	0:58		0:35				M/Reg
The Last Worthless Evening	Don Henley	1989	21	6:04	<u>2</u> (1)	0:32		0:45				M/FCh
The Secret Garden (Sweet Seduction Suite)	Quincy Jones	1989	31	6:40	<u>2</u> (2)	0:37		2:19				M/M/ M/M/ FCh
One	Metallica	1989	35	7:27	<u>7</u> (4)	1:46	X	2:08				M/Gr (E)

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Radar Love	Golden Earring	1989	13	6:24	<u>7</u> (7) [L5]	0:47	X	0:23				M/Reg/Ch
Paradise City	Guns n' Roses	1989	5	6:44	<u>8</u> (6) [L3]	1:20	X	2:10	X			M/MH
Freedom	George Michael	1990	8	6:20	<u>3</u> (3)	0:53		0:14				M/Ch
New York Minute	Don Henley	1990	48	6:36	<u>7</u> (4)	0:55	X	2:19				M/Ch
Lift Me Up	Yes	1991	86	6:30	<u>11</u> (6)	1:11		1:38				M
Keep Coming Back	Richard Marx	1991	12	6:15	<u>3</u> (3)	0:58	X	1:51				M/FH
No Son of Mine	Genesis	1991	12	6:39	<u>4</u> (4)	0:28		1:15				M
The Unforgiven	Metallica	1991	35	6:25	<u>4</u> (4)	0:48	X	1:19				M/Reg/Gr
She's Gone (Lady)	Steelheart	1991	59	6:29	<u>5</u> (3)	1:04	X	0:43				M/Reg
What Goes Around Comes Around	Giggles	1992	47	6:05	<u>1</u> (1) [L11]	1:07		0:34				F/FR/MR (E)
A Deeper Love	C & C Music Factory	1992	44	6:08	<u>2</u> (2) [L7]	1:03		2:28				F
Understand This Groove	Sound Factory	1992	58	6:22	<u>3</u> (2) [L5]	0:23		1:41				M/F(coda)
Butt Naked	Charm	1992	91	7:55	<u>4</u> (4) [L10]	1:18		2:53				R/M
Heal the World	Michael Jackson	1992	27	6:21	<u>5</u> (3) [L1]	1:02		1:00				M/Ch
Maria	TKA	1992	44	6:55	<u>5</u> (4) [L8]	1:34		1:58				M/MH
Nothing Else Matters	Metallica	1992	34	6:29	<u>5</u> (5) [L4]	1:02	X	1:33				M/MH (E)

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
What You Give	Tesla	1992	86	7:17	6 (4)	0:32	X	1:02				M/MH
Wherever I May Roam	Metallica	1992	82	6:40	7 (4)	1:11	X	1:19				M/Gr/MH
November Rain	Guns n' Roses	1992	3	8:56	8 (4)	1:15	X	2:09	X			M/Reg/MH
Human Touch	Bruce Springsteen	1992	16	6:25	8 (5)	0:10	X	1:50				M/FH
Pink Cashmere	Prince	1993	50	6:14	2 (1)	0:24	X	3:19				M/MH
Push the Feeling On	Nightcrawlers	1993	80	6:38	2 (1) [L10]	0:25		0:00				M
Sweet On You	Lo-Key	1993	91	6:20	2 (1) [L3]	0:54		1:32				M/R/Ch
All About Soul	Billy Joel	1993	29	6:00	2 (1) [L4]	0:18		1:23				M/Reg
Bed of Roses	Bon Jovi	1993	10	6:36	2 (2) [L2]	0:00	X	0:00				M/Reg
Both Sides of the Story	Phil Collins	1993	25	6:40	5 (1)	0:31		1:59				M
Stairway to Heaven	Pure Soul (feat. The O'Jays)	1993	79	6:13	5 (5) [L1]	1:02		2:29	X			F/M/Ch
Sentimental	Kenny G	1993	72	6:38	7 (3)	0:29	X	0:20				Instr.
Livin' on the Edge	Aerosmith	1993	18	6:15	9 (5)	0:12	X	2:22				M/MH
Closer	Nine Inch Nails	1994	41	6:25	3 (3) [L12]	0:21		3:34	X			X (E)
When I Give My Love	Keith Sweat	1994	85	6:06	4 (2)	0:20		1:31				M/Reg/Ch
Sympathy for the Devil	Guns n' Roses	1994	55	7:33	4 (2) [L1]	0:28	X	2:37			X	M/Reg/MH

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
El Trago (The Drink)	2 In A Room	1994	86	6:24	<u>4</u> (4) [L4]	1:31		1:04				M/E/R
Cocktails	Too Short	1995	69	6:09	2 (1)	0:00		1:26			X	MR
Let's Make a Night to Remember	Bryan Adams	1995	24	6:19	5 (2)	0:14		1:16				
Champagne Supernova	Oasis	1995	20	7:28	<u>5</u> (3) [L1]	0:32	X	1:30				M
I'd Lie for You (And That's the Truth)	Meat Loaf	1995	13	6:37	<u>8</u> (8)	0:47		1:33				M/F
Jesus to a Child	George Michael	1996	7	6:52	2 (2)	0:50		1:58				M
That's Right	DJ Taz	1997	51	6:12	<u>5</u> (3)	0:14		0:30				F/MR/MH
Hole in My Soul	Aerosmith	1997	51	6:10	<u>5</u> (4)	0:13		1:16				R/M/MH
Better Off Alone	Alice DeeJay	1998	88	6:50	<u>1</u> (1) [L7]	2:50		0:46				F
Come With Me	Puff Daddy	1998	4	6:05	4 (4)	1:00		2:21				R/M
Frozen	Madonna	1998	2	6:09	4 (4)	0:38		0:49				F
The Unforgiven II	Metallica	1998	59	6:34	<u>6</u> (4)	0:36	X	0:46				M/Reg/Gr/MH
Auld Lang Syne (Millennium Mix)	Kenny G	1999	7	7:50	<u>7</u> (2)	0:00		0:35			X	Instr.
Everybody's Free (to Wear Sunscreen)	Baz Luhrmann	1999	45	7:09	<u>7</u> (7) [5]	0:00		0:37			X	MT
As We Lay	Kelly Price	2000	64	6:20	3 (3)	0:15		1:10				F
Untitled (How Does it Feel)	D'Angelo	2000	25	7:23	4 (3)	0:25		0:44				M/FCh

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Can't Stay	Dave Hollister	2000	84	6:20	6 (3)	0:00		2:08				T/M/M/Ch
I'll Fly With You (L'Amour Toujours)	Gigi D'Agostino	2001	78	6:56	3 (1)	0:15		0:51				F/M (E)
Schism	Tool	2001	67	6:42	9 (8) [L9]	0:40		2:55	X			M/Reg/MH (E)
You Don't Know My Name	Alicia Keys	2003	29	6:06	3 (3)	0:00		3:20			X	F/FCh
I Wish You'd Stay	Brad Paisley	2003	57	6:17	5 (5)	1:14	X	0:00			X	M/MH
Hate Me	Blue October	2006	29	6:20	6 (3)	0:51		1:30				M/Reg
<i>Vicarious</i>	<i>Tool</i>	2006	115	7:06	9 (6)	1:07		1:33	X			M/Gr (E)
Stupid Boy	Keith Urban	2006	40	6:14	9 (6) [L5]	0:13	X	2:56	X			M/MH
Calabria 2007	Enur	2007	46	6:36	3 (1) [L4]	1:07		1:27				F
Last Night	P. Diddy (feat. Keyshia Cole)	2007	10	6:26	7 (2)	1:13		1:17				T/M/F (E)
Cyanide	Metallica	2008	50	6:39	10 (10)	0:45	X	0:19				M (E)
Through the Fire and Flames	Dragonforce	2008	86	7:22	12 (7) [L2]	0:40	X	0:40				M/MH/Ch
I Will Possess Your Heart	Death Cab for Cutie	2008	70	8:25	2 (2) [L11]	4:32		0:28				M
Never Would Have Made It	Marvin Sapp	2008	82	6:55	4 (3)	0:00		1:25				M/Reg/Ch
The Day That Never Comes	Metallica	2008	31	7:56	8 (6)	1:21	X	4:08		X		M/Gr (E)
Beautiful	Eminem	2009	17	6:32	2 (2) [L4]	0:29	X	1:26				R/M

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Monster	Kanye West	2010	18	6:21	<u>2 (2)</u> [L6]	0:22		1:28	X			R/M/F
We Are the World 25: For Haiti	Artists for Haiti	2010	2	6:52	4 (2) [L1]	0:25		3:24				Various MF/Ch
Last Kiss	Taylor Swift	2010	71	6:09	<u>4 (4)</u>	0:28		0:35				F/MH
Dear John	Taylor Swift	2010	54	6:43	<u>5 (3)</u>	0:24		0:35				F/MH
F**k Today	Lil Wayne	2010	76	6:02	<u>5 (5)</u> [L1]	0:24		0:20				M/Reg (E)

APPENDIX D

Analyzed Long Songs

“1999” (1982) by Prince

Section	Extended Intro		A		A			B	A			Extended Coda			
			Verse	Chorus	Verse	Chorus	Verse	Chorus	Verse	Chorus					
Groove	1a	1b		1c	1b	1c	1b		1c	1b	1c	1d	1e	1f	1g
Timing	0:00	0:35	0:49	1:23	1:36	2:12	2:24	2:35	3:09	3:37	3:57	4:09	4:30	5:30	5:42-6:19

“A Deeper Love” (1992) by C & C Music Factory

Section	Extended Intro								Extended Coda			
		Verse			Ch. ¹	Verse	Ch. ¹	Ch. ²	Retains Layers From Previous Groove			
Groove	Layers Build	1a	1b	1c	1d		1e	1f	2f	g	Layers Slowly Drop Out	
Timing	0:00	1:03	1:19	1:32	1:50	2:21	2:30	2:53	3:24	3:40	5:15	5:47-6:08

“All About Soul” (1993) by Billy Joel

A			A			B (Bridge)		A		(B) Extended Coda		
Intro	Verse	Chorus	Transition (intro)	Verse	Chorus	Transition (intro)		Verse	Chorus	Transition (intro)		
1a (b)	1	1'	1a (b)	1	1'	1a (b)	1cd	1	1'	1a (b)	1cd	
0:00	0:18	0:52	1:27	1:40	2:16	2:47	2:57	3:30	4:07	4:37	4:55-6:00	

a = syncopated rhythm guitar b = guitar riff c = “nah nah..” d = “All About...”

“American City Suite” (1972) by Cashman and West

	Song #1				Song #2				Song #3				
Section	V1	Ch1	V1	Ch1	V2	Ch2	V2	Ch2	A	A	B	A	Coda
Groove	1				2				3				
Timing	0:00	0:42	0:54	1:22	1:37	2:10	2:30	3:04	3:19	4:29	5:38	6:08	6:58-7:47

“As We Lay” (2000) by Kelly Price

Section	Intro	A		A		B	A		Drop Out	Extended Coda
		a	b	a	b	c	a	b		b
Groove	1	2				3				3
Timing	0:00	0:15	0:48	1:19	1:50	2:19	2:50	3:20	3:53	4:10-6:20

“Auld Lang Syne” - The Millennium Mix (1999) by Kenny G

Intro	Auld Lang Syne	No Sax	Auld Lang Syne	Auld Lang Syne	Auld Lang Syne	No Sax	Tr.	Auld Lang Syne	Auld Lang Syne	No Sax	Tr.	Auld Lang Syne	Auld Lang Syne	Auld Lang Syne	Coda
1A		1B		1C		1D		1E		1C		1F			0
Phonograph Recording		Recordings Continue and Progress from the Earliest Recordings to 1999													
0:00	0:12	0:50	1:20	1:48	2:18	2:45	3:30	3:45	4:20	4:41	5:26	5:45	6:14	6:44	7:15-7:50

“Beautiful” (2009) by Eminem

										Extended Coda	
Intro	Verse	Pre-Chorus	Chorus	Verse	Pre-Chorus	Chorus	Verse	Pre-Chorus	Chorus	(Intro)	Guitar Solo
1V ¹	2V ²	2V ³		2V ²	2V ³		2V ²	2V ³		2V ¹	2V ⁴
0:00	0:29	1:13	1:27	1:56	2:40	2:55	3:23	4:21	4:37	5:06	5:36-6:32

“Bed of Roses” (1993) by Bon Jovi

Section	Ext. Intro	A			A		B		A		
		Verse	Verse	Chorus	Verse	Chorus	Bridge	Solo	Verse	Chorus	Chorus
Groove	1a		1b	2a	1	2a	2b	2a	1a	2a	
Timing	0:00	0:38	1:18	1:56	2:33	3:10	3:48	4:08	4:41	5:19	5:54-6:36

“Better Off Alone”(1998) by Alice DeeJay

S	Extended Introduction							A			B	A				A		B	Coda		
G	1a	1b	1c	1d	1e	f		1f		1g	1d		g	f	fg	1fg		1h	1d	1b	1a
T	0:00	0:30	0:57	1:14	1:26	1:54	2:22	2:36	2:50	3:19	3:32	3:46	4:01	4:14	4:28	4:42	4:58	5:24	5:38	6:05	6:20-6:50

“Better Place to Be” (1972) by Harry Chapin

Section	A		B		A		B			A	B		A		A”		B	Coda	
Groove	1	2a	3a	2b	4		3b	3c	3d	4	3b	3c	4	5	6	7	8	9	
Timing	0:00	0:49	0:57	1:12	1:28		3:02	3:19	3:48	4:09	4:34	4:53	5:08	5:39	5:59	6:39	7:23	7:41-8:31	

“Both Sides of the Story” (1993) by Phil Collins

Extended Intro	A		A		B	A		B	A	Extended Coda	
	a	b	a	b	c	a	b	c	a		
1A	1B	1A			1C				1D	1E	
0:00	0:31	1:07	1:21	1:50	2:02	2:43	3:12	3:20	3:47	4:41	6:15-6:40

“Brite Eyes” (1980) by Robbie Thompson Band

		A		A		B	A						Extended Solo
Section	Intro	a	b	a	b	c	b	Extended Coda/Terminal Climax					
Groove	1	2a	1	2a	1	3	2b	4	5	6	1	7	
Timing	0:00	0:21	0:46	1:06	1:32	1:59	2:28	2:53	3:33	3:58	4:25	5:16	5:42-6:20

“Butt Naked” (1992) by Charm

S	Extended Intro					A			A			B					A			Extended Coda					
						a		b	a		b	c					a		b						
G	1a	1b	1c	2d	2e	2f	2g	2d	2h	2g	2d	3	3h	3c	2i	2f	2g	2d	1d	4	4i	2	2j		
T	0:00	0:17	0:30	0:46	1:02	1:18	1:33	1:48	2:03	2:19	2:34	2:50	2:59	3:06	3:21	3:52	4:07	4:17	4:38	5:02	5:21	5:24	5:49	6:20	6:33-7:55

“Calabria 2007” (2007) by Enur

S	Intro		Ch1		Ch1	Ch2	Verse	Ch3		Ch1	Ch2	Verse	Ch3		Ch1	Ch2	Extended Coda	
G	Build-1A		1B	1Ba	1Ba	1Ca	1C	1C	1Ca	1Ca	1Ca	1Cd	1C	1Ca	1Ca	1Ca	1Ca	1C
T	0:00	0:38	1:07	1:21	1:37	1:51	2:22	2:37	2:52	3:02	3:08	3:38	3:53	4:08	4:24	4:39	5:09	5:25-6:36

“Can’t Stay” (2000) by Dave Hollister

A		A			B		A	Extended Coda				
Chorus	Verse	Chorus	Verse	Chorus	Bridge		Chorus					
1A	1B	1A	1B'	1A	2A	3	1A	1B''		2B		3
0:00	0:27	1:17	1:39	2:29	2:52	3:10	3:22	4:12		5:00		5:53-6:20

“Champagne Supernova” (1995) by Oasis

Ex. Intro	Verse	Chorus	Verse	Chorus	Bridge (G. Solo)	Transition
1a (a>,<1)	1A		1B	2	3	
0:00	0:32	0:58	1:37	2:02	2:27	2:55

First Verse	Chorus	Bridge		Extended Coda	
1C	2	3	Guitar Solo	1C	“...getting high”
3:19	3:44	4:09	4:38	5:58	6:08-7:28

a = waves

“Closer” (1994) by Nine Inch Nails

Section	Introduction	Verse	Pre-Chorus	Chorus	Transition	Verse’	Pre-Chorus	Chorus
Groove	1a	1ab	1abc	2c	1abd	1abcde		2cf
Timing	0:00	0:21	0:43	1:04	1:26	1:48	2:09	2:29

Extended Coda/Terminal Climax							
1abcde	1ab’cde (<g)	1abcdeh	1abcde	1abcdej	1abcdejk	1abcdejkl	3l
2:51	3:02	3:45	4:29	4:50	5:11	5:32	5:54-6:25

“Cocktales” (1995) by Too \$hort

Section	Chorus	Verse	Chorus	Verse	Chorus	Extended Coda	
Groove	1A					1B	
Timing	0:00	0:22	2:24	2:35	4:31	4:43	5:30-6:09

a = strings

“Come With Me” (1998) by Puff Daddy

Section	Intro	A		A		B	A			Extended Coda	
		Verse	Chorus	Verse	Chorus	Bridge	Verse	Free Rap	Chorus	Bridge	
Groove	1		2	1	2	3	1			4	1
Timing	0:00	0:33	1:00	1:10	1:42	1:55	2:32	3:07	3:31	3:44	4:06-6:05

“Cyanide” (2008) by Metallica

Section	A									A							
	Introduction			Verse1	Pre-Chorus				Chorus	Transition		Verse1	Pre-Chorus			Chorus	
Groove	1	2	3	2	4	3	4	3	5	2	3	2	4	3	4	3	5
Timing	0:00	0:16	0:38	0:45	1:00	1:08	1:11	1:18	1:25	1:44	1:59	2:06	2:21	2:28	2:32	2:38	2:44

B										A					Coda	
Tr	Verse2		Tr	Verse2	Guitar Solo				Intro		Pre-Chorus			Chorus		
6	7		6	7	6	8	9	10	2		4	3	4	3	5	1
3:00	3:23		3:38	3:53	4:09	4:38	4:52	5:05	5:19		5:40	5:47	5:51	5:58	6:04	6:20-6:39

“Deacon Blues” (1978) by Steely Dan

Intro	Verse	Chorus	Verse	Chorus	Saxophone Solo	Verse	Chorus	Extended Coda
1	2A	2B	2A	2B	2C	2A	2B	2A
0:00	0:13	1:20	2:06	3:11	3:56	4:50	5:22	6:07-7:25

“Dear John” (2010) by Taylor Swift

Intro	A			A		B			A	Coda
	Verse		Chorus	Verse	Chorus	Bridge			Chorus	
1A	1B		2	1B	2	3	1B	2		1B
0:00	0:24	1:02	1:49	2:25	3:14	4:02	4:45	4:56	5:19	6:08-6:43

“December 1963” (1988) by Four Seasons (Ben Liebrand Remix)

S	Introduction				A						A						B			A			
					a			b	a	c	a	b	a	c	c	Coda							
G	1	1a	1b	1bc	1d	1ad	1ade	1f	1ade	1g	1h	1adi	1f	1aj	1ade	1g	1h	1a	1	1de	1f	1h	1aej
T	0:00	0:21	0:40	0:50	0:58	1:15	1:25	1:43	2:02	2:20	2:30	2:38	2:57	3:15	3:35	3:52	4:01	4:11	4:28	4:46	5:05	5:14	5:23-6:14

“Do You Feel Like I Do” (1976) by Peter Frampton

S	Intro	A		A		B		A			Extended Coda			
		Verse	Chorus	Verse	Chorus	Tr	G. Solo	Chorus	Verse	Chorus		Organ Solo	Guitar Solo	Outro
G	1A	2	3	2	3	1A		3	2	3	4A (building)		4B	1B
T	0:00	1:01	1:22	1:42	2:01	2:20	2:41	3:24	3:42	4:01	4:19	4:39	5:20	6:19-6:41

“Free Bird” (1974) by Lynyrd Skynyrd

Section	Intro		A	A'		B	A	A'		Extended Coda/Terminal Climax									
Groove	1	2			3	2			3	4A	4B	4A	4C	4D	4A	4E	4F	4B	
Timing	0:00	0:35	1:10	1:41	2:12	2:36	3:10	3:41	4:12	4:42	4:57	5:22	5:47	6:07	6:32	6:57	7:24	8:13	8:38-9:06
	Extended Solo/Intro					Solo				Solo									

“Freedom” (1990) by George Michael

Section	Intro	A				A				B	A		Coda
		a	b	c	d	a	b	c	d	e	c	d	
Groove	1	2	3	1		2	3	1		3	1		
Timing	0:00	0:53	1:34	1:55	2:16	2:37	3:19	3:40	4:01	4:22	5:25	5:45	6:06-6:20

“Frozen” (1998) by Madonna

Section	Ex. Intro	A			A			B	A		Extended Coda
		a	a	b	a	a	b	c	a	b	
Groove	1	2		3	2	3		4		3	1
Timing	0:00	0:38	0:54	1:14	1:48	2:15	2:32	3:09	3:53	4:09	5:20-6:09

“Get the Funk Out of Ma Face” (1976) by Brothers Johnson

Section	Intro	A			A		B	A		Extended Coda			
		a	b	b	a	b	b	b	a	c		a	
Groove	1		2		1	2				3			
Timing	0:12	0:12	0:22	0:37	0:55	1:14	1:32	1:52	2:07	3:03			4:27-6:01

“Give It to Me” (1973) by J. Geils Band

							Organ			Harmonica	Guitar	Bongos
Section	Intro	Ch	V	Ch	V	Ch	Extended Coda/Extended Solos					
Groove	1A		2	1A	2	1A	3	1B	4			5
Timing	0:00	0:23	0:41	0:55	1:13	1:30	2:04	2:19	2:56	3:20	4:01	5:15-6:31

“Green Christmas” (1958) by Stan Freberg

Section	Intro (Song 1)		Script	Song 2	Ad	Song 2	Script	Ad	Song 3	Script	Song 4
Groove	1		2	3	4	3	2	5	3	2	3
Timing	0:00	0:08	0:25	1:58	2:41	3:12	3:35	3:48	4:15	5:05	5:43-6:50

“Hate Me” (2006) by Blue October

Section	Extended Intro	A		A		B	A		Extended Coda	
		V	Ch	V	Ch	Br	Ch			
Groove	1A	2	3A	2	3A	4	3B	3C	3D	1B
Timing	0:00	0:51	1:30	2:12	2:52	3:34	4:12	4:34	4:50	5:14-6:20

“Heal the World” (1992) by Michael Jackson

Section	Ext. Intro	A			A			B	A			Extended Coda
		Verse	PreCh	Ch	Verse	PreCh	Ch	Br	Verse	PreCh	Ch	
Timing	0	1A	1B	1C	1A	1B	1C	2	1A	1B	1C (a)	1Ca
Timing	0:00	1:02	1:33	1:45	2:11	2:35	2:48	3:11	3:35	3:58	4:09	5:21-6:21

a = clapping

“Hey Jude” (1968) by The Beatles

Section	A	A	B	A	B	A	Terminal Climax/Extended Coda
Groove	1A	1B	1C	1Ca	1C	1Ca	1Cab “Nah, Nah...” <i>Fade</i>
Timing	0:00	0:27	0:55	1:31	2:01	2:39	3:08-7:04

a = tambourine b = brass/strings (crescendo)

“Hole in My Soul” (1997) by Aerosmith

Section	Intro	a	b	c	d	a	b	c	d	Solo	b	c	d	Extended Coda
Groove	1A		2	3	4	1B	2	3	4	1B	2	3	4	1A
Timing	0:00	0:13	0:39	0:51	1:16	1:48	2:13	2:27	2:51	3:20	3:46	3:59	4:24	4:54-6:10

“Hotel California” (1977) by Eagles

								Guitar Solo
Extended Intro	Verse	Chorus	Verse	Chorus	Verse			Extended Coda
1A (a)	1B	1C	1D	1C'	1Ab	1E		1B
0:00	0:52	1:44	2:10	3:02	3:28	3:55		4:20-6:30

a = cymbals b = hi-hat

“Human Touch” (1992) by Bruce Springsteen

Section	Intro	A			A		B				A		Extended Coda			
		a	a	b	a	b	d	c	(Solo)	d	a	b	d	e	Solo	
Groove	1				2A	1	2A	3A	4	3A	1	2B	3A	5A	5B	3B
Timing	0:00	0:10	0:26	0:43	1:12	1:28	1:50	2:15	2:35	2:52	3:09	3:25	4:35	5:10	5:34	5:55-6:25

“I Cheat the Hangman” (1975) by Doobie Brothers

Section	Intro	A			A			B			Extend Coda (Terminal Climax)
		a	b	c	a	b	c	d	e	d	f (Instrumental)
Groove	1	2A							2B	3	4
Timing	0:00	0:10	0:31	0:50	1:10	1:21	1:41	1:55	2:26	3:35	4:12-6:34

“I Stand Accused” (1970) by Isaac Hayes

Section	Extended Intro				A		A		B		A	Extended Coda
Groove	1A				1B		1A	1C	2	3	1A	2
Timing	0:00				4:54	5:36	5:58	6:31	6:41	7:11	7:22	8:04-11:39

“I Will Possess Your Heart” (2008) by Death Cab for Cutie

Section	Introduction									
Groove	a (p)	ab'	1*a	1ac ⁺	1acd ⁺	1acde ⁺	1acd'e ⁺	1abcde ⁺	1abcdef ⁺	
Timing	0:00	0:06	0:13	0:43	0:56	1:25	2:23	2:51	3:35	

A				A			B	A				Coda
c' (p)	bcd'	1bcd'	1bcd'e	1bcd'	cdF	1bcdef	2	a'g	a'Fg	1cdF	1a'bcdf	1ac (p)
4:32	4:46	5:01	5:16	5:30	6:13	6:28	6:42	6:58	7:05	7:12	7:27	7:56-8:24

a = static synth

d = drum beat¹

F = louder distorted vocal sounds

* = groove 1 is initiated by the bass riff

+ = growing louder and more distorted

p = soft

b = piano

e = piano/guitar Q & A

g = drum beat²

c = guitar noodling

f = soft distorted vocal sound

“I Wish You’d Stay” (2003) by Brad Paisley

Section	Extended Intro		A			A			B	A
			Verse	PreCh	Chorus	Verse	PreCh	Chorus	G. Solo	Instrumental Chorus
Groove	1	2	3	4	5	3	4	3		
Timing	0:00	0:50	1:14	1:56	2:08	2:50	3:30	3:40	5:02	5:45-6:17

“I’d Lie for You (And That’s the Truth)” (1995) by Meat Loaf

Section	Extended		A			A			B		A	Extended		
	Intro		V	PrC	Ch	V	PrC	Ch	Br	G. Solo	Ch	Coda		
Groove	1	2	3	4	5	3	4	5	6	5		7	5	8
Timing	0:00	0:20	0:47	1:23	1:45	2:10	2:45	3:05	3:51	4:14	4:37	5:04	5:31	6:15-6:37

“I’ll Fly With You (L’Amour Toujours)” (2001) by Gigi D’Agostino

Section	Intro	Female			Male			Female			Male		Coda	
		V	Ch	Br	V	Ch	Br	V	Ch	Br	V	Ch		
Groove	1A		1B	1C 1B	1A	1B	1C 1B	1A	1A 1B	1A	1A	1B	1C 1B	
Timing	0:00	0:15	1:12	1:36	1:56	2:09	2:36	2:59	3:15	4:36	4:46	5:02	5:15	5:41 6:05 6:19-6:56

“It’s Late” (1978) by Queen

Section	Intro	A		A		B			A		Coda		
		V	Ch	V	Ch	Br	Guitar Solo		V	Ch			
Groove	1A		2	1B	2	3	4	5	1B	2	6		
Timing	0:00	0:25	1:02	1:36	2:37	3:07	3:32	4:00	4:35	5:14	5:34	5:53-6:26	

“Jesus to a Child” (1996) by George Michael

Section	Extended Intro	A	A	B	A	A	B	Extended Coda					
Groove	1												2
Timing	0:00	0:50	1:10	1:32	2:42	3:02	3:24	3:45	4:54				6:16-6:52

“Jubilation” (1972) by Paul Anka

Section	Intro	A	A	B	A	B	A	Extended Coda/Terminal Climax
Groove	1			2	1	2	1	3
Timing	0:00	0:25	0:58	1:31	1:49	2:31	2:46	3:27-6:29

“Kashmir” (1975) by Led Zeppelin

Section	A		A		B			A		A		A		Extended Coda
	a	b	a	b	c	b	d	a	b	a	b	a	b	d'
Groove	1A	1B	1A	1B	2	1B	3	1A	1B	1A	1B	1A	1B	3
Timing	0:00	0:54	1:07	1:47	2:12	3:10	3:21	4:19	5:14	5:25	6:07	6:18	6:25	6:36- 8:29

“Keep Coming Back” (1991) by Richard Marx

	Extended	A			A			B	A			Extended Coda
Section	Intro	a	b	c	a	b	c	d	a (Sax Solo)	b	c	
Groove	1	2		1	2	1	3	1	2	1		
Timing	0:00	0:58	1:37	1:55	2:26	2:45	3:01	3:44	4:04	4:43	5:00-6:51	

“Last Kiss” (2010) by Taylor Swift

		A			A		B	A		Extended Coda	
Section	Intro	a	a	b	a	b	d	a	b		
Groove	1	2		1	2	3	4	2			
Timing	0:00	0:28	1:15	1:48	2:16	3:07	3:46	4:25	5:04	5:34-6:09	

“Last Night” (2007) by P. Diddy (feat. Keyshia Cole)

Voice		Male		Female	Both	Female		Both	Male	Both	Female	Both	Female	Male
Section	Intro			V	Ch	Br	V	Ch	Br	Ch	V	Ch	Extended Coda	
Groove	1A		1B	1C	1B	1D	1C	1B	1E	1B	1C	1F	1C	2
Timing	0:00	0:09	0:40	1:13	1:46	2:16	2:32	2:48	3:20	3:35	4:09	4:40	5:11	5:25-6:28

“Layla” (1971) by Derek and the Dominoes

(Song 1)

(Song 2)

S	Intro	V	Ch	V	Ch	V	Ch	Solo	Extended Coda								
									Intro	A	A	B	A'	A''	B'	A'''	Ex. Coda
G	1	2	1	2	1	2	1		3								
T	0:00	0:26	0:40	0:57	1:13	1:29	1:44	2:21	3:10	3:35	3:52	4:09	4:25	4:50	5:23	5:40	6:05-7:04
								Ex. Solo		Extended Solo							

“Left in the Dark” (1984) by Barbra Streisand

	Extended	A			A		B		A	Extended Coda	
Section	Intro	a	a	b	a	b	c		b		
Groove	1	2		3A	2	3A	4	5	3B	4	
Timing	0:00	0:51	1:19	1:35	2:14	2:46	3:27	4:06	4:25	5:46-7:08	

“Let’s Make Tonight a Night to Remember” (1996) by Bryan Adams

Section	Intro	A			A				B	A		Extended
		Verse	Pre-Ch.	Chorus	Verse		Pre-Ch.	Chorus	Bridge	Pre-Ch.	Chorus	Coda
Groove	1A	1B	1C	2	1A	1B	1C	2			2	2'
Timing	0:00	0:14	0:46	1:12	1:53	2:04	2:26	2:54	3:35	4:08	4:20	5:03-6:19

“Lift Me Up” (1991) by Yes

						A	A'	B	A'	B	Extended Coda			
Section	Extended Introduction					V	PrC	Ch	PrC	Ch	Ch (Solo)			
Groove	1A	2	3	4	5	6A	6B	6C	6D	6E	6C		4	1B
Timing	0:00	0:17	0:28	0:50	1:00	1:11	1:54	2:26	3:18	3:58	4:48	5:09	5:51	6:05-6:26

“Like a Rolling Stone” (1965) by Bob Dylan

Section	Intro	Verse			Chorus	Verse		Chorus	Verse		Chorus	Verse		Chorus	Coda
Groove	1A	1B	1C	1D	1B'	1C'	1D	1B'	1C	1D	1B'	1C'	1D		
Timing	0:00	0:11	0:31	0:58	1:33	1:53	2:24	3:01	3:21	3:50	4:30	4:50	5:20	5:48-6:08	

“Livin’ on the Edge” (1993) by Aerosmith

		A		A		B	Guitar Solo		A		Extended	
Section	Intro	Verse	Chorus	Verse	Chorus	Bridge			Verse	Chorus	Coda	
Groove	1	2A		3A	2B	4A	2C	4B	3B	2C	5	
Timing	0:00	0:12	0:33	0:57	1:19	1:43	2:10	2:47	3:15	3:33	3:55	5:22-6:15

“MacArthur Park” (1968) by Richard Harris

		A		A		B		A		
Section	Intro	Verse	Chorus	Verse	Chorus	Bridge	Instrumental	Chorus	Coda	
Groove	1						2	3	1	
Timing	0:00	0:19	0:53	1:25	1:57	2:35	4:53	6:28	6:58-7:24	

“Mama” (1983) by Genesis

Section	Extended Intro		A	A	B		Tr	A	A	Coda
Groove	1A				1B	1C	1D			
Timing	0:00		1:03	1:50	2:39	3:12	4:04	4:20	5:08	5:54-6:37

“Maria” (1992) by TKA

Section	Extended Intro							A		A		B				A	Extended Coda						
								V.	Ch.	V.	Ch.	Bridge				Ch.							
Groove	1	2	3	4a	4ab	4abc	4abcd	4bc	4bcd	4bc	4c	4bc	4bce	4fg	4af	4h	4bc	4'bc	4bc	4bce	2		
Timing	0:00	0:12	0:45	1:02	1:09	1:17	1:27	1:34	2:06	2:22	2:31	3:03	3:21	3:27	3:36	3:52	4:08	4:25	4:42	4:57	5:13	6:18	6:34-6:55

“Monster” (2010) by Kanye West
(featuring Rick Ross, Jay-Z, Nicki Minaj, and Justin Verson)

Artist	West	Ross	West								Jay-Z					West
Section	Intro	“Verse”	Chorus		“Verse”					Ch	“Verse”					Ch
Groove	1	2a	2b	2abcd	2bcd’	2abc	2bc	bc	2abc	2abcd	2	2abc	2bc	b	2bcd	2abcd
Timing	0:00	0:22	0:31	0:41	0:53	1:13	1:33	1:44	1:54	2:04	2:25	2:35	2:45	2:55	3:06	3:15

Minaj							Justin Verson				
“Verse”							Extended Coda/Terminal Climax				
2b	2ab	2b	2bc	2ab	bc	b	2abcd	2abd	1ab	2abe	2be
3:37	3:46	3:57	4:08	4:19	4:35	4:46	4:55	5:05	5:16	5:38	5:42-6:22

“Never Would Have Made” (2008) by Marvin Sapp

Timbre	Choir						Choir		Choir		
	Smooth		Rough		Rough/Smooth		Talking/Smooth		Smooth		
Section	A	B	A	B	B	A	B	A	B	A	Extended Coda
Groove	1	2					3A		3B (stops)		
Timing	0:00	0:50	1:12	1:58	2:45	3:09	3:42	4:39	5:30	5:45	6:16-6:55

“New York Minute” (1990) by Don Henley

Section	Extended Intro			A			A		B		A		Extended Coda	
				V	V	Ch	V	Ch	Br	Trumpet	V	Ch		
Groove	1A	2A	2B	3		4A	3	4A	4B	1B	3	4A		
Timing	0:00	0:26	0:41	0:55	1:24	1:52	2:22	2:50	3:20	3:45	4:17	5:13-6:36		

“No Son of Mine” (1991) by Genesis

Section	Intro	Verse	Verse	Pre-Chorus		Chorus	Trans	Verse	Pre-Ch	Chorus	Extended Coda
Groove	1		2	3		4	1	3		4	
Timing	0:00	0:28	1:07	1:42	2:02	2:12	3:05	3:23	4:00	4:28	5:24-6:39

“Nothing Else Matters” (1992) by Metallica

Section	Ex. Intro.		A				A		B	A			Extended Coda		
	Solo		a	a	a	b	a	b	c	a	a	b	Solo	a	Solo
Groove	1	2	1a	1ab	1abcd	3	1ad	3	4	1ab	1acd	3	5	1b	
Timing	0:00	0:37	1:02	1:23	1:47	2:09	2:25	2:09	3:03	3:46	4:07	4:32	4:57	5:25	5:47-6:29

“November Rain” (1992) by Guns n’ Roses

Section	Intro	A		B	C	A' (Solo)		B	A' (Solo)		A''		C'	D		
Groove	1A	1B	1C	2	3A	1C		2	1D		1C	3B	4			
Timing	0:00	1:15	2:40	3:05	3:30	3:55		4:47	5:11		5:38	6:00	6:18	6:47	7:09-8:56	
	Extended						Extended			Extended					Extended Coda	

“One” (1989) by Metallica

Section	Extended Intro			V	C	V	C	Interlude	C	Transition	Vocals		Extended Solo				
Groove	1A	1B	1C		2A	1C	2A	1C	2A		2B	3		4			
Timing	0:00	0:56	1:18	1:46	2:11	2:21	3:00	3:07	3:35	3:53	4:18	4:38	4:53	5:20	5:45	6:55	7:28
										Extended Coda							

“Paradise by the Dash Board Light” (1977) by Meat Loaf

(Song One)

Section	Verse	Pre-chorus		Chorus		Verse	Pre-chorus		Chorus	
Groove	1A	2	3	4	5	1B	2	3	4	5
Timing	0:00	0:32	0:42	0:57	1:12	1:42	2:06	2:15	2:30	3:03

(Song Two)

Intro	Baseball	A	B	A	B	A(B)	Extended Coda	
6	7	8A	9	8A	9	8B		
3:17	3:30	4:30	5:10	5:45	6:18	6:30	7:10-8:30	

“Paradise City” (1989) by Guns N’ Roses

Section	Extended Intro				A			A		B		A			Extended Intro/Terminal Climax	
			Ch'			V	V	Ch	V	Ch	Solo	Br	V	Ch		Guitar Solo/Vocals
Groove	a		1a	1b	1bc	2A		3b	2A	3b	2A	4	2B	3b	3bc	5 6
Timing	0:00	0:12	0:21	0:40	1:01	1:20	1:44	2:06	2:24	2:47	3:06	3:27	3:48	3:59	4:18	4:34 4:47-6:44

“Pink Cashmere” (1993) by Prince

Section	Intro	A		A		B	A	Extended Coda	
		V	Ch	V	Ch	Br	Ch		Guitar Solo
Groove	1						1A		
Timing	0:00	0:24	0:45	1:03	1:37	1:55	2:33	2:55	4:47-6:14

“Push the Feeling On” (1993) by Nightcrawlers (Glasgow)

Section	Intro		Sampled Vocals			Instrumental		Sampled Vocals			
Groove	1a	1*bc def	2e	1ace	1abcdef	1bcedef	1bcedfh	1bcedef	1bi	1bdi	1bi
Timing	0:00	0:09	0:25	0:32	0:46	1:03	1:19	1:35	1:53	2:00	2:07

Sampled Vocals (continued)			Instrumental				Sampled Vocals			
1bci	1bcdi	1bcdafi	1bcedfg	g	1a	1*bc def	1bcedef	1abcdef	1*’abcdef	
2:16	2:22	2:30	2:38	2:46	3:02	3:10	3:25	3:41	3:57	

Instrumental					Sampled Vocals								<i>Fade to End</i>	
1bdefh	1’bdefh	1bdh	1’ah	1ah	1a	1ac	1abcdef	1bcedef	1*bcdef	1bc	1abc	1abcdi	1abcdhi	
4:13	4:25	4:28	4:36	4:44	4:52	4:54	5:02	5:25	5:33	5:41	5:49	5:57	6:21-6:38	

a = downbeat/hi-hat

*** = crash cymbals

b = syncopated snare

c = upbeat/hi-hat

d = tambourine

e = upper synth

f = lower synth

g = sax synth

h = chords synth

i = syncopated synth

“Queen of My Soul” (1976) by Average White Band

Section	Intro	A		A		B	A	Sax Solo		Extended Coda		
		Verse	Chorus	Verse	Chorus	Br1	Chorus		Chorus		Br2	Chorus
Groove	1	2	3	2	3	4	3			5	6	3
Timing	0:00	0:08	0:43	1:03	1:38	1:58	2:51	3:20	3:58	4:35	5:12	5:40-6:05

“Radar Love” (1989) by Golden Earring

S	A						A				B				A						Coda
	Intro			V	PrC	Ch	V			PrC	Ch	Solo				V		PrC	Ch		
G	1	2	2ab	2ab	3	4	2a	2ab	2ab	3	4	5		6	6d	7	7a	7ac	3	4	6
T	0:00	0:19	0:28	0:47	1:07	1:20	1:29	1:34	1:48	2:07	2:19	2:29	2:49	3:48	3:58	4:26	4:36	4:54	5:30	5:42	6:01-6:24

a = bass

b = tambourine

c = blues licks

d = instrument build

“Rapture” (1980) by Blondie

Section	Intro			A		A		B			Extended Coda		
								Rap	Sax Soli	Rap	Guitar Solo (add saxes)		
Timing	0:0	0:19	0:23	0:32	0:5	1:12	1:4	1:57	3:22	4:35	4:57	5:16	5:36-6:31

“Schism” (2001) by Tool

Section	Introduction			A									
				A (D Minor) (A Minor)		A (D Minor) (A Minor)		B (D minor)		A (D Minor) (A Minor)			
				a	b	a	b	c	a	b'			
Groove	1	a	2Aab	2AacV ¹	2AabV ¹	2Bad	2Aab V ¹ '	2Bad	3 V ²	a	2AabV ¹	2Bad	2Bde
Meter	Free Time			6/4 (5/8+7/8)		8/8+5/8		6/4 (5/8+7/8) 8/8+5/8		6/4	6/8	6/4 (5/8+7/8) 8/8+5/8	
Timing	0:00	0:14	0:27	0:40	1:06	1:20	1:34	2:02	2:16	2:30	2:33	3:00	3:14

B (developmental)										A' (recapitulatory)		
Extended Coda/Terminal Climax (A minor)							(D Minor)					
Transition				c			d			a'		
4Af	4Afgh	4Afhi	4Afij	4Afjk V ³		4Bfjk'L*	4A+2Bm* V ⁴		5m'*	2C n V ⁵	2Cn' V ⁵ '	6
21/8 + 3/4					4/4 (9/8 + 7/8)		4/4 (21/8+7/8)		4/4	6/4 (5/8+7/8)		4/4
3:29	3:47	4:01	4:17	4:35		5:11	5:24		5:40	5:59	6:12	6:24-6:44

a = bass1

d = bass1 part in guitar (sustained)

g = sustained synth (<>)

j = synth gong

m = guitar/bass sustained/distorted

V¹ = same melody but projected

V⁴ = clear+projected/rhythm = guitar

b = bass1 part in guitar (staccato)

e = bass2

h = sustained bass tone

k = soft acoustic guitar + bass

n = distorted/muted guitar/bass

V² = screamed/syncopated melody

V⁵ = screamed/melody = 1st of *V¹*

c = sustained distorted guitar

f = guitar with accents

i = synth effect over guitar accents

L = drum build

V¹ = subdued/melody = guitar

V³ = soft sustained/melody = guitar

V⁵ = more projected

* = ♪♪ ♪ ♪♪ ♪ at phrase ending

“Sentimental” (1993) by Kenny G

Section	Intro	A				A			B		A			Coda	
		a	a	b	a	a	b	a	c (Improv)		b	a	a	Improv	
Groove	1A	1B	2	1C	1C	2	1C	1E	2	1D	1A	3			
Timing	0:00	0:29	0:56	1:22	1:50	2:17	2:46	3:13	3:40	4:35	5:06	6:00	6:18-6:38		

“Sequel” (1980) by Harry Chapin

S	Intro	A			Tr	A					B			A					Coda
		a	a	b		a	a	a'	a	b	c	b	d	a	a	b	a	b	
G	1	2	3A	4	5	6	7	3B	8	3C	9	5	3B	2	3B	10			
T	0:00	0:16	0:39	0:54	1:11	1:17	1:38	1:57	2:22	2:38	2:57	3:30	3:47	4:15	4:51	5:15	5:36	5:54	6:13-6:39

“She’s Gone (Lady)” (1993) by Steelheart

Section	Extended Intro		A			A			B	A	Coda
			a	a	b	a	a	b	Guitar Solo	b	
Groove	1A	2A	1A	1B	2B	1A	1B	2B			3
Timing	0:00	0:32	1:04	1:31	2:00	2:35	3:10	3:38	4:17	4:45	5:46-6:29

“Someone Saved My Life Tonight” (1975) by Elton John

Section	Intro	A		Tr	A			Tr	B		Ex. Coda
		V	Ch		V		Ch		Br	Ch	
Groove	1A	2		1A	3			1B	4	3	1C
Timing	0:00	0:15	1:00	1:56	2:08	2:21	2:55	3:48	4:03	4:50	5:42-6:45

“Stairway to Heaven” (1993) by Pure Soul (feat. The O’Jays)

Section	Extended Intro		A	B	A	Extended Coda/Terminal Climax							
						C	D	E	A	C	D	C	F
Groove	a	1a	1	1a		2	3	4	1a	2	3	2	5
Timing	0:00	0:43	1:02	1:26	1:45	2:10	2:18	2:31	2:47	2:56	3:03	3:13	3:44-6:13

“Stupid Boy” (2006) by Keith Urban

S	Intro	V	PrCh	Chorus		V	Ch	Br	Ch	Extended Coda								Terminal Climax	
G	1A	2	2a	2abc	1B	2abc	3			1B	2	4	1A	3B	3A	5	6	5	
T	0:00	0:13	0:39	0:53	1:18	1:33	1:58	2:39	2:53	3:18	3:31	3:40	3:51	4:18	4:44	5:10	5:36	5:50-6:14	
a = shaker b = bass c = drums								Guitar Solo								Guitar Solo			

“Sunset Grill” (1985) by Don Henley

S	Intro		A			A			B		Tr	A			Extended Coda					
			V	PrC	Ch	V	PrC	Ch	Br	V		PrC	Ch							
G	1	1abc	1bcde	1bcf	1cgh	1bcd	1bcf	1cgh	1bc	1cgj	1abc	1bcd	1bcf	1cgh	1cghil					
T	0:0	0:06	0:27	0:4	1:00	1:21	1:42	1:56	2:16	2:42	3:03	3:14	3:34	3:53	4:15	4:35	5:00	5:17	5:40-6:16	

a = accented synth b = bass (synth bass)
c = fretless bass d = staccato synth
e = synth vibes f = synth strings
g = distorted bass h = guitar riff
i = synth arpeggios j = soft sustained synth
k = background synth sounds l = horns

“Sweet Child O’ Mine” (1987) by Guns N’ Roses

S	Introduction			A		B	A	B	A	Ex. Coda/Terminal Climax				
				V	Ch	Br (solo)	V	Ch	Br (solo)	Ch	Extended Solo Section			
G	a (<b)	1a	2Aa	2B	2Aa	2B	2B	2Aa	2B’	2B	2B	3	4	3’
T	0:00	0:15	0:31	0:46	1:16	1:31	1:47	2:18	2:33	3:04	3:35	4:08	4:38	5:01-5:56

“Roundabout” (1972) by Yes

Section	Intro	A		A		B							A		Coda
		a	b	a	b	c	Intro	b'	d				a'	b''	
Groove	1A	2	3A	2	3A	4	1B	3B	5A	3B	5A	5B	2	3A	6
Timing	0:00	0:44	1:45	2:17	2:52	3:25	4:52	5:52	6:16	6:30	6:44	6:50	7:06	7:26	7:53-8:36
	Extended							Extended Solo Section					Extended		

“Stairway to Heaven” (1971) by Led Zeppelin

Section	Intro	A	A	B	A	B	A	B'	A'	B'	A'	C	solo	vocal climax	
Groove	1a			2a	1b	2a	1b	2a	1c	2b	1b	3	4	5	4
Timing	0:00	0:50	1:32	2:14	2:38	3:08	3:29	3:57	4:19	4:44	5:06	5:32	5:56	6:43	7:30
	Ext.												Extended Coda		

“Sweet Inspiration/Where You Lead” (1972) by Barbara Streisand

Section	Song 1									Song 2										
	Intro		A1		A1		B1		A1	A2	A2	B2	A2	B2	A2	Coda				
			V	Ch	V	Ch	Br		Ch											
Groove	1		2	3	2	3	4A	4B	4C	5	6A	7A	6B	7B	5	6B	8	7C	8	7D
Timing	0:00	0:14	1:05	1:21	1:40	1:55	2:10	2:25	2:42	2:49	3:21	3:50	4:22	4:52	5:06	5:14	5:30	5:40	5:55	6:05-6:24

“Sweet On You” (1993) by Lo-Key

Section	Extended Intro			A			A		B				A	Extended Coda			
				a	b	Ch	a	b	Br	Ch	Br		Ch	Br'	Ch'		
Groove	a	ab	1Aabc	1A		1Aabc			1B	1Aabc	1B	1Ab	1Abc	1B	1Aabc	1Abc	1Aabc
Timing	0:00	0:12	0:22	0:54	1:15	1:37	1:57	2:18	2:40	3:02	3:45	4:05	4:28	4:48	5:09	5:30	5:52-6:20

a = strings b = squeak c = background vocals

“Sympathy for the Devil” (1994) by Guns N' Roses

Section	Intro	A		A		A		B	A	A		Coda			
		V	Ch	V	Ch	V	Ch	G. Solo	Ch	V	Ch	G. Solo	Fade		
Groove	1A	1B	1C			1Da				0	1Da		a	0	
Timing	0:00	0:28	1:05	1:24	1:52	2:10	2:47	3:05	3:42	3:59	4:18	4:37	4:56	7:09-7:33	

a = background vocals

“Taxi” (1972) by Harry Chapin

S	Intro	A	A	A	A	A	Strings	A	A	B	B	C	A	A	A	A	A	A	Outro
G	1A		1B			2	1B	1C	1B	3		4	1B		5	1B	1C	1B	1A
T	0:00	0:11	0:30	0:57	1:14	1:34	1:50	2:08	2:27	2:54	3:13	3:28	4:18	4:43	5:01	5:18	5:40	5:58	6:24-6:40

**“The Secret Garden (Sweet Seduction Sweet)” (1989) by Quincy Jones
(featuring Al B. Sure!, James Ingram, El DeBarge, and Barry White)**

Section	Ex. Intro	V (Al B. Sure!)	V (Ingram)	Ch	V (DeBarge)	V (White)	Ch	Extended Coda
Groove	1			2	1			1
Timing	0:00	0:37	1:22	1:53	2:21	3:24	3:53	4:21-6:40

“The Unforgiven” (1991) by Metallica

Section	Extended Introduction			A			A			B		A	Extended Coda
	Guitar Solo			Tr	V	Ch	Tr	V	Ch	Guitar Solo		Ch	
Groove	0	1	2	1	3	2	1	3	2	1	3	2	
Timing	0:00	0:07	0:21	0:36	0:48	0:55	1:37	2:04	2:11	2:52	3:21	3:47	4:32 5:06-6:25

“The Unforgiven II” (1998) by Metallica

S	Extended Intro			A				A			B	A			Coda
				V	Tr	V	Ch	Tr	V	Ch	Br	Tr	V	Ch	
G	0	1	2A	2B	1	2B	3	1	2C	3		1	2A	3	
T	0:00	0:06	0:21	0:36	1:06	1:20	1:58	2:26	2:40	3:18	3:48	4:16	4:30	5:05	5:48-6:34
											Guitar Solo				

“They Can’t Take Away Our Music” (1970) by Burden, Eric, and War

Section	Extended Intro			Verse			Chorus			Verse			Ch	Extended Coda
Groove	a	1a	1ab	1abc	1abcd	1abcde	1abcde’	1a	1ae	1ae’	1abcde’			
Timing	0:00	0:15	0:32	0:45	1:15	1:45	1:58	2:13	2:27	2:56	3:26	3:39	4:22-6:49	

a = sustained guitar chords b = soft organ c = soft saxophone d = congas e = background vocals

“Through the Fire and Flames” (2008) by Dragonforce

Section	Intro		A						A					
	a	b	c	d	e	Solo	b	c	d	e	Solo			
Groove	1A	2A	1B	2B	2C	3	2B	a	3	2B	2C	3	2B	
Timing	0:00	0:20	0:40	0:50	1:08	1:18	1:37	1:54	2:13	2:15	2:25	2:35	2:44	3:04 3:20

	B										A		Coda	
S	f		g	Solo	g	Solo	h	Solo			a	c	a	
G	1C	1Cb	4				5	2B	2D	3	6	2B	2A	7
T	3:40	3:51	4:02	4:14	4:25	4:36	4:48	4:59	5:20	5:28	6:06	6:26	6:42	7:02-7:22

a = synth arpeggios b = synth loop

“Time” (1973) by Pink Floyd

Section	Intro		A		B		A		Coda	
			a	b	a'	b'	a	b	c	b
Groove	1	2	3	4	3	4	3	4	5	4
Timing	0:00	0:53	2:18	2:47	3:17	4:14	4:44	5:13	5:43	6:30
Example 1	Extended					Extended Solo		Extended Coda		

“Tiny Dancer” (1972) by Elton John

S	Verse			Verse		PreCh		Chorus			Verse					PreChorus			Chorus		Coda			
	Intro	A			B		Tr	A					Tr	B										
		a	b		a	b		c	d		a	b		c	d									
G	1A			1Aa	1Ba	1Bab	2A	2A'	1Aa	1Aac	3ac	1A	1B	1Bc	1Bac	1Bac'	1Bac	1A	2B	2B'	1Aa	1Aac	1Bb	
T	0:00	0:14	0:40	0:56	1:06	1:39	1:53	2:12	2:26	2:32	2:45	3:27	3:36	3:42	3:50	3:58	4:10	4:22	4:36	4:42	4:55	5:02	5:15	5:57-6:14

a = slide guitar b = background vocals c = strings

“Understand This Groove” (1992) by Sound Factory

S	Intro		A	A	B	A	C	B	A	C	A'	D	A'	B'	A''	A''	Extended Coda									
G	1	1a		1abc	2A	1abc	1abcd	2A	1abc	1bcd	1abc	1ce	1abc	2B	1c	1	1bc	1b	1ab	1abc	1abcd	bd	1abc	1c		
T	0:00	0:06	0:23	0:38	1:18	1:32	2:03	2:17	2:33	3:03	3:32	3:47	3:54	4:09	4:24	4:32	4:41	4:55	5:03	5:10	5:25	5:48	6:03	6:09-6:22		

a = synth w/delay b = synth bass¹ c = synth congas d = string synth e = synth bass²

“Untitled (How Does It Feel)” (1999) by D’Angelo

Section	Intro	V			Ch	V	Ch	Br	Br	Ch	Extended Coda
Groove	0	1A						2	1B		
Timing	0:00	0:25	0:52	1:50	2:17	3:13	4:00	4:58	6:11	6:39-7:23	

“Vicarious” (2006) by Tool

Section	Extended Intro		A		A		B				Extended Coda			A'
			a	b	a	b	c	b	d	e (vocals)	intro	f		b'
Groove	1A	2A	3	2A	3	2A	4	2A	5	6	1A	1B	1C	2B
Timing	0:00	0:45	1:07	1:28	1:50	2:11	2:48	3:08	3:26	4:08	4:50	5:32	6:00	6:23
Terminal Climax														

“We Are the World” (1985) by USA for Africa

Section	Intro	A		A		B	A	Extended Coda	
		Verse	Chorus	Verse	Chorus	Bridge	Chorus (choir)		
Groove	0	1A	1B				1C		
Timing	0:00	0:24	0:37	1:16	1:47	2:12	2:49	3:06	3:47-7:15

“We Are the World 25: For Haiti” (2010) by Artists for Haiti

S	Intro	A			A		B		A		A	B'	A
		Verse		Chorus	Verse	Chorus	Bridge		Chorus (choir)		Extended Coda		
											Chorus	Bridge'	Chorus
G	1A	1B					2A	1Ba	a		1Ba	2B	1Ba
T	0:00	0:25	0:38	1:15	1:45	2:10	2:36	2:50	3:03		3:28	4:46	5:27-6:52

a = clapping

“What Goes Around Comes Around” (1992) by The Giggles

S	Extended Intro				A				A				B				A	Coda				
					Verve			Ch	Tr	Verse			Ch	Bridge								Ch
																	Rap ^F					Rap ^M
G	ab	abc	1d	1bcd	1ce	1cef	1cdf	1abc	1g	1ce	1cef	1cdf	1abc	1hij	1hijk	1		1abc	1hij	1		
T	0:00	0:19	0:35	0:51	1:07	1:13	1:23	1:42	1:58	2:14	2:20	2:30	2:49	3:20	3:36	3:52	4:08	4:23	4:43	5:31	5:38-6:05	

a = organ synth¹

b = metallic synth

c = bass

d = organ synth²

e = glockenspiel

f = strings

g = organ synth³

h = organ synth³

i = sampled voice¹

j = scratch

k = sampled voice²

“What the World Needs Now Is Love” (1971) by Tom Clay

Section	Ex. Intro	A	B	A	B	A	B	C (Ch)	Coda
Groove	1	2	1	2	1	2	1		
Timing	0:00	1:24	1:37	2:30	2:47	3:12	3:24	5:26	5:46-6:17

“What You Give” (1992) by Tesla

S	Intro	A			A				B	A				Extended Coda
		V	PreCh	Tr	V	PreCh	Ch	Tr	Br	V	PreCh	Ch	Ch	
G	1A	2A		1A	1B	2B	3	1A	2B	1B	2B	3		4
T	0:00	0:32	1:01	1:30	1:45	2:15	2:43	3:13	3:25	3:55	4:24	4:52	5:34	6:15-7:17
									Solo					

“When I Give My Love” (1994) by Keith Sweat

Section	Extended Intro	A			A		B	A	ExtendedCoda
		Ch	V	Ch	V	Ch	Br	Ch	
Groove	0	1A	1B	1A	1B	1A	1C	1A	
Timing	0:00	0:20	1:03	1:34	2:16	2:48	3:30	4:02	4:35-6:06

“Whereever I May Roam” (1992) by Metallica

S	Extended Intro			A				A				B						A				Extended Coda	
				V	Ch			Tr	V	Ch			Br	Ch		Solo		Ch					
																				Solo	Tr	Solo	
G	1A	1B	1C	2	1C	3	4	1C	2	1C	3	4	1D	3	4	1C	2	1C	3	4	1C		
T	0:00	0:29	0:48	1:11	1:58	2:03	2:14	2:22	2:37	3:17	3:23	3:34	3:41	3:56	4:07	4:14	4:30	4:48	4:55	5:06	5:21	5:43-6:40	

“Whole Lotta Love” (1979) by The Wonder Band

S	Extended Intro					A			A			B			A		Extended Coda			
						V	Ch	Tr	V		Ch	Br		V	Ch					
G	1	1B	2A	2B	2C	2Da	3	4A	2Dab	3D	2Dc	3	4B	5	2A	6	3	7	8	4B
T	0:00	0:07	0:14	0:22	0:30	0:51	1:20	1:36	1:53	2:12	2:25	2:38	2:52	3:12	3:30	3:46	4:11	4:29	5:02	5:35-6:00

a = timpani gliss b = agogo bells c = pizzicato strings

“You Don’t Know My Name” (2003) by Alicia Keys

Section	A		A		B	A	Extended Coda		
	V	Ch	V	Ch	Br	Ch		Ch	
Groove	1						2	1	3
Timing	0:00	0:36	0:59	1:33	1:56	2:30	2:53	4:46	5:30-6:06

Unanalyzed Long Songs

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Number One Street (Sides 1 & 2)	Bob Corley	1955	95	6:10								
Wun'erful, Wun'erful! (Sides Uh-One & Uh-Two)	Stan Freberg	1957	32	7:05								
What'd I Say (Part I & II)	Ray Charles	1959	6	6:28								
The Big Time Spender (Parts I & II)	Cornbread & Biscuits	1960	75	6:10								
The Astronaut (Pats 1 & 2)	Jose Jimenez	1961	19	8:15								
Midnight Special, Part 1	Jimmy Smith	1962	69	6:00								
Viva Las Vegas	Elvis Presley	1964	29	10:37								
Four By The Beatles	The Beatles	1965	68	10:26								
Tickle Me	Elvis Presley	1965	70	9:24								
Nights in White Satin	Moody Blues	1967	2	7:38								
In-A-Gadda-Da-Vida	Iron Butterfly	1968	30	17:05								
Stay in My Corner	The Dells	1968	10	6:10								
By The Time I Get to Phoenix	Isaac Hayes	1969	26	18:39								
Run Away Child, Running Wild	The Temptations	1969	6	9:36								
Suite: Judy Blue Eyes	Crosby, Stills, & Nash	1969	21	7:28								

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
(I Know) I'm Losing You	Rare Earth	1970	7	10:56								
Ain't No Mountain High Enough	Diana Ross	1970	1	6:20								
Are You Ready?	Pacific Gas & Electric	1970	14	6:49								
Closer to Home (I'm Your Captain)	Grand Funk Railroad	1970	22	10:09								
Heartbreaker	Grand Funk Railroad	1970	72	6:30								
Isn't It a Pity	Georg Harrison	1970	1	7:10								
Aqualung	<i>Jethro Tull</i>	1971	<i>N/A</i>	6:34								
Riders on the Storm	The Doors	1971	14	7:09								
A Lonely Man	The Chi-Lites	1972	57	6:23								
America Pie (Parts I & II)	Don McLean	1972	1	8:33								
And You and I (Part I)	Yes	1972	42	10:09								
Isn't Life Strange	The Moody Blues	1972	29	6:10								
Pain	Ohio Players	1972	64	6:15								
Papa Was a Rolling Stone	The Temptations	1972	1	12:02								
Slippin' into the Darkness	War	1972	16	7:00								
Superwoman (Where Were You When I Needed You)	Stevie Wonder	1972	33	8:08								
Also Sprach Zarathustra (2001)	Deodato	1973	2	9:00								

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Doing It to Death	Fred Wesley/The J.B.'s	1973	22	10:01								
Gypsy Man	War	1973	8	11:35								
I Can Understand It	The New Birth	1973	35	6:21								
A Day at the Beach with Pedro and Man (Parts I & II)	Cheech and Chong	1975	54	7:35								
Art for Art's Sake	10cc	1975	68	6:01								
I Am Love (Parts I & II)	The Jackson 5	1975	3	7:30								
Lucy in the Sky with Diamonds	Elton John	1975	1	6:16								
Lyn' Eyes	The Eagles	1975	2	6:22								
Minstrel in the Gallery	Jethro Tull	1975	75	8:13								
Bohemian Rhapsody	<i>Queen</i>	1976	9 & 2	5:55								
I.O.U.	<i>Jimmy Dean</i>	1976	35	5:56								
Isn't She Lovely?	Stevie Wonder	1976	N/A	6:33								
Slow Ride	Foghat	1976	20	8:14								
The Wreck of the Edmund Fitzgerald	Gordon Lightfoot	1976	2	6:32								
This Masquerade	George Benson	1976	10	8:03								
Another Star	Stevie Wonder	1977	32	8:28								
Baker Street	Gerry Rafferty	1978	2	6:06								

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Don't Look Back	<i>Boston</i>	1978	4	5:58								
I Was Only Joking	Rod Stewart	1978	22	6:06								
Another Brick in the Wall	Pink Floyd	1979	1	8:28								
Children of the Sun	Billy Thorpe	1979	41	6:44								
Don't Stop 'Til You Get Enough	Michael Jackson	1979	1	6:06								
Here Comes the Night	The Beach Boys	1979	73	10:51								
In the Midnight Hour	Samantha Sang	1979	88	7:17								
Rocky II Disco	Maynard Ferguson	1979	82	7:11								
Back Together Again	Roberta Flack & Donny Hathaway	1980	6	9:45								
Power	The Temptations	1980	43	6:06								
Rock Lobster	The B-52's	1980	56	6:49								
The Breaks	Kurtis Blow	1980	87	7:43								
Walking on Thin Ice	Yoko Ono	1981	58	6:00								
Blue Monday	New Order	1982	68	7:29								
Early in the Morning	The Gap Band	1982	24	6:30								
Get It Right	Aretha Franklin	1983	61	6:22								
Don't Give Up	Peter Gabriel/ Kate Bush	1985	72	6:32								

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Gravity	<i>James Brown</i>	1985	93	5:58								
Living in the Background	Baltimora	1985	87	6:06								
Stairway To Heaven	Far Corporation	1985	89	9:34								
Stereotomy	Alan Parsons Project	1985	82	7:18								
Tarzan Boy	Baltimora	1985	13	6:15								
Money for Nothing	Dire Straits	1985	1	8:25								
Absolute Beginners	David Bowie	1986	53	8:03								
Don't Need A Gun	Billy Idol	1986	37	6:15								
Girlfriend	Bobby Brown	1986	57	6:16								
Headlines	Midnight Star	1986	69	7:49								
In Your Eyes	Peter Gabriel	1986	26	6:15								
Love You Down	Ready for the World	1986	25	6:29								
Painted Moon	The Silencers	1986	82	6:04								
Rock Me	Great White	1986	60	7:19								
Rock-A-Lott	Aretha Franklin	1986	62	6:22								
Running in the Family	Level 42	1986	83	6:12								
Silent Running (On Dangerous Grounds)	Mike + The Mechanics	1986	6	6:11								

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Skin Trade	<i>Duran Duran</i>	1986	39	5:57								
Still of the Night	Whitesnake	1986	79	6:41								
The Finest	S.O.S. Band	1986	44	6:06								
The Men All Pause	Klymaxx	1986	80	7:10								
The Other Side Of Life	Moody Blues	1986	58	6:53								
The Power Of Love	Jennifer Rush	1986	57	6:00								
The Super Bowl Shuffle	Chicago Bears Shufflin' Crew	1986	41	6:58								
A Nightmare on My Street	DJ Jazzy Jeff and The Fresh Prince	1987	15	6:19								
Casanova	LeVert	1987	5	6:19								
Don't Be Cruel	Bobby Brown	1987	39	6:49								
Fishnet	Morris Day	1987	23	6:04								
Girlfriend	Pebbles	1987	5	6:43								
Hysteria	<i>Def Leppard</i>	1987	1	5:55								
I Want Your Sex (Part 1 and 2)	George Michael	1987	2	9:17								
Jump Start	Natalie Cole	1987	13	6:22								
Lean on Me	Club Nouveau	1987	1	6:01								
Promise Me	The Cover Girls	1987	40	6:56								

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Rocket	Def Leppard	1987	12	6:34								
Tina Cherry	Georgio	1987	96	8:24								
Tonight, Tonight, Tonight	Genesis	1987	3	8:50								
Twilight World	Swing Out Sister	1987	31	6:27								
Underneath the Radar	Underworld	1987	74	6:05								
Know You're Out There Somewhere	Moody Blues	1988	30	6:37								
Always on My Mind/In My House	Pet Shop Boys	1988	4	9:04								
Domino Dancing	Pet Shop Boys	1988	18	7:41								
Don't Know What You Got (Until It's Gone)	<i>Cinderella</i>	1988	12	5:55								
Don't You Know What the Night Can Do?	Steve Winwood	1988	6	6:54								
Jack the Lad	3 Man Island	1988	94	6:00								
Joy	Teddy Pendergrass	1988	77	6:18								
Overture (Moore)/ Theme from S'Express	S'Express	1988	91	6:02								
Batdance	Prince	1989	1	6:13								
Lay Your Hands on Me	<i>Bon Jovi</i>	1989	7	5:59								
Roni	<i>Bobby Brown</i>	1989	3	5:58								

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Sowing the Seeds of Love	Tears for Fears	1989	2	6:16								
All Nite	Entouch w/ Keith Sweat	1990	71	6:05								
Alright	Janet Jackson	1990	4	6:26								
Pictures of You	The Cure	1990	71	7:29								
I'm Not Your Puppet	Hi-C	1991	63	6:03								
2 Legit 2 Quiz	MC Hammer	1992	5	7:12								
Hold On (Tighter to Love)	Clubland	1992	79	6:48								
In Paradise	Laissez Faire	1992	64	6:45								
No More Tears	Ozzy Osbourne	1992	71	7:24								
<i>This Is the Way We Roll</i>	<i>MC Hammer</i>	1992	86	5:53								
Thorn In My Pride	The Black Crowes	1992	80	6:03								
<i>Please Forgive Me</i>	<i>Bryan Adams</i>	1993	7	5:55								
Steam	Peter Gabriel	1993	32	6:03								
<i>Amazing</i>	<i>Aerosmith</i>	1994	24	5:56								
I Can Go Deep	Silk	1994	71	6:22								
Objects in the Rear View Mirror May Appear Closer Than They Are	Meat Loaf	1994	38	10:15								
<i>Practice What You Preach</i>	<i>Barry White</i>	1994	18	5:59								

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
Take It Back	Pink Floyd	1994	73	6:13								
<i>Carnival</i>	<i>Natalie Merchant</i>	1995	10	5:59								
I'm a Player	Too Short	1995	85	6:01								
Keeper of the Flame	Marin Page	1995	83	6:03								
<i>Not a Dry Eye in the House</i>	<i>Meat Loaf</i>	1995	82	5:54								
The Moment	Kenny G	1995	63	6:02								
Don't Cry	Seal	1996	33	6:17								
Do G's Get to Go to Heaven?	Richie Rich	1997	57	14:25								
<i>It's Not Good</i>	<i>Depeche Mode</i>	1997	38	5:58								
<i>What They Do</i>	<i>Roots</i>	1997	34	5:57								
<i>Bitter Sweet Symphony</i>	<i>Verve</i>	1998	12	5:58								
If I Could Turn Back the Hands of Time	R. Kelly	1999	12	6:17								
Cha Cha Slide	Mr C The Slide Man	2001	83	7:44								
Days Go By	Dirty Vegas	2002	14	7:07								
Gotta Get Thru This	Daniel Bedingfield	2002	10	6:16								
Gossip Folks (Fatboy Slim Remix)	Missy Elliott featuring Ludacris	2003	8	6:45								
Magic Stick	Lil Kim featuring 50 Cent	2003	2	6:00								

Song Title	Artist	Year	Peak	Timing	Varied Groove	Intro	Extended Solo	Coda	Terminal Climax	Collective Song	Narrative	Voice Timbre
What Goes Around	Justin Timberlake	2006	1	7:29								
The Boys of the Fall	Kenny Chesney	2010	18	6:30								
Don't Stop the Party	Black Eyed Peas	2011	86	6:07								
Not Ready to Die	Avenged Sevenfold	2011	70	7:05								

APPENDIX F (Complete Survey Used in Experiment)

Age: ☐ 18 - 24 ☐ 25 - 35 ☐ 36 - 45 ☐ 46 - 60 ☐ 61 - 75 ☐ Over 76

Gender: _____

Country/State of Origin _____

Time of Day _____

On a scale of zero to ten, how knowledgeable are you as a musician?
(0 = no nothing about music, 10 = multiple degrees in music)

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
0 1 2 3 4 5 6 7 8 9 10

Music Preference (What kind of music do you like?) _____

On a scale of zero to ten, how busy are you today?
(0 = not at all, 10 = stressed with no time to spare)

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
0 1 2 3 4 5 6 7 8 9 10

On a scale of zero to ten, how hungry are you right now?
(0 = not at all, 10 = hunger is at a maximum)

☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐
0 1 2 3 4 5 6 7 8 9 10

Song Number _____

On a scale of zero to ten, how well do you know this song? (0 = not at all, 10 = practically memorized)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	1	2	3	4	5	6	7	8	9	10

On a scale of zero to ten, how well do you like this song? (0 = not at all, 10 = a favorite)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	1	2	3	4	5	6	7	8	9	10

This song best fits which of the following genres? (Check all that apply.)

<input type="checkbox"/> Country	<input type="checkbox"/> Rock	<input type="checkbox"/> Pop	<input type="checkbox"/> Electronic	<input type="checkbox"/> Techno	<input type="checkbox"/> Dance	<input type="checkbox"/> Hip Hop/Rap
<input type="checkbox"/> Folk	<input type="checkbox"/> R & B	<input type="checkbox"/> Jazz	<input type="checkbox"/> Blues	<input type="checkbox"/> Metal	<input type="checkbox"/> Indie	<input type="checkbox"/> Classic Rock
<input type="checkbox"/> Other(s) _____						

What instruments do you hear?

<input type="checkbox"/> Acoustic Guitar	<input type="checkbox"/> Electric Guitar	<input type="checkbox"/> Keyboard/Synthesizer
<input type="checkbox"/> Drums	<input type="checkbox"/> Bass Guitar	<input type="checkbox"/> Voice
<input type="checkbox"/> Other(s) _____		

How would you describe this song? (Check all that apply.)

<input type="checkbox"/> Slow	<input type="checkbox"/> Moderately Slow	<input type="checkbox"/> Moderately Fast	<input type="checkbox"/> Fast	<input type="checkbox"/> Soft	<input type="checkbox"/> Loud
<input type="checkbox"/> Fun	<input type="checkbox"/> Serious	<input type="checkbox"/> Funny	<input type="checkbox"/> Sad	<input type="checkbox"/> Artistic	<input type="checkbox"/> Annoying
<input type="checkbox"/> Profound	<input type="checkbox"/> Reminiscent	<input type="checkbox"/> Dance-like	<input type="checkbox"/> Catchy	<input type="checkbox"/> Boring	<input type="checkbox"/> Cheesy
<input type="checkbox"/> Other(s) _____					

How long do you think this song is? _____ Minutes _____ Seconds

On a scale of zero to ten, how sure are you of that length? (0 = not confident at all, 10 = confident)

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
0	1	2	3	4	5	6	7	8	9	10

BIBLIOGRAPHY

- Adorno, Theodor W., with the assistance of George Simpson. "On Popular Music: I. The Music Material." *Soundscapes 2* (2000). http://www.icce.rug.nl/~soundscapes/DATABASES/SWA/On_popular_music_1.shtml. Originally published in *Studies in Philosophy and Social Science 9*, (1941): 17-48.
- . "On Popular Music: II. Presentation of the Material." *Soundscapes 2* (2000). http://www.icce.rug.nl/~soundscapes/DATABASES/SWA/On_popular_music_1.shtml. Originally published in *Studies in Philosophy and Social Science 9*, (1941): 17-48.
- Álvarez Amorós, José Antonio. "Henry James's 'Organic Form' and Classical Rhetoric." *Comparative Literature* 46, no. 1 (1994): 40-64.
- ASCAP. "ASCAP Payment System." Accessed May 1, 2013. <http://www.ascap.com/members/payment/royalties.aspx>.
- Babbitt, Milton. "Who Cares If You Listen?" Accessed June 12, 2019. <http://www.palestrant.com/babbitt.html>. Originally published in *High Fidelity* (February, 1958): 38-40, 126-127.
- Bailey, Nicole, and Charles S. Areni. "Background Music as a Quasi Clock in Retrospective Duration Judgments." *Perceptual and Motor Skills* 102, no. 2 (April 2006): 435-44.
- Baio, Andy. "The Whitburn Project: 120 Years of Music Chart History." Accessed April 26, 2013. http://waxy.org/2008/05/the_whitburn_project/.
- Biamonte, Nicole. "Formal Functions of Metric Dissonance in Rock Music." *Music Theory Online* 20, no. 2. (June 2014): <http://www.mtosmt.org/issues/mto.14.20.2/mto.14.20.2.biamonte.html>.
- Big Easy Express*. Directed by Emmett Malloy. Woodshed Films, 2012. Digital. S2BN Films in Association with B.E.E., 2012.
- Boston. "Peace of Mind." Epic PE 34188. LP. 1977.
- Butler, Mark. *Unlocking the Groove: Rhythm, Meter, and Musical Design in Electronic Dance Music*. Bloomington: Indiana University Press, 2006.
- Cole, Tom. "You Ask, We Answer: Why Do Some Songs Fade Out at the End?" *NPR*, October 7, 2010. <https://www.npr.org/sections/therecord/2010/10/07/130409256/you-ask-we-answer-why-do-some-songs-fade-out-at-the-end>.

- Covach, John. "Form in Rock Music: A Primer." In *Engaging Music*, edited by Deborah Stein, 65-76. Oxford University Press, 2005.
- Cowell, Henry, Richard F. Goldman, Kurt Blaukopf, Frederick Goldbeck, and Everett Helm. "Current Chronicle." *The Musical Quarterly* 37, no. 1 (1951): 76-102.
- Dawn Chorus. "Radiohead - Daydreaming (Backwards)." May 6, 2016. 6:26. <https://www.youtube.com/watch?v=Hd3Rlc5wLI8>.
- de Clercq, Trevor. "Sections and Successions in Successful Songs: A Prototype Approach to Form in Rock Music." Ph.D. diss., University of Rochester, 2011.
- Deutsch, Diana, Trevor Henthorn, and Rachael Lapidis. "Illusory Transformation from Speech to Song." *The Journal of the Acoustical Society of America* 129, no. 4 (April 2011): 2245-2252.
- Discogs*. "The Smashing Pumpkins - G.L.O.W." Accessed on May 28, 2019. <https://www.discogs.com/The-Smashing-Pumpkins-GLOW/master/390197>.
- Discogs*, accessed June 22, 2016, <https://www.discogs.com>.
- Feld, Steven. "Aesthetics as Iconicity of Style, or 'Lift-Up-Over Sounding': Getting Into the Kaluli Groove." *Yearbook for Traditional Music* 20 (1988): 74-113.
- Frank, Jay. "Do YouTube Videos Have a Perfect Length?" *FutureHit. DNA (blog)*, July 2, 2012. Accessed March 30, 2013. <http://www.futurehitdna.com/do-youtube-videos-have-a-perfect-length/>.
- . *FutureHit. DNA: How the Digital Revolution Is Changing Top 10 Songs*. Nashville: Futurhit, Inc. 2009.
- Hepokoski, James and Warren Darcy. *Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-Century Sonata*. New York: Oxford University Press Inc., 2011.
- Hughes, Timothy S. "Groove and Flow: Six Analytical Essays on the Music of Stevie Wonder." Ph.D. diss., University of Washington, 2003.
- Iyer, Vijay S. "Microstructures of Feel, Macrostructures of Sound: Embodied Cognition in West African and African-American Musics." Ph.D. diss., University of California, Berkeley, 1998.
- "Jay Frank Joins CMT as Senior Vice President, Music Strategy." CMT Press, last modified June 26, 2007. Accessed May 3, 2013 <http://www.cmtpress.com/pressreleases/details.cfm?PressReleaseID=1000231>.

- Kemp, Stuart. "Mumford & Sons to Take a Break." *The Hollywood Reporter*, September 23, 2013. <https://www.hollywoodreporter.com/earshot/mumford-sons-take-a-break-634548>.
- Krebs, Harald. "Metrical Consonance and Dissonance - Definitions and Taxonomy" In *Fantasy Pieces: Metrical Dissonance in the Music of Robert Schumann*, 22-61. New York: Oxford University Press, 1999.
- Leight, Elias. "Dr. Rachel Owen, Former Partner of Thom Yorke, Dead at Age 48." *Rolling Stone*, December 20, 2016. <https://www.rollingstone.com/music/music-news/dr-rachel-owen-former-partner-of-thom-yorke-dead-at-age-48-106092/>.
- Lerdahl, Fred and Ray Jackendoff. "Introduction to Rhythmic Structure." In *A Generative Theory of Tonal Music*. Cambridge, MA: MIT Press, 1983.
- Madison, Guy. "Experiencing Groove Induced by Music: Consistency and Phenomenology." *Music Perception: An Interdisciplinary Journal* 24, No. 2 (2006): 201-08.
- Margulis, Elizabeth Hellmuth. "Repetition and Musicality." February, 2015. Video Lecture, 11:03. <http://doi.org/10.30535/smtv.1.1>.
- "Mechanical License Royalty Rates." United States Copyright Office, last modified January, 2010. Accessed November 23, 2016. <http://www.copyright.gov/licensing/m200a.pdf>.
- McDaniel, Mark A., and Emily R. Waldum. "Why Are You Late? Investigating the Role of Time Management in Time-Based Prospective Memory." *Journal of Experimental Psychology: General* 145, No. 8 (August 2016): 1049-1061.
- Molanphy, Chris. "How the Hot 100 Became America's Hit Barometer." *NPR*, August 1, 2013. <https://www.npr.org/sections/therecord/2013/08/16/207879695/how-the-hot-100-became-americas-hit-barometer>.
- NeonJefe. "Stone Temple Pilots - Dead and Bloated - Kansas City." March 23, 2010. Clip from Live Concert, 6:10. <https://www.youtube.com/watch?v=tX6208LFahI>.
- Nicholls, David. "Narrative Theory as an Analytical Tool in the Study of Popular Music Texts." *Music & Letters* 88, no. 2 (2007): 297-315.
- noxon. "The song stops so suddenly on my album? Do I have a misprint? Should I ask for a refund?" *Dream Theater World*, December 27, 2015. <https://dreamtheater.club/questions/question/why-does-pull-me-under-stop-so-abruptly/>.

- “On the Record: David Byrne Took Inspiration from Preacher.” *The Rapid City Journal*, June 20, 2013. https://rapidcityjournal.com/blackhillstogo/arts-music/sound-check/on-the-record-david-byrne-took-inspiration-from-preacher/article_76398add-c3f5-5435-a396-cec4619680d2.html.
- Osborn, Bradley T. “Beyond Verse and Chorus: Experimental Formal Structures in Post-Millennial Rock Music.” Ph.D. diss., University of Washington, 2010.
- . “Subverting the Verse–Chorus Paradigm: Terminally Climactic Forms in Recent Rock Music.” *Music Theory Spectrum* 35, no. 1 (2013): 23-47.
- Panic! At the Disco. “Nine in the Afternoon.” Directed by Shane Drake. February 12, 2008. Music video, 3:17. <https://www.youtube.com/watch?v=yCto3PCn8wo>.
- Peters, Marybeth. “General Guide to the Copyright Act of 1976.” Washington D.C.: Library of Congress, 1977. Accessed May 2, 2013. <http://www.copyright.gov/reports/guide-to-copyright.pdf>.
- Prato, Greg. “We Are the Champions.” All Music. Accessed May 3, 2013. <http://www.allmusic.com/song/we-are-the-champions-mt0006771275>.
- Rodriguez, Jayson. “Eminem’s ‘Beautiful’ Hits iTunes.” *MTV*, May 5, 2009. <http://www.mtv.com/news/1611174/eminems-beautiful-hits-itunes/>.
- Spicer, Mark. “(Ac)cumulative Form in Pop-Rock Music.” *Twentieth-Century Music* 1, no. 1 (2004): 29-64.
- Steinberg, Scott. “High-Tech Label DigSin Betting On Single Model,” *Rolling Stone*, last modified October 20, 2011. Accessed May 3, 2013. <http://www.rollingstone.com/culture/blogs/gear-up/high-tech-label-digsin-betting-on-singles-model-20111020>.
- Stephenson, Kenneth. *What to Listen for in Rock: A Stylistic Analysis*. New Haven/London: Yale University Press, 2002.
- Summach, Jason. “Form in Top-20 Rock Music, 1955-89.” Ph.D. diss., Yale University, 2012.
- . “The Structure, Function, and Genesis of the Prechorus.” *Society for Music Theory* 17, no. 3 (2011). Accessed May 23, 2019. <http://www.mtosmt.org/issues/mto.11.17.3/mto.11.17.3.summach.html>.
- Temperley, David. “Hypermetrical Transitions.” *Music Theory Spectrum*, Vol. 30, No. 2 (Fall 2008), 305-325. Oxford University Press on behalf of the Society for Music Theory.

Titus, Christa. "Dream Theater Causing 'Chaos' with New Album." *Billboard*, June 26, 2007. <https://www.billboard.com/articles/news/1051293/dream-theater-causing-chaos-with-new-album>.

Townshend, Pete. "A Quick One, While He's Away." Interview by Rachel Fuller. *In the Attic*. 2006. Accessed March 30, 2013. <http://www.youtube.com/watch?v=9tviMJLFpV4>.

"What is Don McLean's song 'American Pie' all about?" Straight Dope, last modified May 15, 1993. Accessed May 6, 2013. <http://www.straightdope.com/columns/read/908/what-is-don-mcleans-song-american-pie-all-about>.

Wittmann, Marc. "The Inner Experience of Time." *Philosophical Transactions: Biological Sciences* 364, no. 1525 (2009): 1955-967.

Wittmann, Marc, and Sandra Lehnhoff. "Age Effects in Perception of Time." *Psychological Reports* 97, no. 3 (December 2005): 921-35.

Whitburn, Joel. *Pop Annual 1955-2011*, 8th Edition. Menomonee Falls: Record Research Inc., 2012.

———. *Top Pop Singles 1955-2012*, 14th Edition. Menomonee Falls: Record Research Inc., 2013.

DISCOGRAPHY

2 in a Room. "El Trago (The Drink)." In *World Party*. Cutting Records. CD-2020.
Released 1995.

3 Man Island. "Jack the Lad." Chrysalis. 4V9 43220. Released 1988.

4 Non Blondes. "What's Up?" In *Bigger, Better, Faster, More!* Interscope Records.
3 92112-2. Recorded 1992. Released 1993.

The 4 Seasons. "Stay." Vee Jay Records. VJ 582. Released 1964.

The 5th Dimension. "Wedding Bell Blues." In *The Age of Aquarius*. Soul City (2).
SCS-92005. Released 1969.

10CC. "Art For Arts Sake." In *Art For Arts Sake*. Mercury Records. 73725. Recorded
1975.

Adams, Bryan. "Let's Make a Night to Remember." In *18 til I Die*. A&M Records.
540 560-2. Released 1996.

———. "Please Forgive Me." In *So Far So Good*. A&M Records. 31454 0157 2.
Released 1993.

Aerosmith. "Amazing." In *Get a Grip*. Geffen Records. GEFD-24455. Released 1993.

———. "Draw the Line." In *Aerosmith*. Columbia Records. JC 34856. Released 1977.

———. "Hole in My Soul." In *Nine Lives*. Columbia. CK 67547. Recorded 1997.

———. "Livin' on the Edge." In *Get a Grip*. Geffen Records. GEFD-24455. Recorded
1993.

———. "Love in an Elevator." In *Pump*. Geffen Records. 9 24254-2. Released 1989.

The Afters. "Beautiful Love." In *I Wish We All Could Win*. INO Records. EK 93618.
Released 2005.

Aguilera, Christina, and Beverly McClellen. "Beautiful." In *Stripped*. 7432 196125 2. Recorded 2002.

Akon and Snoop Dogg. "I Wanna Love You." In *Konvicted* and *The Blue Carpet Treatment*. Island Records. AKONCD05. Recorded 2006.

The Alan Parsons Project. "Stereotomy." In *Stereotomy*. Arista. ARCD-8384. Recorded 1985.

The Alarm. "Rain in the Summertime." In *Eye of the Hurricane*. I.R.S. Records. IRS-42061. Released 1987.

Alice DeeJay. "Better Off Alone." In *Who Needs Guitars Anyway?* Republic Records/Universal Records. 012 157 672-2. Recorded 1998.

Ambrosia. "Holdin' On To Yesterday." In *Ambrosia*. 20th Century Records. T-434. Released 1975.

Anka, Paul. "Everybody Ought To Be In Love." In *The Music Man*. United Arista Records. UA-XW1018. Released 1977.

———. "Jubilation." In *Jubilation*. Buddah Records. BDS 5114. Recorded 1972.

Artists for Haiti. "We Are the World: For Haiti." No Label. 2010.

Avenged Sevenfold. "Not Ready to Die." In the Soundtrack for *Call of Duty: Black Ops*. Warner Bros. Records. None. Released 2011.

Average White Band. "Queen of My Soul." In *Soul Searching*. Rhino Records. R2 71272. Recorded 1976.

The B-52's. "Rock Lobster." In *The B-52's*. Warner Bros Records. BSK 3355. Recorded 1978. Released 1979.

Bad Company. "Electricland." In *Rough Diamonds*. Swan Song Records. 90001-8. Recorded 1981. Released 1982.

badbadnotgood. "Time Moves Slow." In *IV*. Innovative Leisure Records. IL 2034. Recorded 2016.

Baltimora. "Living in the Background." *Living in the Background*. Manhattan Records. ST-53026. Recorded 1985.

———. "Tarzan Boy." *Living in the Background*. Manhattan Records. ST-53026. Recorded 1985.

The Bangles. "Walk Like an Egyptian." In *Different Light*. Columbia Records. CK 40039. Recorded 1985. Released 1986.

Bastille. "Pompeii." In *Bad Blood*. Virgin. B001891702. Recorded 2012. Released 2013.

The Beach Boys. "Here Comes The Night." In *Wild Honey*. Capitol Records. ST 2859. Released 1967.

Beastie Boys. "Intergalactic." In *Hello Nasty*. Capitol Records. C1 7243 8 37716 1 5. Recorded 1997. Released 1998.

The Beatles. "A Day In The Life." In *Sgt. Pepper's Lonely Heart Club*. Capitol Records. SMAS 2653. Record 1967.

———. "Eleanor Rigby." In *Revolver*. Capitol Records. ST 2576. Released 1966.

———. "Four By The Beatles." In *Four By The Beatles*. Capitol Records. EAP 1-2121. Recorded 1964.

———. "Hey Jude." In *I*. Apple/Capitol. C4 7243 5 29325 4 2. Released 2000. Recorded 1968.

Beckmeier Brothers. "Rock and Roll Dancin'." Casablanca Records. NBLP 7147 DJ. Released 1979.

Bedingfield, Daniel. "Gotta Get Thru This." In *Gotta Get Through This*. Relentless Records, Polydor, Island Records. ISLR 15607-2. Recorded 2001.

Bee Gees. "Stayin' Alive." In *Saturday Night Fever*. RSO Records. RS 885. Released 1977.

Before Dark. "Monica." In *Daydreaming*. RCA Records. 07863 67691-2. Recorded 2000.

Benson, George. "This Masquerade." In *Breezin'*. Warner Bros. Records. BS 2919. Released 1976.

Bieber, Justin. "Mistletoe." Single. In *Under the Mistletoe*. Island Def Jam Music Group. ISLW40120-32. Recorded 2011.

Big Noise. "Name and Number." ATCO Records. PR 2926-2. Released 1989.

The Black Crowes. "Thorn in My Pride." In *The Southern Harmony and Musical Companion*. Def American Recordings. 9 26976-2. Released 1992.

Black Eyed Peas. "Don't Stop the Party." In *The Beginning*. Interscope Records. B0015039-02. Released 2010.

Black, Rebecca. "Friday." Single. ARK Music Factory. Recorded 2011.

Black Street (Featuring SWV). "Tonight's The Night." In *Blackstreet*. Interscope Records. 95740-2. Released 1995.

Bland, Bobby. "Ain't That Loving You." In *Here's the Man*. Duke. DLPS 75. Released 1962.

Blind Melon. "No Rain." In *No Rain*. Capitol Records. C2 0777 7 15994 2 2. Released 1992.

Blue Swede. "Silly Willy." In *Hooked on a Feeling*. EMI. ST-11286. Released 1974.

Boone, Pat. "Ain't That A Shame." In *Ain't That A Shame*. Dot Records. 45-15377. Recorded 1955.

———. "I Almost Lost My Mind." In *I Almost Lost My Mind*. Dot Records. 45-15472. Recorded 1956.

Brandy (Featuring Kanye West). "Talk About Our Love." In *Afrodisiac*. Atlantic. 0-88395. Released 2004.

Braxton, Toni. "You're Making Me High." In *Secrets*. LaFace Records. LFPCD-4160. Recorded 1995. Released 1996.

Brewer, Teresa. "Crazy With Love." In *Miss Music*. Coral. CRL 57179. Released 1958.

Brooks and Dunn. "I Can't Get Over You." In *If You See Her*. Arista Nashville Records. 07822-18865-2. Released 1999.

Brown, Bobby. "Don't Be Cruel." *Don't Be Cruel*. MCA Records. MCAD-42185. Recorded 1988.

———. "Girlfriend." *King of Stage*. MCA Records. MCAD-5827. Recorded 1986.

———. "Roni." *Don't Be Cruel*. MCA Records. MCAD-42185. Recorded 1988.

Brown, James. "Gravity." *Gravity*. Volcano. 32044-2. Recorded 1985.

Blige, Mary J. "I am." Single. Matriarch Records. 2734850. Released 2010.

Blondie. "Rapture." In *AutoAmerican*. Capitol Records/Chrysalis. 72435-33595-2-2. Reissued 2001. Recorded 1980.

Blow, Kurtis. "The Breaks." In *Kurtis Blow*. Mercury Records. SRM-1-3854. Released 1980.

Blue October. "Hate Me." In *Foiled*. Universal Records. B0006262-02 INO3. Recorded 2006.

Bon Jovi. "Bed of Roses." In *Keep the Faith*. Mercury Records. B0014176-02. Reissued 2010. Recorded 1992.

———. "I'll Sleep When I'm Dead." In *Keep the Faith*. Jambco. 314 514 045-2. Released 1992.

———. "Lay Your Hands on Me." *New Jersey*. Mercury Records. 836 345-2. Recorded 1989.

Boston. "Don't Look Back." In *Don't Look Back*. EPIC. FE 350350. Recorded 1977-1978. Released 1978.

———. "Foreplay/Long Time." In *Boston*. Epic/Legacy. 69699 86322 2. Reissued 2006. Recorded 1976.

Bowie, David. "Absolute Beginners." In *Absolute Beginners: The Original Motion Picture Soundtrack*. EMI America. SV-17182. Recorded 1985. Released 1986.

Boyz II Men. "4 Seasons Of Loneliness." In *Evolution*. Motown Records. 314530819-2. Recorded 1996. Released 1997.

Brandy and Monica. "The Boy Is Mine." In *Never Say Never* and *The Boy Is Mine*. Atlantic Records. 2-84089. Released 1998.

The Braxtons. "So Many Ways." In *High School High Soundtrack* and *So Many Ways*. Atlantic Records. PRCD 6763-2. Recorded 1995. Released 1996.

Brenda and The Tabulations. "And My Heart Sang." In *Brenda and The Tabulations*. Top And Bottom Records. TB-LPS 100. Released 1970.

The Brothers Johnson. "Get the Funk Outta My Face." In *Look Out for #1*. A&M Records. 75021 3142 2. Reissued 1996. Recorded 1976.

Buckley, Jeff. "Hallelujah." In *Grace*. Columbia. CK 57528. Released 1994.

The Buckingham. "Don't You Care." In *Time & Charges*. Columbia. CL 2669. Released 1967.

Burden, Eric, and War. "They Can't Take Away Our Music." In *The Black Man's Burden*. MGM Records. SE-4710-2, SE 4710-2. Recorded 1970.

Bush. "Glycerine." In *Sixteen Stone*. Trauma Records (2). INTD-92531. Released 1994.

C + C Music Factory. "A Deeper Love." In *Bang That Beat (The Best of C + C Music Factory)*. Camden/Sony Music. 88697634602. Released 2009. Recorded 1991.

Cameo. "You Make Me Work." *Machismo*. Atlanta Artists. 836 002-2. Recorded 1988.

Campbell, Tevin. "Another Way." In *Tevin Campbell*. Warner Bros. Records. 9 17178-2. Release 1998.

Capaldi, Jim. "That's Love." In *Fierce Heart*. Atlantic Records. 80059-1. Released 1983.

Captain and Tennille. "Love Will Keep Us Together." In *Love Will Keep Us Together*. A&M Records. SP-4552. Released 1975.

———. "You Never Done It Like That." A&M Records. 2063-S.

Cara, Irene. "Breakdance." In *What a Feelin'*. Geffen Records. GHS 4021. Recorded 1983. Released 1984.

Carey, Mariah. "All I Want For Christmas Is You." In *Merry Christmas*. Columbia Records. CSK6644. Released 1995.

Carlton, Carl. "Everlasting Love." In *Everlasting Love*. ABC Records. ABCD-875. Recorded 1973. Released 1974.

Carnes, Kim. "Betty Davis Eyes." In *Mistaken Identity*. EMI America. SO-17052. Released 1981.

The Cars. "Tonight She Comes." In *Greatest Hits*. Elektra Records. E1 60464. Released 1985.

Carson, Mindy. "Memories are Made of This." Columbia. 4-40573. Released 1955.

Carter, Leslie. "Like, Wow!" In *Like, Wow!* and *Shrek*. DreamWorks Records. 0044-50927-2. Recorded 2000. Released 2001.

The Cascades. "The Last Leaf." In *Rhythm of the Rain*. Valiant Records. W 405. Released 1963.

Cashman and West. "American City Suite." In *A Song or Two*. Dunhill, Dunhill. DSX-50126. Recorded 1972.

Cash, Johnny. "God's Gonna Cut You Down." In *God's Gonna Cut You Down*. Lost Highway. MRNR-02748-2. Recorded 2006.

Chandler, Gene. "Duke of Earl." In *The Duke of Earl*. Vee Jay Records. NVD-712. Recorded 1961. Released 1962.

———. "Rainbow." In *You Threw A Lucky Punch / Rainbow*. Trip Records. VJ 468. Released 1962.

Chapin, Harry. "Better Place to Be." In *Sniper and Other Love Songs*. Wounded Bird Records. WOU 5042. Reissued 2002. Recorded 1972.

———. "Cats In The Cradle." In *Cat's In The Cradle*. Elektra. Elk 12 163. Recorded 1974.

———. “Sequel.” In *Sequel*. The Boardwalk Entertainment Company. FW 36872. Recorded 1980.

———. “Taxi.” In *Heads & Tales*. Elektra. 75023-2. Recorded 1972.

Charles, Ray. “What ‘d I Say.” In *What ‘d I Say Part I & II*. Atlantic Records. Recorded 1959.

Charm. “Butt Naked (Ya Mutha’s Mix).” In *Butt Naked*. Turnstyle Records. PRCD 4278. Recorded 1991.

Cher. “All I Really Want To Do.” In *Cher*. Imperial. LP 9292. Released 1965.

Chesney, Kenny. “The Boys of Fall.” In *Hemingway’s Whiskey*. BNA Records. 88697 57445 2. Released 2010.

———. “You Had Me At Hello.” In *Everywhere We Go*. BNA Records. BNA 0 7863-67655-2. Released 1999.

Chicago. “If You Leave Me Now.” In *Chicago X*. Columbia Records. PC 34200. Released 1976.

———. “What Kind of Man Would I Be?” In *Chicago 19* and *Greatest Hits 1982-1989*. Reprise Records. 9 25714-2. Recorded 1988. Released 1989.

Chicago Bears Shufflin’ Crew. “The Super Bowl Shuffle.” In *Chicago Bears Shufflin’ Crew*. Red Label. V-70060. Released 1985.

The Chi-Lites. “A Lonely Man.” In *A Lonely Man*. Brunswick. BL-754179. Recorded 1972.

Chong, Tommy & Richard A. Cheech Marin. “How I Spent My Summer Vacation Or A Day At The Beach With Pedro & Man - Part I&II.” In *How I Spent My Summer Vacation Or A Day At The Beach With Pedro & Man - Part I*. ODE Records. ODE-66115-S. Recorded 1975.

Cinderella. “Don’t Know What You Got(Until It’s Gone).” Mercury Records. 870 644-7. Released 1988.

Clapton, Eric. “Wonderful Tonight.” In *Slowhand*. RSO 8T-1-3030. Released 1977.

Clark, Roy. "Yesterday, When I Was Young." In *Yesterday, When I Was Young*. Dot Records. DLP 25953. Released 1969.

Clay, Tom. "What the World Needs Now Is Love." MoWest. MW 5002 F. Recorded 1971.

The Cleftones. "Heart and Soul." Gee Records. GLP 705. Recorded 1959. Released 1961.

Club Nouveau. "Lean on Me." In *Life, Love & Pain*. Warner Bros. Records. 1-25531. Released 1986.

Clubland. "Hold On(Tighter to Love)." Great Jones. 162-530 611-1. Released 1991.

The Coasters. "I'm a Hog for You." ATCO Records. 45-6146. Released 1959.

Cohen, Leonard. "Hallelujah." In *Various Positions*. Passport Records. PBC 6045. Released 1984.

Cole, Keyshia, (Featuring 2Pac). "Playa Cardz Right." In *A Different Me and Pac's Life*. Geffen Records. Released 2008.

Cole, Natalie. "Jump Start." *Everlasting*. Manhattan Records. CDP-7-46759-2. Recorded 1987.

Collins, Phil. "Another Day in Paradise." In *...But Seriously*. Atlantic Records. 7-82052-4. Released 1989.

———. "Both Sides of the Story." In *Both Sides*. Atlantic. 82550-2. Recorded 1993.

Como, Perry. "Ivy Rose." In *Just Born (To Be Your Baby)/ Ivy Rose*. RCA Victor. 47-7050. Released 1957.

Commodores. "Flying High." In *Natural High*. Motown Records. M 1452F. Released 1978.

Con Funk Shun. "Ffun." In *Secrets*. Mercury Records. MK-42. Released 1977.

Conniff, Ray. "S Wonderful!" In *S Wonderful!* Columbia. CL 925. Recorded 1955. Released 1956.

- Corina. "Temptation." In *Corina*. ATCO Records. 7 91752-2. Released 1991.
- Corley, Bob. "Number One Street." *On Sides 1 & 2*. RCA Victor. 20-6946. Reissued 1955.
- Cornbread & Biscuit. "The Big Time Spender." *In Parts I & II*. Maske Records. MC-102. Recorded 1960.
- The Cover Girls. "Promise Me." In *Show Me*. Fever Records, Sutra Records. SFD 004. Recorded 1987.
- Craddock, Billy "Crash." "Easy As Pie." In *Billy Craddock*. MCA Coral Records. CR 20156. Released 1976.
- Crane, Les. "Desiderata." In *Les Crane*. Warner Bros. Records. BS 2570. Released 1971.
- Crazy Frog. "Axel F." In *Crazy Frog Presents Crazy Hits*. Universal Records. B0005360-12. Recorded 2004. Released 2005.
- The Crew-Cuts. "Gum Drops." In *The Gum Drops*. Mercury Records. 70668-X45. Recorded 1955.
- Crosby, Stills & Nash. "Suite: Judy Blue Eyes." In *Suite Judy Blue Eyes/ Long Time Gone*. Atlantic. 45-2676. Recorded 1969.
- Crow, Sheryl. "All I Want To Do." In *Tuesday Night Music Club*. A&M Records. 31458 8317 2. Recorded 1993. Released 1994.
- The Cues. "Burn That Candle." In *Oh My Darlin/ Burn That Candle*. Capitol Records. F3245. Recorded 1955.
- The Cure. "Never Enough." In *Mixed Up*. Elektra. ST-E-60978. Released 1990.
- . "Pictures of You." In *Disintegration*. Elektra. 60855-2. Released 1989.
- D'Angelo. "Untitled (How Does It Feel)." In *Voodoo*. Virgin/Cheebea Sound. 7243 8 48503 2 6. Recorded 2000.

Damian, Michael. "What A Price To Pay." A&M Records. 75021 7539 2. Released 1991.

Dean, Jimmy. "I.O.U." In *I.O.U.* GRT, Janus Records. GRT-8014. Recorded 1973.

Death Cab for Cutie. "I Will Possess Your Heart." In *Narrow Stairs*. Atlantic/Barsuk Records. 452796-2. Recorded 2008.

Def Leppard. "Hysteria." In *Hysteria*. Mercury Records. 830 675-2. Recorded 1984-1987. Released 1987.

———. "Rocket." In *Hysteria*. Mercury. 830 675-2. Recorded. 1987.

DeGraw, Gavin. "Chariot." In *Chariot*. J Records. 80813-20058-2. Released 2005.

The Dells. "Stay In My Corner." In *Stay In My Corner / Love Is SO Simple*. Cadet. 5612. Recorded 1968.

Deodato. "Also Sprach Zarathustra (2001)/ Spirit Of Summer." In *Also Sprach Zarathustra (2001)/ Spirit Of Summer*. CTI Records. Recorded 1973.

Depeche Mode. "I Feel You." In *Songs of Faith and Devotion*. Sire Records. 9 45243-2. Recorded 1992. Released 1993.

———. "It's No Good." In *Ultra*. Reprise Records. 9 46522-2. Recorded 1996-1997. Released 1997.

Derek and the Dominoes. "Layla." In *Layla and Other Assorted Love Songs*. Polydor, UMe. B0015354-02. Recorded 1970. Reissued 2011.

Diamond, Neil. "Do It." In *Solitary Man /Do It*. Bang Records. B-519. Recorded 1966.

———. "Turn Around." Columbia Records. 38-04541. Released 1984.

———. "Yesterday's Song." In *On the Way to the Sky*. Columbia Records. TC 37628. Released 1981.

Diamond Rio. "I Believe." In *Completely*. Arista Nashville. 07863-67046-2. Released 2002.

- Dire Straits. "Money for Nothing." In *Brothers in Arms*. Arner Bros. Records. 9 25264-2. Released 1985.
- Dirty Vegas. "Days Go By." In *Dirty Vegas*. Capitol Records. CDP 7243 5 39986 2 2. Recorded 2001. Released 2002.
- Dixie Chicks. "I Can Love You Better." In *Wide Open Spaces*. Monument Records. NK 68195. Released 1998.
- Dixie Cups. "Chapel of Love." In *Chapel of Love*. Red Bird. RB20-100. Released 1964.
- DJ Jazzy Jeff and The Fresh Prince. "A Nightmare on My Street." *He's the DJ, I'm the Rapper*. Jive. 1091-J-RE. Recorded 1987.
- DJ Taz. "That's Right." In *Classic: The Black Mongoose Edition*. A.D.E., Big Taz Records. SG-33417. Recorded 2007.
- The Doobie Brothers. "I Cheat the Hangman." In *Stampede*. Warner Brothers Records. BS 2835. Recorded 1975.
- . "Jesus Is Just Alright." In *Toulouse Street*. Warner Bros. Records. BS 2634. Released 1972.
- The Doors. "Riders On The Storm." In *Riders On the Storm*. Elektra. EKS-45738. Recorded 1971.
- Dragonforce. "Through the Fire and Flames." In *Inhumane Rampage*. Roadrunner Records. 168 618 034-2. Recorded 2006.
- Dream Theater. "Pull Me Under." In *Images And Words*. Acto Records. PRCD 4624-2. Released 1992.
- Drive, Emerson. "I Should Be Sleeping." In *Emerson Drive*. DreamWorks Records. 0044-50362-7. Released 2001.
- Duke, George. "Reach For It." EPIC. JE 34883. Released 1977.
- The Duprees. "You Belong to Me." In *The Duprees Sing*. Post Records. POST-1000. Released 1962.

Duran Duran. "Skin Trade." In *Notorious*. Capitol Records. 4PJ-12540. Released 1986.

Dylan, Bob. "Like a Rolling Stone." In *Highway 61 Revisited*. Columbia. CK 92399. Recorded 1965. Reissued 2006.

Eagles. "Hotel California." In *Hotel California*. Asylum Records. 103-2 (253 051). Reissued 1999. Recorded 1976.

———. "Lyn' Eyes." In *Lyn' Eyes*. Asylum Records. E-45279. Recorded 1975.

Easton, Sheena. "Machinery." EMI Records. P-B-8131. Released 1982.

Edwards, Tommy. "I've Been There." In *Tommy Edwards' Greatest Hits*. MGM Records. SE-3884. Released 1961.

Electric Light Orchestra. "It's Over." In *Out of the Blue*. Jet Records. JT-LA823-L2. Recorded 1978. Released 1979.

———. "Shine a Little Love." In *Discovery*. Jet Records. FZA 35769. Released 1979.

E. G. Daily. "Say It, Say It." In *Wild Child*. A&M Records. SP 6-5081. Released 1985, 1986.

Elliot, Missy. "I'm Really Hot." In *This Is Not A Test!* Elektra. 7559-67551-2. Released 2004.

Elliot, Missy (Featuring Ludacris). "Gossip Folks (Fat Boy Slim Remix)." In *Under Construction*. Elektra and The Goldmind Inc. 628 13-1. Released 2002.

Eminem. "Beautiful." In *Relapse*. Aftermath Entertainment, Interscope Records. B0012863-02. Recorded 2009.

———. "Mockingbird." In *Encore*. Aftermath Entertainment, Interscope Records. INTR-11340-2. Recorded 2004. Released 2005.

Emotions. "Best of My Love." In *Rejoice*. Columbia Records. PC 34762. Released 1977.

Empire of the Sun. "Walking on a Dream." In *Walking on a Dream*. Astralwerks. ASW35403. Virgin Records. 50999 2 35403 2 3. Released 2008.

Entouch (Featuring Keith Sweat). "All Night." Elektra Records. 0-66675. Released 1989.

Enuff Z'Nuff. "New Thing." In *Enuff Z'Nuff*. ATCO Records. 7 91262-2. Recorded 1988-1989. Released 1989.

Enur (Featuring Natasja). "Calabria 2007." Ultra Records. UL1582. Recorded 2007.

Estefan, Gloria. "Cuts Both Ways." In *Cuts Both Ways*. Epic Records. EK 45217. Recorded 1988. Released 1990.

———. "Live for Loving You." In *Into the Light*. Epic Records. EK 46988. Recorded 1990. Released 1991.

The Everly Brothers. "All I Have to do Is Dream." Cadence. 13348. Released 1958.

———. "Wake Up Little Susie." In *The Everly Brothers*. Cadence. CLP-3003. Recorded 1957. Released 1958.

Everett, Betty. "The Shoop Shoop Song (It's In His Kiss)." In *You're No Good*. Vee Jay Records. VJ 566. Released 1963.

Expose. "Come Go With Me." In *Exposure*. Arista Records. ARCD 8441. Recorded 1985-1986. Released 1987.

Faith, Percy. "The Theme from A Summer Place." In *A Summer Place*. Columbia. KC 33915. Recorded 1959. Released 1960.

Fall Out Boy. "Dance, Dance." In *From Under the Cork Tree*. Island Def Jam Music Group. ISLR16429-2. Recorded 2004. Released 2005.

Far Corporation. "Stairway to Heaven." *Division One*. ATCO Records. 7 90543-1. Recorded 1985.

Fat Domino. "I Want to Walk You Home." London Records. 45-HLP 8942. Released 1959.

———. "Valley of the Tears." In *This is Fats*. Imperial. LP 9040. Released 1957.

Fat Joe (Featuring Ashanti). "What's Luv." In *Jealous Ones Still Envy (J.O.S.E.)*. Atlantic Records. 7567-83472-2. Recorded 2001. Released 2002.

Ferguson, Maynard. "Rocky II Disco." Columbia Records. 43-11039. Released 1979.

The Fireflies. "You Were Mine." Ribbon Records (2). 6901. Released 1959.

Flack, Roberta (Featuring Donny Hathaway). "Back Together Again." In *Roberta Flack Featuring Donny Hathaway*. Atlantic. 81469-2. Released 1979.

Fleetwoods. "Come Softly to Me." In *Mr. Blue*. Dolton Records. BST 8001. Recorded 1958. Released 1959.

Floyd, Pink. "Another Brick in the Wall." In *The Wall*. Columbia Records. PC2 36183. Released 1979.

———. "Another Brick in the Wall Part II." In *The Wall*. Columbia Records. PC2 36183. Released 1979.

The Fontane Sisters. "Rollin' Stone." In *Rollin' Stone*. Dot Records. 45-15370. Recorded 1955.

Ford, Lita. "Hungry." In *Stiletto*. RCA Records. 2090-1-R. Released 1990.

Forghat. "Slow Ride." In *Slow Ride*. Bearsville. BSS 0306. Recorded 1975.

Foreigner. "I Don't Want To Live Without You." In *Inside Information*. Atlantic Records. 81808-4. Recorded 1987. Released 1988.

Foster The People. "Pumped Up Kick." In *Pumped Up Kicks*. Startime International. 44 775907, 88697 75907 1. Recorded 2010.

The Four Seasons - Featuring Frankie Valli (Liebrand Remix). "December 1963 (Oh What a Night)." In *Hits Digitally Enhanced*. Curb Records. CDCURB 8023. Released 1993 (in US). Recorded 1988.

The Four Preps. "Dreamy Eyes." In *The Four Preps*. Capitol Records. T-994. Released 1958.

Fragma. "Toca's Miracle." In *Toca*. Groovilious. GM222CD. Released 2000.

Frampton, Peter. "Do You Feel Like I Do." In *Frampton's Camel*. A&M Records. 0694907152. Reissued 2000. Recorded 1973.

Franklin, Aretha. "Get It Right." In *Get It Right*. Arista. AL 8-8019. Released 1983.

———. "Respect." In *I Never Loved a Man the Way I love You*. Atlantic. 8139. Released 1967.

———. "Rock-A-Lott." *Aretha*. Arista/Funky Town Grooves. FTG 398. Recorded 1986.

The Fray. "Little House." In *How To Save A Life*. Epic. EK 93931. Recorded 2005.

Freberg, Stan. "Green Chri\$tma\$." In *Green Chri\$tma\$/The Meaning of Christmas*. Capital Records. F4097. Recorded 1958.

———. "Wun'erful, Wun'erful." In *Wun'erful, Wun'erful*. Capitol Records. F3815. Recorded 1957.

Freddie Cannon & The Belmonts. "Let's Put the Fun Back in Rock N Roll." In *Let's Put The Fun Back In Rock 'N' Roll/Your Mama Ain't Always Right* Mia Sound. MS-1002. Released 1981.

Fun. "We Are Young." In *Some Nights*. Fueled By Ramen. 528048-2. Recorded 2011. Released 2012.

Funk, Grand. "Walk Like a Man." In *We're an American Band*. Capitol Records. SMAS-11207. Released 1973.

The Fuzz. "I Love You for all Seasons." In *The Fuzz*. Calla Records. C-174. Released 1971.

Gabriel, Peter. "In Your Eyes." In *So*. Geffen REcords. 9 24088-2. Recorded 1985. Released 1986.

———. "Steam." In *Us*. Geffen Records. GEFD 24473. Released 1992.

Gabriel, Peter and Kate Bush. "Don't Give Up." *So*. Geffen Records. M2G 24088. Recorded 1985.

Garbage. "#1 Crush." In *Garbage/ #1 Crush*. Almo Sound. AMSD-80004. Recorded 1995.

The Gap Band. "Early in the Morning." *Gap Band IV*. Mercury. 822 794-2. Recorded 1982.

Genesis. "Mama." In *Genesis*. Atlantic, Rhino Records. R2 300924. Reissued 2007. Recorded 1983.

———. "Man on the Corner." In *Abacab*. Atlantic Records. TP 19313. Recorded 1981. Released 1982.

———. "No Son of Mine." In *We Can't Dance*. Atlantic, Rhino Records. R2 301820. Reissued 2007. Recorded 1991.

———. "Tonight, Tonight, Tonight." *Invisible Touch*. Atlantic. 7 81641-2. Recorded 1985.

The Gentrys. "Spread It on Thick." In *Spread It on Thick*. MGM Records. K 134 32. Released 1966.

Georgio. "Tina Cherry." In *Georgio*. Motown. MOTD-6263. Recorded 1987.

Gibson, Don. "Oh Lonesome Me." In *Oh Lonesome Me*. RCA Victor. 47-7133. Released 1957.

Giggles. "What Goes Around Comes Around." Cutting Records. CD-256M. Recorded 1991.

Gigi D'Agostino. "I'll Fly With You (L'Amour Toujours)." In *L'Amour Toujours*. Arista. 07822-14710-2. Released 2001 (US). Recorded 1999.

Gladys Knight and The Pips. "Midnight Train to Georgia." In *Imagination*. Buddah Records. BDS 5141. Released 1973.

Golden Earring. "Radar Love." In *Moontan*. MCA Records. MCAD-31014. Recorded 1973. Reissued 1987.

Goo Goo Dolls. "Here Is Gone." In *Gutterflower*. Warner Bros. Records. 7-16705. Released 2002.

Gotye. "Somebody That I Used to Know." In *Making Mirrors*. Universal Republic Records. B0016449-02. Released 2011.

Grand Funk Railroad. "I'm Your Captain." In *Closer To Home*. Capitol Records. SKAO-471. Recorded 1970.

———. "Heart Breaker." In *HeartBreaker*. Capitol Record. SPRO-4928. Recorded 1970

Great White. "Rock Me." *Once Bitten*. Capitol Records. CDP 7 46910 2. Recorded 1986.

Green Day. "Long View." In *Dookie*. Reprise Records. WO287CDX. Released 1994.

Guns n' Roses. "November Rain." In *Use Your Illusion I*. Geffen Records. GEFD-24415. Recorded 1991.

———. "Paradise City." In *Appetite for Destruction*. Geffen Records. 9 2411-2. Reissued 2013. Recorded 1987.

———. "Since I Don't Have You." In *The Spaghetti Incident*. Geffen Records. GEFCS-19266. Released 1994.

———. "Sweet Child o' Mine." In *Appetite for Destruction*. Geffen Records. GHS 24148. Recorded 1987. Released 1988.

———. "Sympathy for the Devil." In *Interview with a Vampire (Original Motion Picture Soundtrack)*. Geffen Records. GEFD-24719. Recorded 1994.

Guthrie, Arlo. "Alice's Restaurant Massacre." In *Alice's Restaurant*. Reprise Records. 6267-2. Recorded 1967.

Halen, Van. "Panama." In *1984*. Warner Bros. Records. 1-23985. Recorded 1983. Released 1984.

Haley, Billy. "Rock-A-Beatin' Boogie." In *Billy And His Comets*. Kama Sutra. KBS 2014. Reissued 1970. Recorded 1955.

Hall, Daryl. "I'm In A Philly Mood." In *Soul Alone*. Epic Records. 659555 5. Released 1993.

Hall, Daryl & John Oates (Featuring David Ruffin & Eddie Kendrick). "A Nite At The Apollo Live." In *A Nite At The Apollo Live*. RCA. PW-14179. Recorded 1985.

Harris, Major. "Love Won't Let Me Wait." In *My Way*. Atlantic Records. SD 18119. Released 1974.

Harris, Richard. "MacArthur Park." In *A Tramp Shining*. MCA Records. MCAD-10780. Reissued 1993. Recorded 1968.

Harrison, George. "Isn't It A Pity." In *Isn't It A Pity/ My Sweet Lord*. 2995. Apple Records. Recorded 1970.

Hayes, Isaac. "I Stand Accused." In *The Isaac Hayeses Movement*. Stax. SXSA-1010-6. Reissued 2004. Recorded 1970.

Heart. "Tell It Like It Is." EPIC Records. 19-50950. Released 1980.

Henley, Don. "The Last Worthless Evening." In *The End of Innocence*. Mobile Fidelity Sound Lab. UDCD 721. Reissued 1998. Recorded 1989.

———. "New York Minute." In *The End of Innocence*. Mobile Fidelity Sound Lab. UDCD 721. Reissued 1998. Recorded 1989.

———. "Sunset Grill." In *Building the Perfect Beast*. Mobile Fidelity Sound Lab. UDCD 705. Reissued 1997. Recorded 1984.

Herman's Hermits. "Mr. Brown You've Got a Lovely Daughter." In *Herman's Hermits*. MGM Records. E43115. Released 1965.

Hi-C. "I'm Not Your Puppet." Hollywood Records. ED 5526. Released 1991.

High School Musical 3 Cast. "Now or Never." In *High School Musical 3: Senior Year*. Walt Disney Records. Recorded 2008.

Hole. "Malibu." In *Celebrity Skin*. DGC Records. PRO-CD-1241. Released 1998.

Hollister, Dave. "Can't Stay." In *Ghetto Hymns*. Dreamworks Records. DRMD 50123. Recorded 1999.

Hootie And The BlowFish. "I Go Blind." In *Use Me*. Atlantic Records. 7-85050. Released 1995.

Houston, Whitney. "Whatchulookinat." In *Just Whitney*. Arista Records. 07822-15191-1. Recorded 2002.

Huey Lewis and the News. "The Power of Love." In *Back to the Future: Music from the Motion Picture Soundtrack*. MCA Records. MCA-6144. Released 1985.

Hyman, Dick. "Minotaur." In *MOOG: The Electric Eclectics of Dick Hyman*. Varèse Sarabande. VSD-5788. Reissued 1997. Recorded 1969.

Idol, Billy. "Don't Need a Gun." *Whiplash Smile*. Chrysalis. VK 41514. Recorded 1986.

I'll Be Around. "What Is This." In *I'll Be Around*. MCA Records. MCA-23573. Recorded 1985.

Incubus. "Wish You Were Here." In *Morning View*. Epic. EK 85227. Released 2001.

Iris, Donnie. "My Girl." In *King Cool*. MGA Records. MCA-5237. Recorded 1981. Released 1982.

Iron, Butterfly. "In-A-Gadda-Da-Vida." In *In-A-Gadda-Da-Vida*. ATCO Records. SD-33250. Recorded 1968. Reissued 1970.

Jacks, Terry. "Seasons in the Sun." In *Seasons in the Sun*. Bell Records. BEF 81307. Released 1974.

The Jackson 5. "I AM Love." In *I AM Love*. Motown Records. M 1310F. Recorded 1974.

———. "I want You Back." In *Diana Ross Presents The Jackson 5*. Motown. MS-700. Released 1969.

Jackson, Alan. "It Must Be Love." In *Under the Influence*. Arista Nashville. 07822-18892-2. Released 1999.

Jackson, Janet. "Again." In *Janet*. Virgin Records. 87825. Released 1993.

———. "Alright." In *Janet Jackson's Rhythm Nation 1814*. Opus. 91 2325-1311. Released 1989.

Jackson, Michael. "Billie Jean." In *Thriller*. EPIC Records. QE 38112. Recorded 1982. Released 1983.

———. "Don't Stop Til You Get Enough." In *Off The Wall*. EPIC. FE 35745. Recorded 1978. Released 1979.

———. "Heal the World." In *Dangerous*. Epic. EK 66071. Reissued 2001. Recorded 1991.

James, Rick. "Cold Blooded." In *Cold Blooded*. Gordy Records. 6043GL. Released 1983.

———. "Mary Jane." In *Come Get It*. Gordy Records. G7-981R1. Released 1978.

Jay and The Americans. "Walkin' in the Rain." In *Was Museum*. United Artists Records. UAS 6719. Released 1970.

The Jayhawks. "Stranded in the Jungle." In *My Only Darling/Stranded in the Jungle*. Flash Records. FL-109. Record 1956.

Jefferys, Garland. "96 Tears." In *Escape Artist*. EPIC. JET 36983. Released 1981.

Jennings, Waylon. "Luckenbach, Texas (Back to the Basics of Love)." In *Ol' Waylon*. RCA Records. AFL 1-2317. Released 1977.

Jennings, Waylon (Featuring Willie Nelson). "Good Hearted Woman." In *Good Hearted Woman*. RCA Victor Records. LSP 4647. Released 1972.

Jeru the Damaja. "Come Clean." In *The Sun Rises in the East*. Payday Records. 697-124-011-2. Released 1994.

The J. Geils Band. "Give It to Me." In *Bloodshot*. Atlantic. 82801-2. Recorded 1973. Reissued 1995.

Jimenez, Jose. "The Astronaut (Parts I & II)." In *The Astronaut*. Kapp Records. K-409. Recorded 1961.

Jo, Damito. "I'll Save the Last Dance for You." Mercury. 71690. Released 1960.

Joe. "What If A Woman." In *Better Days*. Jive Records. JDJ-40043-2. Recorded 2002.

Joel, Billy. "All About Love." In *River of Dreams*. Columbia. CK 53003. Recorded 1993.

Jon B. "They Don't Know." In *Cool Relax*. Yab Yum Records. BSK 3974. Recorded 1997. Released 1998.

John, Elton. "Lucky In The Sky With Diamonds." In *Lucy In The Sky With Diamonds*. MCA Records. MCA-40344. Recorded 1974.

———. "Someone Saved My Life Tonight." In *Captain Fantastic and the Brown Dirt Cowboy*. The Rocket Record Company. 314 528 160-2. Reissued 1995. Recorded 1975.

———. "Tiny Dancer." In *Madman Across the Water*. The Rocket Record Company. 314-528 161-2. Reissued 1995. Recorded 1971.

Johnson, Betty. "Dream." In *Dream*. Atlantic Records. 45-1186. Released 1957.

Jones, Quincy. "The Secret Garden (Sweet Seduction Suite)." In *The Secret Garden (Sweet Seduction Suite)*. Qwest Records, UMe. B0005154-02. Recorded 1989. Reissued 2005.

Jordan, Montell. "This Is How We Do It." In *This Is How We Do It*. Rush Associated Labels. 527 179-2. Released 1994.

Kaempfert, Bert. "Wonderland by Night." In *Wonderful by Night*. Decca. DL 74101. Recorded 1959. Released 1960.

King Curtis and The Noble Knights. "Soul Twist." In *Soul Twist With King Curtis*. Enjoy Records. 1000. Released 1962.

The KLF (Featuring Tammy Wynette). "Justified and Ancient." In *The White Room*. Arista Records. ARCD 8657. Released 1991.

Kelly, R. "If I Could Turn Back the Hands of Time." In *R*. Jive Records. 01241-41625-2. Released 1998.

Kenny G. "Auld Lang Syne (Millennium Mix)." In *Faith: A Holiday Album*. Arista. 07822-19090-2. Recorded 1999.

———. “The Moment.” In *The Moment*. Arista Records. 07822 18935 2. ASCD-894.9. Released 1996.

———. “Sentimental.” In *Breathless*. Arista. 07822-18646-2. Recorded 1992.

Keys, Alicia. “You Don’t Know My Name.” In *The Diary of Alicia Keys*. J Records. 82876-55712-2. Recorded 2003.

———. “Fallin’.” In *Songs In A Mirror*. J Records. VP 0633. Released 2001.

Khalifa, Wiz. “Black and Yellow.” In *Rolling Papers*. Rostrum Records. 527038-2. Released 2010.

Kingston, Sean. “Beautiful Girls.” In *Sean Kingston*. Beluga Heights Records. 8869 17318 2. Released 2007.

Kiss. “Crazy Crazy Nights.” In *Crazy Nights*. Mercury Records. 832-626-2. Released 1987.

Klymaxx. “The Men All Pause.” In *Meeting in the Ladies Room*. Constellation (2). MGA-5529. Released 1984.

Kool and The Gang. “Rhyme Time People.” In *Light of Worlds*. De-lite Records. DEP-2014. Released 1974.

Kramer, Billy J. “I’ll Keep You Satisfied.” Imperial. 66048. Released 1963.

Laissez Faire. “In Paradise.” Metropolitan Recording Corporation. MRC 04475.

Laban. “Love in Siberia.” In *Caught By Surprise*. Critique. CR 10500. Released 1985.

LaBelle. “What Can I Do For You.” In *Nightbirds*. EPIC. KE 33075. Released 1974.

Lake, Greg. “Let Me Love You Once.” In *Greg Lake*. Chrysalis Records. CHR 1357. Released 1981.

LaMontagne, Ray. “You Are the Best thing.” *Gossip In The Grain*. RCA Records. 88697-32670-1. Recorded 2008.

- Lasgo. "Alone." In *Some Things*. Robbins Entertainment. 76869-72074-2. Released 2002.
- Lauper, Cyndi. "Time After Time." In *She's So Unusual*. Portrait. FR 38930. Released 1983.
- Lavigne, Avril. "My Happy End." In *My Happy Ending*. Arista Records. 82876-62274-7. Recorded 2004.
- Lawrence, Billy Featuring MC Lyte. "Come On." In *Come On*. Eastwest Records. 0-63998. Recorded 1997.
- Led Zeppelin. "Fool in the Rain." In *In Through the Out Door*. Swan Song. R2-535343. Recorded 1979. Reissued 2015.
- . "Immigrant Song." In *Led Zeppelin III*. Atlantic. SD 7201. Released 1970.
- . "Kashmir." In *Physical Graffiti*. Swan Song. R2-544659. Reissued 2015. Recorded 1975.
- . "Stairway to Heaven." In *The Soundtrack from the Film "The Song Remains the Same"*. Swan Song. R2 328252. Reissued 2007. Recorded 1976.
- Lee, Peggy. "Alright, Okay, You Win." Capitol Records. F 4115. Released 1958.
- Lee, Tommy. "Good Times." In *Tommyland: The Ride*. Streamhammer. SPV 9976B CDS. Released 2005.
- The Left Banke. "Walk Away Renee." In *Walk Away Renee/Pretty Ballerina*. Smash Records. SRS 67088. Recorded 1967.
- LeToya. "Torn." In *LeToya*. Capitol Records. CDR 7243 5 97136 0 1. Recorded 2005. Released 2006.
- The Lettermen. "How is Julie?" In *Once Upon a Time*. Capitol Records. ST 1711. Released 1962.
- Level 42. "Running in the Family." In *Running in the Family*. Polydor. 831 593-2. Recorded 1986.

LeVert. "Casanova." In *The Big Throwdown*. Atlantic. 7 81773-2. Recorded 1987.

Lewis, Leona. "Bleeding Love." In *Spirit*. Simco Limited. Released 2007. Recorded 2008.

Lightfoot, Gordon. "The Wreck of the Edmond Fitzgerald." In *Summertime Dream*. Reprise Records. MB 2246. Recorded 1975. Released 1976.

Lighthouse. "Pretty Lady." In *Can you Feel It*. Polydor Records. PD 5056. Released 1973.

Lil Kim(Featuring 50 Cent). "Magic Stick." In *La Bella Mafia*. Atlantic, and Queen Bee Records, and BIG Entertainment. 83572-1. Recorded 2002. Released 2003.

Lil Wayne. "F**k Today." In *Rebirth*. Cash Money Records. B0013083-10. Recorded 2009.

Linkin Park. "Given Up." In *Minutes to Midnight*. Warner Brothers. PRO-CDR 458556. Released 2007.

Little Milton. "We're Gonna Make It." In *We're Gonna Make It*. Checker. LP-2995. Released 1965.

Lo-Key. "Sweet On You." In *Where Dey At?*. Perspective Records. 28968 1003 2. Recorded 1992.

Lone Justice. "Shelter." In *Lone Justice*. Geffen Records. GHS 24122. Released 1987.

Lopez, Jennifer (Featuring LL Cool J). "All I Have." In *This Is Me... Then*. Epic Records. EPC 673540 0. Released 2002.

Lorn. "Acid Rain." In *The Maze to Nowhere, part 2*. Wednesday Sound. Released 2014.

Los Indios Tabajaras. "Maria Elena." RCA Victor. LPM 2822. Released 1964.

Ludacris, and Nicki Minaj. "My Chick Bad." In *Battle of the Sexes*. Island Def Jam Music Group. B0014030-02. Recorded 2009. Released 2010.

Luhrmann, Baz. "Everybody's Free (to Wear Sunscreen)." In *Something for Everybody*. Capitals Records. CDP 7243 8 57636 2 5. Recorded 1999.

The Lumineers. "Big Parade." In *The Lumineers*. Dualtone. 80302-01608-11. Released 2012.

Lynyrd Skynyrd. "Free Bird." In (*Pronounced 'Lěh-'nérd 'Skin-'nérd*). MCA Records. 088 112 727-2. Reissued 2001. Recorded 1973.

Madonna. "Angel." In *Like A Virgin*. Sire Records. 9 25157-1. Recorded 1984. Released 1985.

———. "Frozen." In *Ray of Light*. Maverick, Warner Brothers Records. 9 46884 2. Recorded 1998.

The Main Ingredient. "I'm So Proud." RCA Records. SPS-45-243. Released 1970.

The Mamas & Papas. "Dancing Bears." In *The Mamas & Papas*. Dunhill. D 50010. Released 1966.

Manchester, Melissa. "Just Too Many People." In *Melissa*. Arista Records. AL 4031. Released 1975.

March, Little Peggy. "I Will Follow Him." In *I Will Follow Him*. RCA Victor. 47-8139. Released 1963. Recorded 1962.

Martha and the Vandellas. "Come and Get These Memories." In *Come and Get These Memories*. Gordy. Gordy 902. Released 1963.

———. "(We've Got) Honey Love." In *Ridin' High*. Gordy Records. 926. Recorded 1968. Released 1969.

Martin, Dean. "Lay Some Happiness on Me." In *Happiness is Dean Martin*. Reprise Records. RS-6242. Released 1967.

Martin, Ricky. "Livin' La Vida Loca." In *Ricky Martin*. C2Records. 44K 79153. Recorded 1998. Released 1999.

———. "She Bangs." In *Sound Loaded*. Columbia Records. CSK 16221. Released 2000.

Martin, Ricky (Featuring La Mari). "Tu Recuerdo." In *MTV Unplugged*. Norte Records. 88697019292. Released 2006.

Marvin Sapp. "Never Would Have Made." In *Playlist: The Very Best of Marvin*. Verity, Legacy. 88697 67460 2. Recorded 2007. Released 2011.

Marx, Richard. "Keep Coming Back." In *Rush Street*. Capital Record. CDP 7 95874 2. Recorded 1991.

Matthews, David & Tim Reynolds. "Eh Hee." In *Live At Radio City*. RCA. 88697 13102-2. Recorded 2007.

Maze (Featuring Frankie Beverly). "Back in Stride." In *Can't Stop the Love*. Capitol Records. ST-12377. Released 1985.

McCall, C.W. "Old Home Filler-Up An' Keep On-A-Truckin' Cafe." In *Wolf Creek Pass*. MGM Records. M3G 4989. Released 1975.

MC Hammer. "2 legit 2 Quit." In *Too Legit to Quit*. Capitol Records. C2-15791. Released 1992. Recorded 1990-1991.

———. "This is the Way We Roll." In *Too Legit to Quit*. Capitol Records. CDP 7 98151 2. Released 1991.

The McCoys. "Fever." In *Hang on Sloopy*. Bang Records. BLP-212. Released 1965.

McCoy, Van. "Party." H&L Records. HL 4670. Released 1976.

The McGuire Sisters. "Sincerely." In *Sincerely*. Coral Records. 9-61323. Recorded 1954.

McLean, Don. "American Pie." In *American Pie (Parts I & II)*. United Artists Records. USA-5535. Reissued 1972. Recorded 1971.

Meat Loaf. "I'd Lie for You (And That's the Truth)." In *Welcome to the Neighborhood*. MCA Records. CMCAD 11341. Recorded 1995.

———. "Not a Dry Eye in the House." In *Welcome to the Neighborhood*. MCA Records. MCAD-11341. Released 1995.

———. "Objects in the Rear View Mirror May Appear Closer Than They Are." In *Bat Out of Hell II: Back into Hell*. MCA Records. MCAD-10699. Released 1993.

———. “Paradise by the Dashboard Light.” In *Bat Out of Hell*. Epic, Cleveland International Records, Legacy. EK 62171. Reissued 2001. Recorded 1977.

Merchant, Natalie. “Carnival.” In *Tigerlily*. Elektra. 61745-2. Released 1995.

Metallica. “Cyanide.” In *Death Magnetic*. Blackened Recording. BLACKND018-2. Reissued 2013. Recorded 2007.

———. “The Day that Never Comes.” In *Death Magnetic*. Blackened Recording. BLACKND018-2. Reissued 2013. Recorded 2007.

———. “Nothing Else Matters.” In *Metallica*. Blackened Recording. BLACKND008-2. Reissued 2013. Recorded 1991.

———. “One.” In *...And Justice for All*. Blackened Recording. BLACKND007-2. Reissued 2013. Recorded 1988.

———. “Sad But True.” In *Metallica*. Vertigo Records. 510 022 2. Released 1993.

———. “The Unforgiven.” In *Metallica*. Blackened Recording. BLACKND008-2. Reissued 2013. Recorded 1991.

———. “The Unforgiven II.” In *Reload*. Vertigo. 536 409-2. Recorded 1997.

———. “Wherever I May Roam.” In *Metallica*. Blackened Recording. BLACKND008-2. Reissued 2013. Recorded 1991.

Michael, George. “Freedom.” In *Listen Without Prejudice Volume 1*. Columbia. CK 46898. Recorded 1991.

———. “I Want Your Sex” (Part 1 and 2). *Faith*. Columbia. CK 40867. Recorded 1987.

———. “Jesus to a Child.” In *Older*. Dreamworks Records, Aegean. DRMD - 50000. Recorded 1996.

Micheal, George & Elton John. “Don't Let The Sun Go Down On Me.” In *Don't Let The Sun Go Down On Me*. Columbia Records. 38-74086. Recorded 1991.

Midnight Star. “Headlines.” Solar. 0-66 857. Recorded 1985-1986. Released 1986.

Mike + The Mechanics. "Silent Running (On Dangerous Grounds)." In *Mike + The Mechanics*. Atlantic Records. 7 81287-2. Released 1985.

Mills, Stephanie. "Sweet Sensations." In *Stephanie Mills*. 20th Century Fox Records. T-603. Released 1980.

Milian, Christina (Featuring Joe Budden). "Whatever U Want." In *It's About Time*. Island Records. CHRISTINACDP3. Released 2004.

The Mirettes. "In the Midnight Hour." In *In the Midnight Hour*. Revue Records. RS-7205. Released 1968.

Montgomery, Melba. "No Charge." In *No Charge*. Elektra Records. EKS 75079. Released 1974.

The Moody Blues. "I Know You're Out There Somewhere." *Sur La Mer*. Polydor, Threshold Records. 835 756-2. Recorded 1988.

———. "Isn't Life Strange." In *Isn't Life Strange*. Threshold Records. 45-THS-67009. Recorded 1972.

———. "The Night: Nights in White Satin." *Days of Future Passed*. DTS Entertainment. 71021-54418-2-5. Recorded 1967.

———. "The Other Side of Life." In *The Other Side of Life*. Polydor Records. 829 179-2. Recorded 1985. Released 1986.

Morales, Michael. "Who Do You Give Your Love To?" In *Michael Morales*. Wing Records. 835 810-2. Released 1989.

Morris Day. "Fishnet." *Daydreaming*. Warner Brothers Records. 9 25651-2. Recorded 1987.

Mother's Finest. "Baby Love." EPIC Records. 8-50407. Released 1977.

Mr C The Slide Man. "Cha Cha Slide." In *Cha Cha Slide: The Original Slide Album*. Universal Records. 012 158 378-1. Recorded 1998. Released 2000.

Mumford & Sons. "Roll Away Your Stone." In *Sigh No More. Gentlemen Of The Road, Glassnote*. GLS-0109-02. Recorded 2009.

Murray, Anne. "Shadows in the Moonlight." In *New Kind of Feeling*. Capitol Records. SW-11849. Recorded 1978. Released 1979.

Muse. "Supremacy." In *The 2nd Law*. Warner Bros. Records. 532065-2. Recorded 2011-2012. Released 2012.

Nada Surf. "Popular." In *High/Low*. Elektra Records. 61913-2. Recorded 1995. Released 1996.

Naked Eyes. "Always Something There to Remind Me." In *Burning Bridges*. EMI Records. EMC 3426. Recorded 1982. Released 1983.

Nash, Graham. "Chicago." In *Songs for Beginners*. Atlantic Records. SD 7204. Released 1971.

Nastyboy Klick (Featuring Roger Troutman). "Down for Yours." In *The First Chapter*. Mercury. 314 536 239-2. Released 1997.

Natural Selection. "Hearts Don't Think (They Feel)!" In *Natural Selection*. EastWest Records America. 7 91787-2. Released 1991.

Nazareth. "Love Hurts." In *Hair of the Dog*. A&M Records. SP-4511. Released 1975.

The New Birth. "I Can Understand It." In *I Can Understand It*. RCA Victor. 74-0912. Recorded 1973.

New Edition. "You're Not My Kind of Girl." In *Heart Break*. MCA Records. MCA-42207. Recorded 1987-1988. Released 1988.

New Order. "Blue Monday." *Blue Monday 1988*. Qwest Records. PRO-CD-3053. Recorded 1982. Reissued 1988.

Newton, Wayne. "Comin' On Too Strong." Capitol Records. 5338. Released 1964.

New Vaudeville Band. "Winchester Cathedral." Fontana. F-1562. Released 1966.

Nightcrawlers. "Push the Feeling On." In *Let's Push It*. Tommy Boy Silver Label. tb-2445-2. Reissued 2004. Recorded 1992.

Nightingale, Maxine. “(Bringing Out) The Girl In Me.” Windsong Records. CD-11730. Released 1979.

Nilsson. “Everybody’s Talkin’.” In *Aerial Ballet*. RCA Victor. LSP-3956. Released 1968.

———. “I Guess the Lord Must Be in New York City.” In *Harry*. RCA Victor. LSP 4197. Released 1965.

Nine Inch Nails. “Closer.” In *The Spiral Downward*. Nothing Records, Interscope Records, TVT Records, Atlantic. 92346-2. Recorded 1994.

Nino Tempo & April Stevens. “All Strung Out.” In *All Strung Out*. While Whale. WW 113. Released. 1967.

Nirvana. “Smells Like Teen Spirit.” In *Nevermind*. DGC. DGCD-24425. Released 1991.

NSYNC. “It’s Gonna Be Me.” In *No Strings Attached*. Jive Records. 01241-41702-2. Recorded 1999. Released 2000.

Nutta Butta w/Teddy Riley & Anonymous. “Freak Out.” In *Freak Out*. Interscope Records. INT12-95020. Recorded 1998.

Oasis. “Champagne Supernova.” In *(What’s the Story) Morning Glory?* Reprise Records. 517125-2. Reissued 2008. Recorded 1995.

Ohio Players. “Pain.” In *Pain*. Westbound Records. WB 2015. Recorded 1972.

Ol’ Skool (Featuring Keith Sweat & Xscape). “Am I Dreaming.” In *Ol’ Skool*. Universal Records. U-53104. Released 1997.

The Olympics. “Big Boy Pete.” Arvee. A 595. Released 1960.

OneRepublic. “Feel Again.” In *Native*. Interscope Records. B0017713-02. Recorded 2012. Released 2013.

Ono, Yoko. “Walking on Thin Ice.” Geffen Records. GEF 49683. Recorded 1980. Released 1981.

Orbison, Roy. “I’m Hurtin’.” Monument. 45-433. Released 1960.

- Orchestral Manoeuvres In The Dark. "(Forever) Live And Die." In *The Pacific Age*. A&M Records. CD 5144.
- Osborne, Ozzy. "No More Tears." In *No More Tears*. Epic Associated. ZK 46795. Released 1991.
- Osmonds. "One Bad Apple." In *Osmonds*. MGM Records. SE-4724. Released 1971. Recorded 1970.
- Pacific Gas & Electric. "Are You Ready." In *Are You Ready*. Colombia. Recorded 1970.
- Page, Martin. "Keeper of the Flame." In *The House of Stone and Light*. Mercury Records. 314 522 104-2. Released 1994.
- Paisley, Brad. "I Wish You'd Stay." In *Part II*. Arista Nashville. 07863-67008-2. Recorded 2001.
- Panic at the Disco!. "Nine in the Afternoon." In *Pretty. Odd*. Decaydance Records. PRCD 429180. Released 2007. Recorded 2008.
- Paris, Sanina. "Look At Us." In *Playland Records*. P2 50175. Released 2002.
- Passengers. "Let Her Go." In *All the Little Lights*. Nettwerk. 0 6700 30965 2 2. Released 2012.
- Passion Pit. "Little Secrets." In *Manners*. Frenchkiss Records. FKR038-2. Recorded 2008. Released 2009.
- . "Sleepyhead." In *Chunk of Change and Manners*. Frenchkiss Records. FKR035-2. Released 2008.
- Patience & Prudence. "Gonna Get Along Without Ya Now." Liberty Records. F55040. Recorded 1956.
- Paul, Billy. "Me and Mrs. Jones." In *360 Degrees of Billy Paul*. Philadelphia International Records. KZ 31793. Released 1972.
- Paul, Kelly. "Stealing in the Name of the Lord." In *Paul Kelly*. Happy Tiger Records. HT-1015.

Paul, Sean. "Like Glue." In *Dutty Rock*. Atlantic Records. PRCD 301159. Recorded 2003.

P. Diddy (Featuring Keyshia Cole). "Last Night." In *Press Play*. Bad Boy Entertainment. 94554-2. Recorded 2006.

Pebbles. "Girlfriend." *Pebbles*. MCA Records. MCAD-42094. Recorded 1987.

Pendergrass, Teddy. "Joy." *Joy*. Elektra. 960 775-4. Recorded 1988.

Pet Shop Boys. "Always on My Mind/In My House." *Introspective*. EMI-Manhattan Records. 72438-19831-2-6. Recorded 1988.

———. "Domino Dancing." *Introspective*. EMI-Manhattan Records. 72438-19831-2-6. Recorded 1988.

Peter & Gordon. "Knight in Rusty Armor." Capitol Records. 5808. Released 1966.

Phillips, Wilson. "Release Me." In *Wilson Phillips*. SBK Records. CDP-93745. Recorded 1989-1990. Released 1990.

Pink Floyd. "Take it Back." In *The Division Bell*. Columbia. CK 64200. Released 1994. Recorded 1993.

———. "Time." In *Dark Side of the Moon*. EMI. 50999 028955 2 9. Reissued 2011. Recorded 1974.

———. "Money." In *Dark Side of the Moon*. EMI. 50999 028955 2 9. Reissued 2011. Recorded 1974.

Pitbull (Featuring Marc Anthony). "Rain Over Me." In *Planet Pit*. Polo Grounds Music. 88697-91054-2. Released 2011.

The Plain White T's. "Hey There Delilah." In *All That we Needed and Every Second Counts*. Fearless Records. F072. Fearless Records. FRL 30072-2. Released 2006.

The Platters. "Harbor Lights." Mercury. 71563X45. Released 1960.

———. "You're Making a Mistake." Mercury. 71320X45. Released 1958.

Plies (Featuring Chris J). "Put It on Ya." In *Da REAList*. Big Gates Records. 515812-2. Released 2008.

Portugal. The Man. "Feel It Still." In *Woodstock*. Atlantic. 7567-86608-2. Released 2017.

Presley, Elvis. "Viva Las Vegas." In *Viva las Vegas*. RCA Victor. 47-8360. Reissued 1945. Recorded 1964.

———. "Tickle Me." In *Tickle Me*. RCA Victor. EPA4384. Record 1965.

Price, Kelly. "As We Lay." In *Mirror Mirror*. Def Soul. 314 542 472-2. Recorded 2000.

Prince. "1999." In *1999*. Warner Brothers Records. 9 23720-2. Reissued 1990. Recorded 1982.

———. "Batdance." *Batman*. Warner Brothers Records. 9 25978-2. Recorded 1989.

———. "Pink Cashmere." In *The Hits/The B-Sides*. Warner Brothers Records, Paisley Park. 9362-45440-2. Recorded 1993.

The Proclaimers. "I'm Gonna Be (500 Miles)." In *Sunshine on Leith*. Chrysalis. VK 41668. Released 1988. Re-released 1993, 2000.

Puff Daddy. "Come with Me." In *Godzilla: The Album*. Epic. 34T 78954. Released 1998.

Pure Soul (Featuring the O'Jays). "Stairway to Heaven." In *Pure Soul*. Interscope Records. 92638-2. Recorded 1995.

Queen. "It's Late." In *News of the World*. Hollywood Records. D001410102. Reissued 2011. Recorded 1977.

———. "Bohemian Rhapsody." In *Bohemian Rhapsody*. Elektra. E-45297. Reissued 2019. Recorded 1975.

Queen Latifah. "Just Another Day." In *Black Reign*. Motown Records. 374634850-2. Released 1994.

Radiohead. "2=2+5 (The Lukewarm)." In *Hail to the Thief*. Capitol Records. CDP 7243 5 84543 2 1. Released 2003.

———. "DayDreaming." In *A Moon Shaped Pool*. XL Records. LLLPLLPLP01. Recorded 2016.

Rafferty, Gerry. "Baker Street." In *City to City*. United Arista Records. UA-EA840-H. Recorded 1977. Released 1978.

Rare Earth. "Hey Big Brother." Rare Earth Records. R 5038F. Released 1971..

———. "(I Know) I'm Losing You." In *Get Ready/(I Know) I'm Losing You*. Motown Records. Recorded 1973.

Ratt. "Lay It Down." In *Invasion of Your Privacy*. Atlantic Records. 81257-2. Released 1985.

Ready for the World. "Love You Down." *Ready for the World*. MCA Records. MCAD-5829. Recorded 1986.

Redding, Otis. "(Sittin' On) The Dock of the Bay." In *The Dock of the Bay*. Volt Records. VOLT S-419. Released 1968.

Reich, Steve. "It's Gonna Rain." In *Live/ Electric Music*. Columbia Masterworks. MS 7265. Recorded 1968.

Rich, Richie. "Do G's Get to go to Heaven?" In *Seasoned Veteran*. Def Jam Music Group. 314 533 471-2. Released 1996.

Richard, Cliff. "Dreaming." In *I'm No Hero*. EMI America. 4XW 17039. Released 1980.

The Righteous Brothers. "Unchained Melody." In *The Very Best of the Righteous Brothers*. Verve Records. P2-47248. Release 1990.

Robbin Thompson Band. "Brite Eyes." In *Two B's Please*. Ovation. OV 1759. Recorded 1980.

Robison, Alvin. "Something You Got." Tiger Records (5). TI 104. Released 1964.

Robyn. "Show Me Love." In *Robyn Is Here*. RCA Records. 07863 64969-2. Released 1997.

Rock Therapy. "Reaching Out." In *Reaching Out*. EMI. CDEM438. Released 1996.

The Rolling Stones. "Sympathy for the Devil." In *Beggars Banquet*. London Records. LFX 17150. Released 1968.

———. "Tumbling Dice." In *Exile on Main St.* Rolling Stones Records. COC 2-2900. Released 1972.

The Roots (featuring Musiq). "Break You Off." In *Break You Off*. Geffen Records. Released 2003.

Rose, Andy. "Just Young." AAMCO Records. ALS-100. Released 1958.

Ross, Diana. "Diana Ross." In *Diana Ross*. Motown. Recorded 1970.

Rowland, Kelly (Featuring Eve). "Like This." In *Ms. Kelly*. Music World Music. 88697112842. Released 2007.

Royal, Billy Joe. "I've Got to be Somebody." In *Down in the Boondocks*. Columbia. CL 2403. Released 1965.

Rush, Jennifer. "The Power of Love." In *Jennifer Rush*. EPIC. 34-05754. Recorded 1983. Released 1984.

Rydell, Bobby. "Cherie." In *Bobby's Biggest Hits Vol. 2*. Cameo. C-186. Released 1960.

Saadiq, Raphael (Featuring D'Angelo). "Be Here." Universal Records. UNIR 20715-2. Released 2002.

Sandler, Adam. "The Thanksgiving Song/The Chanukah Song." In *The Thanksgiving Song/The Chanukah Song*. Warner Bros Record. PRO-CD-8509. Recorded 1995.

Sang, Samantha. "In the Midnight Hour." United Artists Records. UA-P5011-D. Released 1979.

Scarlett and Black. "You Don't Know." In *Scarlett and Black*. Virgin Records. 790647 - 2. Released 1988.

- S Club 7. "Never Had A Dream Come True." In *7 and Sunshine*. Polydor. 587 903-2. Released 2002.
- Scorpions. "Rock You Like A Hurricane." In *Love at First Sting*. Mercury Records. S114728. Recorded 1983. Released 1984.
- Scott, Jack. "With Your Love." Carlton. 483. Released 1958.
- Seal. "Don't Cry." In *Seal II*. ZTT. 9 45415-2. Released 1994.
- Seether. "Remedy." In *Karma and Effect*. Wind Up Records. 60150-13115-2. Recorded 2004. Released 2005.
- Shep and The Limelites. "Ready for Your Love." Hull Records. 45-H-742. Released 1961.
- S'Express. "Overture." In *Original Sound Track*. Capitol Records. C1-91442. Rhythm King Records. LEFT LP8. Recorded 1989.
- Shinedown. "Save Me." In *Us and Them*. Atlantic. 83866 2. Released 2005.
- Shondell, Troy. "This Time." *The Many Sides of Troy Shondell*. Everest. 5206. Released 1961.
- The Silencers. "Painted Moon." *A Letter from St. Paul*. RCA. PD 71336. Recorded 1986.
- Silk. "Hooked On You." In *Silk*. Elektra Records. 64359-2. Released 1995.
- . "I Can Go Deep." In *Silk and A Low Down Dirty Shame(soundtrack)*. Jive Records. JDJ-42263-2. Released 1994.
- Skrillex, Diplo, & Justin Bieber. "Where Are You Now." In *Jack U*. OWSLA, Mad Decent. 075679927309. Recorded 2015.
- Simmons, Patrick. "Don't Make Me Do It." In *Arcade*. Elektra Records. 9 60225-4. Released 1983.
- Simmons Ray Bobby with Harris J. Clifford & Clarence Montgomery. "Bet I." In *The Adventures of Bobby Ray*. Atlantic Records. 7567896650. Recorded 2010.

Simon And Garfunkel. "Cecilia." In *Bridge Over Troubled Waters*. Columbia Records. KCS 9914. Released 1970. Recorded 1969.

Simon, Carly. "Coming Around Again." In *Carly Simon*. Arista Records. ASCD-9525. Recorded 1986-1987. Released 1986-1987.

Sinatra, Frank. "The World We Knew (Over and Over)." In *Frank Sinatra's Greatest Hits*. Reprise Records. FS 1025. Released 1968.

Sister Hazel. "Change Your Mind." Universal Records. UNIR 20084-2. Released 2000.

The Smashing Pumpkins. "Superchrist." In *G.L.O.W.* Co5 Music. Recorded 2008.

Smith, Jimmy. "Midnight Special Part I." In *The Incredible Jimmy Smith*. Blue Note. BLP 40078. Reissued 1966. Recorded 1961.

Songz, Trey (Featuring Gucci Mane and Soulja Boy Tellem). "LOL :-)." In *Ready*. Atlantic Records. 518794-2. Released 2009.

S.O.S Band. "The Finest." In *Sands of Time*. Tabu Records. 2K 40279. Released 1986.

Sound Factory. "Understand This Groove." RCA. 07863 62371-2. Recorded 1992.

Spacehogs. "In the Meantime." In *Resident Alien*. Sire Records. 61834-2. Recorded 1995. Released 1996.

Sparks, Jordin. "I (Who Have Nothing)." Recorded 2007.

Spears, Britany. "3." *The Singles Collection*. Jive Records. Recorded 2009.

Springsteen, Bruce. "Human Touch." In *Human Touch*. Columbia. CK 53000. Recorded. 1992.

Stage Dolls. "Love Cries." In *Stage Dolls*. Chrysalis. F4 21716. Released 1989.

Stampeders. "Hit The Road Jack." In *Streamin'*. Music World Creations. MWCS 708. Released 1975.

Stealer's Wheel. "Stuck in the Middle With You." In *Stealer's Wheel*. A&M Records. SP 4377. Released 1972.

Steward, Rob. "Da Ya Think I'm Sexy?" In *Blondes Have More Fun*. Warner Bros. Records. M8 3261. Released 1978.

———. "I Was Only Joking." In *Foot Loose & Fancy Free*. Warner Bros. Records. M8 3092. Recorded 1977. Released 1978.

———. "The Killing of Georgie." In *A Night on the Town*. Warner Brothers Records. R2 47730. Reissued 2009. Recorded 1976.

Steelheart. "She's Gone (Lady)." In *Steelheart*. MCA Records. MCAD-6368. Recorded 1990.

Steely Dan. "Deacon Blues." In *Aja*. MCA Records. 088 112 056-2. Reissued 1999. Recorded 1977.

Stevens, Ray. "Harry the Hairy Ape." Mercury Records. 72125. Released 1963.

The Steve Miller Band. "Abracadabra." In *Steve Miller Band*. Capitol Records. 8XT-12216. Recorded 1981. Released 1982.

———. "Heart Like a Wheel." In *Circles of Love*. Capitol Records. ST-12121. Released 1981.

———. "Jet Airliner." In *Book of Dreams*. Capitol Records. SO-11630. Released 1977.

Stone Temple Pilots. "Dancing Days." In *Various – Encomium: A Tribute To Led Zeppelin*. Atlantic. PRCD 6223. Released 1995.

———. "Dead and Bloated." In *Core*. Atlantic, Atlantic. 7 82418-2, 82418-2. Recorded 1992.

Straight, George. "Run." In *The Road Less Traveled*. MCA Nashville Records. 088 170 220-2. Released 2001.

Streisand, Barbra. "Funny Girl." In *Funny Girl Soundtrack*. Columbia Masterworks. BOS 3220. Released 1968.

———. "Left in the Dark." In *Bad for Good*. Epic/Cleveland International Records. EK 36531. Recorded 1984.

———. “Somewhere.” In *The Broadway Album*. Columbia. CK 40092. Released 1989.

———. “Sweet Inspiration/Where You Lead.” In *Barbra Joan Streisand*. Columbia. CK 30792. Reissued 2008. Recorded 1972.

Sugar Bears. “You are the One.” In *Presenting The Sugar Bears*. Big Tree Records. BTS 2009. Released 1971.

Surface. “The First Time.” In *3 Deep*. Columbia Records. C 46772. Recorded 1989. Released 1990.

The Supremes. “Automatically Sunshine.” In *Floy Joy*. Motown. M751L. Released 1972.

Survivor. “Somewhere In America.” In *Somewhere In America*. Scotti Bros. Records. SB 7107. Released 1979.

Sweat, Keith. “When I Give My Love.” In *Get Up On It*. Elektra. 61550-2. Recorded 1994.

Swift, Taylor. “Change.” In *AT&T Team USA Soundtrack*. Big Machine Records. Recorded 2008. Released 2010.

———. “Dear John.” In *Speak Now*. Big Machine Records. BTMSR0300A, 8 23674 73312 4. Recorded 2010.

———. “Last Kiss.” In *Speak Now*. Big Machine Records. BTMSR0300A, 8 23674 73312 4. Recorded 2010.

Swing Out Sister. “Twilight World.” *It's Better to Travel*. Mercury, PolyGram. 832 213-2 Q-1. Recorded 1987.

Swirl 360. “Hey Now Now.” In *Ask Anybody*. Mercury Records. 314 566 297-2. Released 1998.

Sylvers, Foster. “Misdemeanor.” In *Foster Sylvers*. Pride. PRD-0027. Released 1973.

The Talking Heads. “Once in a Lifetime.” In *Remain in Light*. Sire. SRK 6095. Released 1980.

Tamia. "Officially Missing You." In *More*. Elektra. Recorded 2002. Released 2003.

Taylor, Livingston. "First Time Love." In *First Time Love*. EPIC. 9-50894. Released 1980.

Tears for Fears. "Sowing the Seeds of Love." *The Seeds of Love*. Fontana. 38 730-2. Recorded 1989.

Tesla. "What You Give." In *Psychotic Supper*. Geffen Records. GEFD-24424. Recorded 1991.

The Temptations. "Run Away Child, Running Wild." In *Run Away Child, Running Wild*. Gordy. Recorded 1969.

———. "Papa Was A Rolling Stone." In *Papa Was A Rolling Stone*. Gordy Records. G 7121F. Recorded 1972.

———. "Power." Gordy Records. G8-994M1. Released 1980.

Timberlake, Justin. "What Goes Around." In *FutureSex/LoveSounds*. Jive Records. 82876 88062 2. Released 2006.

Thomas, Dante (Featuring Pras Michel). "Miss California." In *Fly*. Elektra Records. PRCD 7467-2. Recorded 2001.

Thorpe, Billy. "Children of the Sun." In *Children of the Sun*. Capricorn Records. CPN-0221. Released. 1979.

Three 6 Mafia (Featuring Chamillionaire). "Doe Boy Fresh." In *Last 2 Walk*. Columbia. 88697061122. Released 2007.

Three Days Grace. "I Hate Everything About You." In *Three Days Grace*. Jive Records. JDJ- 40079-2. Released 2003.

T.I. "Big Things Poppin' (Do It)." In *T.I. vs. T.I.P.* Atlantic Records. PRCD 223740. Released 2007.

T.I. with Keri Hilson. "Got Your Back." In *No Mercy*. Atlantic. Released 2010.

TKA. "Maria." In *Greatest Hits*. Tommy Boy. TBCD 1040. Recorded 1992.

Todd, Nick. "Plaything." Dot Records. 45-15643. Released 1957.

Tom Petty and the Heartbreakers. "Mary Jane's Last Dance." In *Greatest Hits*. MCA Records. MCAS7 54732. Released 1993.

Toto. "Africa." In *Toto IV*. Columbia. FC 37728. Recorded 1981. Released 1982.

Tool. "Schism." In *Lateralus*. Volcano, Tool Dissectional. 61422-31160-2 CD. Recorded 2001.

———. "Vicarious." In *10,000 Days*. Volcano Entertainment. 82876-81991-2. Recorded 2006.

Too Short. "Cocktails." In *Cocktails*. Jive. 01241-41553-2. Recorded 1995.

———. "I'm a Player." Jive Records. JDJ-42152-2. Released 1993.

Total (Featuring Notorious B.I.G.). "Can't See You." In *New Jersey Drive, Vol. 1 and Total*. Tommy Boy Records. TB 676. Recorded 1994. Released 1995.

T-Pain Featuring Lil Wayne. "Bang Bang Pow Pow." In *Revolver*. Nappy Boy Entertainment, Konvict Muzik, RCA. 88697-99273-2. Recorded 2011.

Tull, Jethro. "Aqualung." In *Aqualung*. Reprise Records. M82035. Recorded 1971.

———. "Minstrel in the Gallery." In *Minstrel in the Gallery*. Chrysalis. Y8HR 1082. Recorded 1975.

Twenty One Pilots. "Car Radio." In *Regional at Best*. Twenty One Pilots (self-released). Released 2011.

Twitty, Conway. "Is a Blue Bird Blue." MGM Records. K12911. Released 1960.

Tyrese. "Sweet Lady." In Tyrese. RCA Records. RDJ 65594-2. Recorded 1998.

U2. "Beautiful Day." In *All That You Can't Leave Behind*. Interscope Records. 314-548 328-2. Released 2000.

———. "In God's Country." In *The Joshua Tree*. Island Records. 7 90581-2. Released 1988.

———. “I Still Haven’t Found What I’m Looking For.” In *The Joshua Tree*. Island Records. 7 90581-2. Recorded 1986. Released 1987.

———. “I Will Follow You.” In *Boy*. Island Records. ISL 9646. Released 1985.

———. “Numb.” In *Zooropa*. Island Records. Released 1993.

———. “Where the Streets Have No Name.” In *The Joshua Tree*. Island Records. 7 90581-2. Recorded 1986. Released 1987.

Underwood, Carrie. “Cowboy Casanova.” *Play On*. Arista Nashville. 88697-62441-2. Released 2009.

Underworld. “Underneath the Radar.” In *Underneath the Radar*. Sire. 9 25627-2. Recorded 1987.

Urban, Keith. “Stupid Boy.” In *Love, Pain & the Whole Crazy Thing*. Capitol Records Nashville. 09463-77087-0-5. Recorded 2006.

USA for Africa. “We Are the World.” Columbia. US2-05179. Recorded 1985.

Usher, and Will.I.am. “OMG.” LaFace Records. Recorded 2009. Released 2010.

Usher. “There Goes My Baby.” LaFace Records. 88697638892. Released 2010.

Vee, Bobby. “Beautiful People.” In *Just Today*. Liberty Records. LST-7554. Released 1968.

Valentino, Mark. “The Push and Kick.” SWAN. LP-508. Released 1962.

The Venetians. “So Much for Love.” In *So Much For Love*. Chrysalis. 4V9 43046. Recorded 1986.

Verve. “Bitter Sweet Symphony.” In *Urban Hymns*. Virgin and Hut Recordings. 7243 8 44913 2 1. Released 1997.

V.I.C. “Get Silly.” In *Beast*. Warner Brothers. PRO-CDR-102165. Recorded 2007. Released 2008.

Vidal, Marai. “Body Rock.” EMI America. V-7836. Released 1984.

Voices. "Yeah, Yeah, Yeah." In *Just the Beginning*. Zoo Entertainment. 72445-11039-2. Released 1992.

The Vogues. "My Special Angel." In *Turn Around, Look at Me*. Reprise Records. RS 6314. Released 1968.

The Walker Bros. "The Sun Ain't Gonna Shine (Anymore)." In *The Sun Ain't Gonna Shine (Anymore)*. Smash Records. DJS-10. Released 1966.

Wallace, Jerry. "Swingin' Down the Lane." Challenge. 59082. Released 1960.

War. "Gypsy Man." In *Gypsy Man*. United Artists Records. UA-XW281-W. Recorded 1973.

———. "Slippin Into Darkness." In *Slippin Into Darkness*. United Artist Records. 50867. Recorded 1971.

Warwick, Dionne. "Odds and Ends." In *Odds And Ends /As Long As There's An Apple Tree*. Scepter Records. SCE-12256. Recorded 1969.

Wayne Fontana & The Mindbenders. "It's Just a Little Bit Too Late." Fontana. F-1514. Released 1965.

Wendy & Lisa. "The Closing Of The Year (Main Theme from Toys)." In *The Musical Cast Of Toys*. Geffen Records. PRO-A-4482. Recorded 1992.

Wesley, Fred & The J.B.'s. "Doing It To Death." In *Doing It To Death*. People Records. Recorded 1973.

West, Kanye. "Through The Wire." In *The College Dropout*. Roc-A-Fella Records. ROC 1002. Recorded 2002. Released 2003.

West, Kanye (Featuring Young Jeezy). "Amazing." In *808s & Heartbreak*. Roc-A-Fella Records. B0012198-01. Released 2008. Recorded 2009.

West, Kanye (Featuring Jamie Foxx). "Gold Digger." In *Late Registration*. Roc-A-Fella Records. B0005118-11. Released 2005.

- West, Kanye (Featuring Nicki Minaj, Jay Z, Rick Ross, Bon Iver). "Monster." In *My Beautiful Dark Twisted Fantasy*. Roc-A-Fella Records. B0014695-01. Released 2010.
- Wham! (Featuring George Michael). "Last Christmas." In *Last Christmas*. Columbia Records. CS7 2591. Recorded 1986.
- . "Wake Me Up Before You Go-Go." In *Make It Big*. Columbia Records. CK 39595. Recorded 1983. Released 1984.
- White, Barry. "Practice What You Preach." In *The Icon Is Love*. A&M Records. 31454 0115 2. Released 1994.
- Whitesnake. "Still of the Night." *Whitesnake*. Geffen Records. 9 24099-2. Recorded 1986.
- The Who. "A Quick One, While He's Away." In *A Quick One*. Reaction. 593002. Reissued 2005. Recorded 1967.
- Williams, Andy. "Battle Hymn Of The Republic." In *Battle Hymn Of The Republic/Ave Maria*. Columbia records. 4-44650. Recorded 1968.
- Williams, Don. "I Believe in You." In *I Believe in You*. MCA Records. MCA-5133. Released 1980.
- William, Rogers. "La Mer." In *Roger Williams*. Kapp Records. KL-1012. Recorded 1956.
- Winans, Mario (Featuring Eyna and P. Diddy). "I don't Wanna Know." Bad Boy Entertainment. MCST 40369. Released 2004.
- Winwood, Steve. "Don't You Know What the Night Can Do?" *Roll With It*. Virgin Records American, Inc. 7 90946-2. Recorded 1988.
- The Wonder Band. "Whole Lotta Love." In *Stairway to Love*. Classics DJ Club. CD-CDJC-016. Reissued 2010. Recorded 1979.
- Wonder, Stevie. "Another Star." In *Songs in the Key of Life*. Tamla Records. T13-340C2. Released 1976.

———. “Isn’t She Lovely.” In *Isn’t She Lovely*. Tamla Records. Recorded 1976.

———. “SuperWoman (Where Were You When I needed You).” In *SuperWoman (Where Were You When I needed You)*. Tamla Records. TMG 827. Recorded 1972.

Wynnetter, Tammy. “Kids Say the Darndest Things.” In *Kids Say the Darndest Things*. EPIC Records. KE 31937. Released 1973.

Yes. “And You And I”. In *And You And I (Part I)*. Atlantic. 45-2920. Recorded 1972.

———. “Roundabout.” In *Fragile*. Atlantic. R2 82667. Reissued 2011. Recorded 1971.

———. “Lift Me Up.” In *Union*. Arista. ARCD-8643. Released 1991.

———. “Long Distance Runaround.” In *Fragile*. Atlantic. SD 7211. Released 1971.

The Young Rascals. “It’s Wonderful.” In *Once Upon a Dream*. Atlantic Records. SD 8169. Recorded 1967. Released 1968.

Zebra. “Who’s Behind the Door?” In *Zebra*. Atlantic Records. 7 80054-1. Released 1983.

Z.Z Hill. “Don’t Make Me Pay for His Mistakes.” In *Think People*. Hill Records. 222. Released 1971.