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RETROGRESSIVE HARMONIC MOTION AS STRUCTURAL AND STYLISTIC CHARACTERISTIC OF POP-ROCK MUSIC

A dissertation submitted to the Division of Graduate Studies of the University of Cincinnati

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by

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Originality is nothing but judicious imitation.

(Voltaire, 1694–1778)

To do just the opposite is also a form of imitation.

(Georg Christoph Lichtenberg, 1742-99)

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At the outset of this project, I was a student taking graduate courses at the University of Cincinnati's College-Conservatory of Music. By day I studied and taught music theory and its history, and by night I wrote and played pop-rock music. One day I found myself in my graduate study carrel in the music library, contemplating. Assembled in front of me were drawing tools such as paper, pencils, erasers, protractors, and stencils. Hearing various harmonic chord sequences, thinking about the theory of Rameau and the regional relationships Schoenberg laid out, I started to draw. Reverting back to my days as a chemistry major, I assembled a picture of chord relationships based on the model of an atom, where the tonic would occupy the nucleus of such a construct. I endeavored to position diatonic chords on paper so that their functional roles could be seen as a geometric relationship. But at the same time, I tried to position them so that changes between them could emulate the energy transfers that occur on the atomic level in a chemical "reaction." Thinking, seeing, and hearing, perhaps in more than two dimensions, I roughed out what has become the tonal "Space-Plot": a way of envisioning the tonal space and movements within it. It reflects the philosophy of the analytical perspective used in this paper, and its point of departure is the aspect of harmonic motion type codified by Rameau, a sense of functionality coined by Riemann, and the idea of motion strength expressed in Schoenberg's "chart of the regions." Hearing the harmony of contemporary music with all of this theory as a guide is the inspiration for this dissertation.

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Inspiration, support, advice, and assistance, without which this paper could not have been written, came in many forms from many individuals. I cannot begin to give credit to anyone before I thank my parents, Lin and Steve Carter. From my mother I received unending encouragement, and she provided me with my first example of a true scholar. My father taught me to love a wide variety of music and the joys of singing and playing it. I must conclude that inventing vocal harmonies, as we did often as I grew up, somehow inspired me to consider closely the theory of harmony. My first-ever musical friend and band-mate, Phil Fenoglietto, remains a continuing source of musical reference and is likely the greatest air-guitar player I will ever know.

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Through his writings, presentations, and our conversations on the subject of the music of the Beatles or Steely Dan, Walter Everett remains a major source of reference and inspiration for me. In the field of pop-rock theory, no one matches his example, and it has been my privilege to gain his invaluable advise and friendship.

From my first days as a teaching assistant at CCM, I have been learning from Robert Zierolf. Through all of my capacities—as student in several of his

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classes, as TA for several course offerings, and as writer of this dissertation—he has been there to help. He continues to be, not only a great mentor and dissertation advisor, the source of support for which I am most grateful.

I owe the greatest debt of gratitude to my wife, Elizabeth. Through it all, at no small sacrifice, she has given me all the support I could ever ask for in the completion of this task. To her, and of course, to our little Callie, I dedicate this study.

CHAPTER 1

INTRODUCTION

The central issue addressed in this dissertation is that of progressive and retrogressive harmonic motion¹ as it is utilized in the repertoire of pop-rock music. I believe that analysis in these terms may prove to be a valuable tool for the understanding of the structure, style and perception of this music. Throughout my study of this music, various patterns of progressive and retrogressive harmonic motions within a piece reveal a kind of musical character about it, a character on which much of a work's style, organization and extramusical nature often depends.

Many influential theorists have addressed the issues of functional harmony and the nature of the motion between chords of a tonal harmonic space.² After assessing these views, I have found that it is possible to differentiate between two fundamental types of harmonic motions. This difference, one that I believe is instrumental in characterizing pop-rock music, is the basis for the analytical perspective I wish to embrace. After establishing a method of evaluating tonal harmonic root motions in these terms, I wish to examine a corpus of this music in order to discover what a characterization of its harmonic motion may reveal about each piece. Determining this harmonic character may help to establish structural and stylistic traits for that piece, its genre, composer,

¹ I use the terms "progressive" and "retrogressive" to characterize harmonic motions that have the effect of moving, respectively, either in a traditionally forward or backward way through the harmonic space. I include a detailed discussion of these designations in the fifth section of Chapter III, titled "Progressive (P) and Retrogressive (R) motions."

period, or even its sociological purpose. Conclusions may then be drawn regarding the role these patterns play in defining musical style traits of pop-rock.

This repertoire that I wish to examine, generally, is triadic and tonally coherent, much the same as more traditional tonal music is. The tonal styles that antedate this and yet share a similar harmonic language include music of the baroque and classical periods, as well as the popular music of the early twentieth century, such as that of "Tin Pan Alley." Although pop-rock music will be the focus of my investigation, I will also make reference to harmonic aspects of these earlier tonal styles in order to detail the origins and development of pop-rock harmony. The analytic methods I have chosen and developed are appropriate tools for this repertoire because, essentially, the harmony of popular music of this time is often unified about a singular tonic and usually consists of rootposition triads and seventh chords.

The goal of this study is to ascertain how the harmonic motion within each piece serves the overall artistic effect of the work. Although the functional analysis for each piece may appear to be simple, I provide precise details regarding all root motions within the piece or a section of it. A central aim of the analysis is: to demonstrate within a large body of music the variety of uses for each motion type and successions of motion types. By comparing analyses of many pieces from the repertoire as the harmonic language of pop-rock developed, we may gain a clear assessment from which general conclusions may be drawn.

² Most notable of these are Jean-Phillipe Rameau, Hugo Riemann and Arnold Schoenberg. Their impact on my thinking is detailed in Chapter II.

For the purposes of this study, I measure harmonic motions as intervals between notes of the effective bass, but I understand the meaning of these motions not only as changes along this bass line, but as a part of a composite of motions between notes of other higher-sounding voices in the texture. No one would deny that the activity of these voices determines a myriad of musical possibilities concurrent with its harmonic underpinning, and has the power to direct the goal of the musical passage both in concert with the harmony implied in the bass and independently. This study, however, is an attempt to isolate the aspect of harmonic motion in order to compare its effect over the time this repertoire has become popular.

Writers in the popular style construct constituent formal units such as phrases, lines, sections or even entire songs from particular harmonic successions. When several occurrences of these successions are used in different songs, they form what I term a harmonic "model." In the analysis section of this study, I endeavor to provide a complete assessment of each model that includes both analysis and commentary. This discussion may help to demonstrate how the use of a model for that constituent formal unit compares with uses in other units, both within that piece and within others. An assessment of these uses should assist in the study of the development of this style.

Before beginning, I would like to introduce a set of principles and definitions useful to this study. Some of the terms I use, historically, have long been important issues in the field of theory, while others have not. Some mean something very specific, while others have more than one sense about them depending on context.

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I take the term "functional" to mean functioning to help define a tonal center. This is a definition rooted in traditional harmonic practice, a practice that is at the core of both art music of the common-practice period and much vernacular music. However, when considering music written in the pop-rock style—with a somewhat different harmonic practice—I want to posit that this style, as well as my theoretical perspective, although modified accordingly, still makes reference to traditional tonality.

At the base of this discussion is the term "progression," which poses a problem in the context of harmonic theory. "Progression" can mean two things depending on the context in which it is used. Since music moves "forward" through time, any series of harmonies can be said to "progress," no matter how one chord moves to another and no matter which chords are a part of these motions. Used in this way, "progression" is commonly taken to mean "succession" or "series."

The other sense of the word progression is that of the directional character of a harmonic motion, and here I am speaking of whether that applies to a single motion or to a series of them. "Progression" used in this way implies a forward harmonic motion.

Forward harmonic motion in a tonal context derives from the authentic cadence, which by the nature of how it proceeds to the tonic compares similarly with certain other possible harmonic motions, and contrasts with others. The essence of its forward-moving character is the resolution of dissonance.³ But

³ Certainly, all successions of chords move forward in a temporal way. As well, motions that conclude with the tonic or provide resolution in ways different from that found in an authentic cadence can have a closural effect. I am making a strict alliance in this discussion, however, between a somewhat limited sense of the word "forward" and the term "progressive." I do so not only for the purpose of casting into relief motions that somehow differ, but because common practice tonal harmony suggests a positive bias for this type of effect. It is evident in the premium tonality and its theory place on the compelling quality that the resolution of dissonance adds to a harmonic motion.

moving forward does not necessarily mean moving directly to the tonic. It only implies that the harmony moves in the manner by which V proceeds to I, as in the authentic cadence or in a manner found to be theoretically similar to this.

A useful comparison with which we may examine this nature of harmonic motion is that of the I–IV and V–I motions, both of which may be considered "up by fourth" motions. Of course, the authentic cadence is a forward-moving succession through the tonal space and, for several reasons, it is the strongest of these progressions. Jean-Phillipe Rameau used it as a model for a strong motion, and it is considered a paradigm for forward motion by many other tonal theorists.⁴ I–IV, because it demonstrates exactly the same up by fourth root motion as the V–I, should be considered forward moving nonetheless, even though it technically is the beginning of a succession that initially leads away from the tonic.

In contrast, although a plagal cadence (IV–I motion) can act as a harmonic close to a piece or a section—bringing the harmonic flow to rest on the tonic—its character of harmonic motion is not "forward-moving." A character, or direction of harmonic motion is defined by the specific interval and direction between roots an individual harmonic motion traverses. This is the case no matter whether the motion ends on the tonic or on some other harmony. In this case, the motion is down by fourth, which we will take as the opposite of forwardmoving.

To avoid confusion, for the purposes of this discussion, unless I am quoting another theorist, I will most often use the word "progression" to imply a

⁴ Although many historically important citations of this notion exist, Miguel Roig-Francoli in his recent text *Harmony in Context*, describes harmonic root motion that moves up by fourth as having "the property of propelling the music forward," 134-5.

harmonic change that moves forward. In situations where it is not clear what the direction of the motion is, or where it is not prudent to indicate this, I will resort to calling the motion a "succession."

In any study of harmony it is impossible to completely separate the two components that comprise it: the stations of the space and the path by which we travel between them. Respectively, I regard these as chords (and their functions) and harmonic motions (and their characters). A most appropriate analogy for this dichotomy is that of anatomy versus physiology. For a component of music I perceive to be so rich in both of these elements, historically more attention has been given to the anatomical aspect of harmony. I have undertaken this study largely to try to address this imbalance.

CHAPTER 2

ASPECTS OF FUNCTIONAL HARMONIC THEORY AND ITS HISTORY

General remarks

It will be useful to consider some of the most historically important harmonic theories that have been forwarded regarding the subject of this dissertation and to discuss their applicability. Although there are many aspects worthy of consideration in the realm of harmonic theory and perhaps as many theorists who have contributed to the establishment of it, for the purposes of this discussion, I will limit myself to a select few. I am mostly concerned with theories that address harmonic function, and more particularly, harmonic motion. Because one of this study's chief concerns is harmonic motion between diatonic chords of one tonality—an area I have explored in my own methodology—I am citing the work of Jean-Phillipe Rameau, Hugo Riemann, and Arnold Schoenberg, whose significant contributions to the field of tonal theory embrace aspects of harmonic motion.

Rameau: a foundation for a theory of harmonic motion

Because this project concerns the assessment of various aspects of harmonic motion, it will be important to relate it to the work of Jean-Phillipe Rameau (1683–1764). Although Zarlino had touched on the idea of sonority—one that is consonant because of its structuring in thirds, and Lippius called 5/3, 6/3, and 6/4 arrangements of triads by the term "trias harmonica," the condensation of harmonic foundational units comes with Rameau. His work was relevant to the music of his day; he codified a theory pertaining to common practice tonality during the very time in which the composers of the high Baroque were crystallizing its style. Perhaps the greatest testimony to the advanced nature of Rameau's work is the fact that the assessment of harmonic motion that arises in his theory is not dealt with truly as a subject in and of itself for well over a century after that. Next, Rameau's theories become the genesis for three major threads of eighteenth- and nineteenth-century theory that influence modern harmonic theory: fundamental bass theory, scale degree theory, and function theory. These threads are, in large part, rejoined, as elements of these theories are brought together in the later nineteenth and early twentieth centuries, entwining in theories by Hugo Riemann and Arnold Schoenberg, among many others. Finally, although Rameau's theory is practical, it is also a speculative theory like no other developed in the history of Western music, providing a vision for theoretical realization that is still being realized.

Rameau's theory of the fundamental bass

Among many other concepts presented in Rameau's work, his theory of the fundamental bass bears most prominently upon my thinking. The concept of fundamental bass in Rameau can be considered in two essential ways. First, the theory mandates that within the Fundamental Bass there is a tone that functions as the root of a chord. No matter whether that note is written or played in the bass part, there is an implied root that functions as the chord-determining member of the essential succession of harmonies, and it belongs, if not also to the actual bass part, to the fundamental bass.

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Second, the fundamental bass should be considered as a succession of roots underlying harmonic successions. From this, Rameau extracts certain principles of succession by which harmonic motion is assessed. From the theoretical deduction inherent in the theory of the fundamental bass, Rameau provides a means to explain and regulate harmonic succession.⁵

In the fall of 1999, French theorist Nicholas Meeùs gave a paper titled "Toward a Post-Schoenbergian Grammar of Tonal and Pre-tonal Harmonic Progressions" to the meeting of the Society for Music Theory.⁶ There he presented a number of valuable concepts that both paralleled and supported my own thinking. I had been developing a system of analysis that spoke to the principle of harmonic flow; and his approach proved very important as verification. Although some aspects of my approach differ fundamentally from Meeùs's, much of what he reports in his paper about the interpretation of Rameau is appropriate to my discussion.

Meeùs posits, "Contrary to a common prejudice, Rameau's theory of the fundamental bass is not about chord inversion, but about chord progressions. Rameau's claim is that tonality is ruled by the leading of the fundamental bass line."⁷ Although I believe Rameau, is in fact, making a statement about chord inversion, I also believe that Meeùs is right. Rameau's theory on the surface concerns inversion, but that is because harmonic motion in a functional sense can

⁵Rameau introduced his theory of the Fundamental Bass in Book Two of his *Treatise on Harmony (Traité de l'Harmonie)* Paris: Ballard, 1722.

⁶Nicolas Meeus. "Toward a Post-Schoenbergian Grammar of Tonal & Pre-tonal Harmonic Progressions." This paper was presented at the plenary session of the Annual Meeting of the SMT in Atlanta, November 1999.

⁷Ibid., 1.

be addressed as the thrust of the theory. If Rameau never said it quite that way, or was unsuccessful in his attempt to craft a perspective that explained every facet of this theory from a scientific viewpoint, then at least it can be claimed that he laid the groundwork for developing a theory of functional harmony and of related harmonic motion.

Central to Rameau's theory is the derivation of a set of principles that guide typical tonal harmonic motion. Rameau characterizes each motion and attempts to offer scientific proof for his classification and his qualification of these. I use the word "qualification" because Rameau indicates that certain motions are somehow "better" than others. And although Meeus, in his discussion of progressive harmonic motions, calls them "well-formed,"⁸ I believe it is best to be objective.⁹ My stance is that harmonic motions vary in their flow type and their strength. Because of this variance they are more or less effective at achieving certain goals, such as closure via an authentic cadence. In terms of typical tonal musical goals, one might see how "better" applies, especially when spoken by a theorist working in or nearly in the time tonal harmonic practice was becoming standard.

Better or worse? Stronger or weaker? Less effective or more effective? Forward- versus backward-moving? Progressive versus retrogressive? I have heard as well: allowable and not allowed. What is the basis for these distinctions

⁸Ibid., 3.

⁹ I perceive the idea of a "well-formed" phrase to be subjective. I see on one hand, progressive motion as natural and physically viable (demonstrating the resolution of provable dissonance). Masterful composers traditionally have harnessed this. Alternatively, I believe that there is smooth voice leading and intriguingly artful music supported by retrogressive motions, which sometimes create fundamental bass patterns that are exactly the opposite of traditional ones. Ignoring the question "have we as a culture/generation opened the door to the 'other side?' . . .," does the traditional perspective take the succession I-bVII-IV-I to be "poorly formed?"

some theorists draw among and between chord successions? This kind of thinking begins with Rameau, and it is in his theory that one reads his unequivocal stand on the issue.¹⁰ He decries that progressions of motion by a second are forbidden, except in special cases, but also that progressions down-a-fifth or down-a-third are better than those that move up by the same intervals. John William Mitchell views Rameau's assessment as such: "The strongest motion is that by fifth or its inversion, the fourth. Next is that by a third or sixth. Last, and only by "license," is upward by second motion. Motion by descending second is forbidden. But to this list Rameau adds that the tonic is free in its movement, and that the other harmonies should move only by the permissible intervals."¹¹

Not only does Rameau think of these as principles, he goes so far as to make them rules. I see these principles as "rules" only if one wants to constrain the harmonic language to patterns prevalent in tonal music, and even then we know that rules are broken for good musical and stylistic reasons. It just so happens that following a set of said rules often will help to produce a stylistic match, at least for that element of the music. No matter how scientifically wellfounded Rameau's rules are, there is no escaping the fact that they describe a practice being developed contemporaneously and continuously after 1722.

For Rameau, as well as for many theorists who came after him, the essential principles of succession are largely borne out in a discussion of the

¹⁰ A theory that ascribes certain characterizations to each of the possible root motions is contained in Rameau's earliest work, the *Traité*. Two other prominent theorists embrace this view, and much later: Riemann and Schoenberg. Their work is discussed later in this chapter.

¹¹ John William Mitchell, "A History of Theories of Functional Harmonic Progression," (Ph.D. diss., Indiana University, 1963), 56.

cadence. Indeed, an alliance can be seen in this discussion between the authentic cadence, or more specifically, the effective way it produces closure and by arriving at an endpoint produces a convincing forward motion. Rameau looked at the cadence as a concentrated source of succession principles. At the core of the effect of an authentic cadence is its exchange of dissonance for consonance. Rameau maintained that a cadential chord is defined more strongly by its dissonance and that there is a value to dissonance in a progression; it is a functional force impelling the harmony to which it is attached to move forward more decisively. The tendency of these individual dissonances to proceed to a consonance translates to a cumulative, harmonic tendency for a dissonant chord to proceed (or progress) to a consonant chord.¹²

In the larger scheme, any chord whose root is a fourth below that of the succeeding chord (such as the V7 in relation to the I) is in a position to progress accordingly, whether there is actual dissonance in the chord or not. The emulation by other diatonic chords of V–I motion, certainly of its root motion, but also by the implication of dissonance resolution in the voice leading, produces a similar effect of harmonic progression, even though it may be perceived as a somewhat weaker one.

There are three kinds of motions which Rameau enumerates, that are composed of "dissonant to consonant" chord motions. These are as follows: 1) the perfect cadence, where the root descends a perfect fifth, 2) an interrupted or

¹² The functional implications of the authentic cadence are driven by linear tendency-tone resolutions. This prompts one to speculate whether the vertical organization of a harmonic motion provides any explanation for its effect. Although I hear within the authentic harmonic device a necessary reliance on its linear workings, I can separate the linear and vertical forces in my hearing, and what is more, I believe the general perception of harmonic motions in recent times has increasingly come to rely on the vertical component of the music.

deceptive cadence, where the root rises a second and 3) the irregular cadence, which includes the plagal and half cadences. Remarkably, Rameau fails to include in this list successions whose roots are a third apart, and that he discusses the perfect authentic cadence alongside the plagal cadence. Although I am accustomed to thinking about the plagal cadence as the opposite harmonic motion to the authentic cadence, Rameau aligns them in his characterization of root motions because they possess a similar *strength* of motion. Also in his theory he compares the dissonant-to-consonant successions by the degree to which they are perfect.

For Rameau, descending 5–1 root movement is the most perfect. When harmonies that create this occur in succession, he implies that their harmonic root movement is the strongest. Rameau realizes that although 5-1 root motion is not necessarily sufficient for a cadential effect, fundamentally good harmonic motion should be an imitation of cadences; that in effect, a succession should produce a series of local "dominants" resolving to their "tonics."

From a permutational standpoint, there are six possible diatonic root motions, some of which were discussed previously:

- 1) up by fourth
- 2) down by fourth
- 3) down by third
- 4) up by third
- 5) up by second
- 6) down by second

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To this point, Rameau addressed these root motions in the same order, calling numbers 1 and 2 the strongest, and the rest weaker examples. He speaks of the "perfection" of 5 to 1 root motion (up by fourth) and the implied lack of perfection of a root motion down by fourth. He also designated progressions down by second as "forbidden," also implying, without equivocation, a lack of perfection. But the root motion of up by second has a unique qualification in Rameau's theory.

Double Employment as Substitution, Substitution as Alliance

The root motion of up by second can be qualified as a progression and allied with the same motion class as the paradigmatic V–I root motion; however, the motion is relatively weak. Similar roles and effects within these motions obtain in the use of the ii and the IV chords, as they precede the V chord. When these chords are used to prepare V they engage in root motions of up by fourth and up by second, respectively, creating an alliance through analogy: If the ii and IV chords prepare the V with similar functional effect, then the motions that are traversed in these paths are likely of similar type.

Rameau made this qualification through his doctrine of double employment. Although now considered flawed, it may be instructive to review his thinking with regard to this. He cites the example of the bass moving consecutively upward by second, as it does in the "rule of the octave,"¹³ and particularly the case where in a IV–V succession where the bass moves from ⁴ to

¹³ The rule of the octave was a thoroughbass practice of the eighteenth century, whereby the degrees of an ascending and descending scale were harmonized as a bass line. The practices for this varied somewhat between various theorists and practitioners (often keyboard players), but an assessment of the resultant harmonic succession was always a concern of theirs.

⁵. His justification of this as a "progression" starts with the understanding that IV–V is not really a stepwise motion, but a motion upward by fourth, in fact, a ii–V motion, just like the V–I move. His rationale is that a ii function can be inferred for any IV chord (double employment = dual function) because a consonant sixth that may be implied over the bass ([^]4). This renders the harmony a ii chord. Although, technically, for a ii6 one would read a [^]4 in the bass, for the fundamental bass, one reads a [^]2 (chord root). Now the alliance is complete; a motion up by second is progressive in character just as is the motion up by fourth.¹⁴

In Meeùs's discussion of this issue, he contextualizes further: "Rameau's double emploi . . . states that in a progression such as I–IV–V–I, IV, as seen from the point of view of the following V, is a ii without fundamental, or that in a I–ii–V–I progression, ii seen from the point of view of the preceding I is a IV with an added sixth:

I -->> IV -> V -->> I = I -->> IV(=II) -->> V -->> Iand

 $I \rightarrow II \dashrightarrow V \dashrightarrow I = I \dashrightarrow (IV=)II \dashrightarrow V \dashrightarrow I$

The double emploi, as can be seen, transforms in each case a progression a second up, indicated by the sign ->, into one a fourth up, indicated by -->>."¹⁵ Or, at the very least, it provides substitution in terms of a plausible, functional fundamental bass. This renders every motion within these two tonality-grounding successions a "progression" and thus a part of the same class.

¹⁴ It is good to remember that for Rameau, the analysis of the first chord of a two-chord succession is not determined until the goal harmony is reached.

¹⁵ Meeus, 3.

Substitution of Motions Versus Substitution of Chords

Note here that there are two different kinds of substitutions being discussed: one of function and one of motion, with the first being used to legitimize the second. Rameau's doctrine of double employment begins by substituting one functional harmony for another but ends by transferring the license of substitution to the changed harmonic motion that results. This is an important distinction to make, for a theory of harmonic motion is made to be consistent through alliances drawn between motions, not functions alone.

Rameau's attention to the subject of motions within a tonal context is of profound importance. Although never explicit in the century and a half following his *Traité*, Rameau's implications for a theory of motions stirred in the undercurrents of nineteenth-century Austro-German theory. While many of these theorists were concerned largely with scale degree and functional theory, the essence of the Fundamental Bass theory never truly dissolved. It was rekindled at the close of the nineteenth century when theorists such as Hugo Riemann(1849–1919) and Arnold Schoenberg(1874–1951) took a broader view of harmonic theory by incorporating elements of these three threads into their work. Joel Lester, in his discussion of the cadence in Rameau's work makes the point about motion rather effectively:

And it is the sense of motion from one chord to the next connected by a fundamental motion of the perfect fifth—and not merely the content of the individual harmonies—that is the essence of the cadence. This imparts a dynamism to Rameau's theory of tonality; key is not merely a given pitch field within which harmonies and melodies move, but a harmonic focus that emerges from the dynamic of the progression.¹⁶

¹⁶ Joel Lester, "Rameau and Eighteenth-Century Harmonic Theory." in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (New York: Cambridge University Press, 2002), 753–77.

Hugo Riemann and a Theory of Harmonic Functions

Most theorists over the course of the hundred-odd years following the *Traité* gave less attention to Rameau's ideas about harmonic motion than some other streams of his work. However, this changed in a significant way if one maintains that Riemann's functional harmonic theory implies something about motion. Of the three theoretical "threads" that were taken up in the decades following Rameau, two were addressed more readily than function theory: scale-degree theory (*Stufentheorie*) and fundamental bass theory.

Scale-degree theory was brought to fruition by Georg Vogler (1749–1814) and Gottfried Weber (1779–1839) in the early part of the nineteenth century.¹⁷ Most theorists know this part of this thread to represent the advent of Roman numeral analysis, something that gave nomenclature to diatonic verticalities and eventually becomes a standard analytic device. Although Weber's refinement to this system of labeling left it weak in terms of its ability to analyze chromatic or modulatory passages, he did put into place a bastion of harmonic thinking that was to be developed extensively over the next century: the *"Tonnetz,"* or table of key (tone) relations, and the idea that pitches representing chords or keys can bear different degrees of relationship with a tonic. That these relationships could be itemized and represented graphically in a tabular scheme are the headwaters for thinking that continues today both in modern tonal theory and in

¹⁷ A clear overview of these developments can be found in David Bernstein's article "Nineteenth-Century Harmonic Theory," in *The Cambridge History of Western Music Theory*, ed. Thomas Christensen (New York: Cambridge University Press, 2002), 778–811.

transformational theories, which often address issues that arise in chromatic music.

The second thread, Fundamental Bass theory, was explored later in the nineteenth century, most famously by Simon Sechter (1788–1867). His work is pivotal for several reasons, the first of which is that he took the establishment of diatonic chord identity and subsequent nomenclature from Vogler and Weber and applied it to Rameau's view of the Fundamental Bass. Second, his theory, as it implied both the notion of considering harmonic function along with motion and one of prolongation of scale degree, bore an influence on such later theorists as, respectively, Schoenberg and Schenker.¹⁸

More important for the purposes of this study, Sechter forwarded the concept of harmonic motion classification in a tonal context by articulating the notion that the falling fifth (rising fourth) motion is "paradigmatic and ideal,"¹⁹ and that the falling third motion is considered to be similarly most favorable.²⁰ To add to this he explained motion by second as the amalgamation of two of the favored motions mentioned above ($\uparrow 2 = \downarrow 3 + \uparrow 4, \downarrow 2 = \uparrow 4 + \uparrow 4$), which requires the invoking of a concealed fundamental bass note between each actual bass note. Here we first see a complete overview of root motion possibilities with a designation for the degree of strength per motion. For Sechter, the falling fifth was strongest, the falling third next, and motion by second perhaps weakest, if an interpolation of a bass note was required to account for it in "proper" motion terms. At least as important as this spelling-out of the relative strength of

¹⁸ Robert Wason's *Viennese Harmonic Theory from Albrechtsberger to Schenker and Schoenberg* conveys this progression of events in great detail. (Ann Arbor, Michigan, UMI Research Press), 1985.

¹⁹ Bernstein, 788.

²⁰David Damschroeder and David Russell Williams, *Music Theory from Zarlino to Schenker*. (Stuyvesant, NY, Pendragon Press, 1990), 330.

harmonic motions was his awareness of the concept of retrogression: in speaking of ascending fifth motions, he used a term that translates to "reciprocal effect."²¹

Although Hugo Riemann incorporated elements of Scale Degree and Fundamental Bass Theories into his copious output of theoretical work, it was his Theory of Tonal Functions that eventually became his most readily accepted and widely utilized premise. In his own way, Riemann revived a mature facet of Rameau's theory by establishing a tripartite realm of functions within a tonality (primary functions within a key extend to Tonic, Dominant, and Subdominant). Rameau, by making a case for the functional viability of the subdominant in his works succeeding his *Traité*,²² paved the way for theoretical assessment of the tonal space as such. So strong and enduring, however, were the Scale Degree and Fundamental Bass threads of theoretical discourse, threads arguably more contrapuntal in essence (thoroughbass-related), that it was not until Riemann's *Harmony Simplified* of 1893 that harmony was truly broached in terms of functionality.²³ Indeed, we are reminded of Riemann's awareness of the historical continuity afforded by his mature function theory when we contemplate the words he uses in his *Geschichte der Musiktheorie* (1898):

I intended to bring Rameau's ideas to a certain conclusion. To accomplish this I was induced to carry out a generalization—to devise a type of designation that would be separate from any particular key and [choose a set of symbols for the primary figures that would] most nearly

²¹ Most of Sechter's influential work is contained in his *Die Grundsätze der musikalischen Komposition*, (Leipzig: Breitkopf und Härtel, 1853–54). I take this application of the term *"Wechselwirkung"* (reciprocal effect) from Berstein, *"*Nineteenth-century Harmonic Theory," 789.

²² Nouveau Système (1726) and Génération Harmonique (1737).

²³ Hugo Riemann . Vereinfachte Harmonielehre: oder, Die Lehre von den tonalen Funktionen der Akkorde, (London: Augener, 1893); trans. H. Bewerung as Harmony Simplified; or The Theory of the Tonal Functions of Chords, (London: Augener, 1896).

correspond to those of the three primary harmonies in general use.²⁴

More consistently than anything else throughout his career, Riemann was a harmonic dualist. Even his authoring of the theory of tonal functions is set in dualist terms. The dualist components of Riemann's initial approach to function theory, put very simply and briefly, are that elements of the Tonic–Subdominant–Dominant–Tonic cadential formula contain a two-part realm of function in departing and returning to the tonic termed (beyond thesis) antithesis and synthesis. Second, Riemann's acoustical derivation of the two nontonic functions (taken here to mean "primary chord") are reciprocally generated through the "over" fifth (dominant) and the "under" fifth (subdominant). His evolving dualist dialectic eventually comes to be read in terms of functionality: subdominant and dominant harmonies are dual components that, when combined with the more neutral tonic complete the three pillars of the tonal system. These are harmonies against which all remaining diatonic harmonies shall be thought of as "secondary," and from which all remaining (secondary) diatonic harmonies are derived.

Is there an interchangeability of chord functions per the theories of Rameau and Riemann? Not quite, according to Meeùs. In his estimation, Riemann's substitutions are based upon predetermined functions within a tonal hierarchy, where the tonal significance of a chord is derived from its position in a preexisting, abstract system of hierarchies. For Rameau, however, the function of a chord depends on its relation to the following chord. More specifically, he

²⁴ I acquire this (abridged) quote from the rich and comprehensive overview of Riemann's work, *Harmonic Function in Chromatic Music*, by Daniel Harrison, 1994, 281–2. Harrison cites the translation of Riemann's *Geschichte der Musiktheorie* contained in William Mickelson's *Hugo Riemann's Theory of Harmony*.

considered that any chord followed by another rooted a fifth below was the latter's dominant and that any chord followed by another rooted a fifth above was the latter's subdominant.²⁵ Here, then is, a true difference of approach between Rameau and Riemann. Riemann explains the function as an anatomical feature of the tonality (although one that consistently implies a function), whereas Rameau focused on the functional aspect in the motion between chords: the physiology, which serves to define the structure. This is a perspective that offers the benefit of some flexibility in assigning function and gauging the scope or orientation of the key or tonality, should it broaden.

Where Riemann does become concerned with the functionality of motion, and in fact, with its mapping, is in his creation of the *Tonnetz*, or table of tonal relations. Throughout Riemann's career, he crafted an evolving array of charts, tables, and diagrams to aid in the development and clarification of his theories. Generally speaking, these began as tables of tones, and they demonstrated an assessment of relations more in keeping with the glorified "circle of fifths" diagrams as realized by theorists such as Gottfried Weber. Where one axis of this kind of graph was fifth-oriented and the other arranged by thirds, the emphasis at this stage was the formation of triads from the field of tones. Eventually, as Riemann's theories emphasized the issues of harmonic function and defined relations between the tonic and other triads, these graphical representations depicted more the *meaning* that constituent triads bore in the context of a tonic.²⁶

²⁵ Meeùs later in his discussion refers to these V–I and IVI motions respectively as "dominant" and "subdominant" type *motions*.

²⁶ An overview of these developments in Riemann's scholarship and elsewhere is presented in Edward Henry Gollin's dissertation *Representations of Space and Conceptions of Distance in Transformational Music Theories*, (Ph.D. diss., Harvard University, 2000).

In addition to the tabular or graph-theoretical assessments, Riemann's famous lists of possible tonal motions, or *Harmonieschritt*, should be considered. Also referred to as "transformations," Riemann implied in these a sense of hierarchy within the realm of tonal function. Many theorists since have expanded upon both this algorithmic and (above-mentioned) geometric way of mapping the tonal space and motions within it. In what has blossomed into the field now known as Neo-Riemannian theory, how tonal motions are "mapped" becomes what is considered to be a theory of "transformations," which develops into a particular kind of theory of harmonic motion.²⁷

Inherent in the discussion of Riemannian functional theory is the idea of chord substitution in terms of function. In the case of Riemann's theory, there is only one substitution that may stand: it is the secondary chord (ii, iii, vi, or vii°) for the primary chord (respectively: IV, I, I and V) and not vice versa. ²⁸ But because these *a priori* tonal distinctions are not a part of Rameau's theory, or, at least not to the extent that would disallow a harmonic theory based on motions no matter between which functions, I take the substitution to be reciprocal. In other words, in terms of the examples above, for the purposes of showing similarities and contrasts among motions, primary may substitute for secondary and secondary for primary. Further discussion of Riemann's functional theory and especially of the implications of the *Tonnetz* follows in the section on methodology.

²⁷ The concept of progression or retrogression may well be considered by some to be a form of transformation, and although outside the scope of this study, it is a comparison worthy of exploration.

²⁸ Meeus, 1999, 2.

Arnold Schoenberg and His Characterization of "Progressions"

Schoenberg's position as a composer and theorist in the early twentieth century is remarkable, considering that he simultaneously he was a composer of post-tonal music and a theorist on tonal music. How did this must have affect his theoretical work? Whatever advantages or disadvantages that were created by reporting on the issues of tonal music from beyond his years of composing within that style were certainly in place by the time his most speculative work, *Structural Functions of Harmony*—compiled in the 1940s—was published.²⁹ This appendage to his work in tonal theory bears most directly on the subject of harmonic motion.

Although there are streams of theoretical discourse found in the literature on harmonic motion, in a sense, no one until Schoenberg took the issue on more directly, almost as compositional advice. Meeùs echoes a theoretical philosophy of my own and an impetus for analyzing harmonic motion by proclaiming,

Schoenberg appears to have been among the first authors to revive Rameau's theory of fundamental bass progressions. His categorization of the progressions in three categories–"strong or ascending," "descending" and "superstrong"–can be further systematized on the basis of a theory of chord substitutions. A study of the use of the progressions so categorized allows a general description of harmonically well-formed tonal phrases.³⁰

Yizhak Sadai is another who similarly establishes three categories of progressions. Taken together, their classifications according to Schoenberg are as follows:

²⁹ Schoenberg, Arnold. *Structural Functions of Harmony*. New York: W. W. Norton and Company, 1954.

³⁰ Meeus, 2.

1) *Strong* or *ascending*³¹ progressions are either a fourth up or a third down, and they "can be used without restriction." These become Sadai's "dynamic" progressions.³²

2) *Descending* progressions are either a fourth down or a third up, and are "better used in combinations of three chords which [. . .] result in a strong progression." These become Sadai's "static" progressions.

3) Superstrong progressions are a second up or down and "often appear as deceptive [i.e., false]" and "may be considered too strong for continuous use." These become Sadai's "accented" progressions.

Schoenberg's theory of harmonic motions is communicated in his *Structural Functions of Harmony* (1954),³³ where he placed chord motions into three categories. One of these addresses exclusively root motions by second. His term for this motion is "superstrong," which is a curious label, as it seems to imply that this motion can be somehow *more* progressive or *more* retrogressive (depending on their direction of root motion) than root motions by other intervals. This would refute the assessment by a majority of other theorists (including Rameau) that the up-by-fourth motion is strongest and that the next strongest root motion may not be that of a second, but that of a third.

³¹ Schoenberg's use of the words "ascending" and "descending" in this context are nonstandard. "Ascending" to Shoenberg implies a degree of strength of harmonic motion, whether the root motion is registrally ascending or not. Thus, this category of progression contains root motions that both ascend and descend registrally, but still, both belong to a category that ironically is called "ascending." The same paradox is presented by the category "descending," as it contains a registrally ascending interval of root motion.

³² Yizhak Sadai, *Harmony in its Systemic and Phenomenological Aspects*, trans. J. Davis and M. Shlesinger (Jerusalem: Yanetz, Ltd., 1980).

³³ Schoenberg, 6–9.

Schoenberg, instead, appears to amplify a sentiment historically supported in his actual analysis of progressions in common tonal practice, as he suggests that progressions by second not be used in succession, as they are "too strong for continuous use." I take this to ally with the opinion of Rameau, where generally he first advises that the progression of a second (either up or down) should only be used by "license," which might infer "sparingly" or "infrequently."

Meeùs makes the point that Schoenberg calls motions by a second "false,"³⁴ but that this assessment is handed down in the theory by Anton Bruckner, who continues a line of thought drawn from Simon Sechter.³⁵ This theory by Sechter (and adopted by some others) considers that, for example, motion up by second is really the result of two implied motions that occur in the order 1) down by third and 2) up by fourth. These are both classifiable as "progressive" motions anyway, and perhaps one can use this fact about the implied pair of motions to strengthen the argument that the up by second motion is progressive. But it remains difficult to tell how Schoenberg considers the motion by second, because the "superstrong" label seems to be offset by the implication that this motion is merely the result of the elision of two other progressive motions. Perhaps more important to his theory of harmonic motion is how Schoenberg addresses motions by third, which is revealed in his classification and grouping of the six possible root motions.

³⁴Ibid., 8.

Schoenberg's "Categories" of Motion Type

In Schoenberg we see the strongest alliance drawn by any theorist until his time between motion types. He has placed pairs of types into the same category: motions up by fourth and down by third are considered "strong" or "ascending," and those down by fourth and up by third are considered "descending." If we award merit to the alliance, then the complete series of possible diatonic harmonic motions can be categorized or qualified. With substitutions along the lines of Rameau's theory and groupings by Schoenberg, allied with the up by fourth progression are the down by third and up by second motions, and with the down by fourth progression is the up by third and down by second motions, thus making for two basic categories of motions.

I believe that Meeùs's assessment of Schoenberg's alliance between motion types is accurate. Meeùs writes,

When Schoenberg includes progressions a fourth up and a third down in one (the same) category, a fourth down and a third up in another, it is obviously because the two progressions in each category can be considered substitutions for each other—or in other words, because the two progressions belonging in the same category differ merely by the substitution of one chord for another. Both V -->> I and V -->> III, for instance, are strong progressions because I and III can be considered functional substitutes for each other."³⁶

When he draws the conclusion that substitution is the (only) reason for the alliance that I have a different theory, one I expand upon below.

Meeus calls the motions by second and third "substitutes" for the motions

by fourth. He presents the scenario as follows: Alliance through substitution

"allows reducing Schoenberg's . . . categories to two," each of which includes one

³⁶Ibid., 2.

³⁵Meeus, 1999, 1.

'principal' and two 'substitute' progressions."³⁷ This view actually returns to Rameau's conception of the dominant and subdominant functions, so that the categories may be renamed as 'dominant' and 'subdominant':

CATEGORY	MAIN PROGRESSION	SUBSTITUTES
Dominant	a fifth down	a third down or a second up
Subdominant	a fifth up	a third up or a second down

An example of how this is borne out exists when I moves to ii or to IV in the scenario of tonic–preparation–dominant–tonic, the preparatory chords ii and IV are viable substitutes for one another, and the effect of the functional path through the harmonic space is relatively unchanged. But take other "substitutions" in the realm of possibility, and, one may find substitutes that are weak and vague, or in the case with ii for vii[°] and vice versa, not appropriate at all. And that is the inadequacy found in the concept of substitution from a technical perspective.

The other problem that arises in calling certain motions substitutes for others is that although I believe they rightfully belong in the same category, this equates them with regard to their effectiveness. This flies in the face of the longheld notion that paradigmatic V–I (up-by-fourth) motion is more effective in moving the harmony forward than other types. This implies that a series of motions down by third or up by second move with the same or similar effect as does the cyclical progression (all motions up by fourth). Even when performing and hearing each of these substitutions in as similar a context as is possible, I cannot sense this.

³⁷Ibid., 2.
A possible solution for this problem might be the following: take from Rameau the concept of defining motions between harmonic roots along a fundamental bass and the idea that different motions through the harmonic space produce a variety of musical effects. Take from Schoenberg the idea that we can classify motions by type and with alliances and substitution make these categories basically two: one becomes a set of three paths that moves the harmony forward and the other a set of three that moves in a contrasting fashion. And finally, within these two categories differentiate between the motion types on the basis of their relative strength as a motion. In the section of this paper on methodology, I suggest a system by which analysis techniques incorporate this theoretical approach.

The Importance of the "Chart of the Regions"

One concept in Schoenberg's theory that I believe is unique and valuable to my approach is the idea that one can "map" an orientation of the functional harmonies of a tonality in relationship to one another. Schoenberg presents this in his "Chart of the Regions," contained in *Structural Functions of Harmony*.³⁸ The schematic diagram below could be described as a map of the stations of a given tonality's harmonic space in accordance with their functional role, proximity to a tonic and functional relationship to the other constituent harmonies (see Figure 2.1). This two-dimensional model is elegant for several reasons beyond the premise that the tonal space can be charted.

³⁸ Schoenberg, 20.



ABBREVIATIONS

Т	= tonic	Np	= Neapolitan
D	= dominant	dor	= Dorian (ii chord)
SD	= subdominant	S/T	= supertonic.
t	= tonic minor	۶M	= flat mediant major
sd	= subdominant minor	۶M	= flat submediant major
\mathbf{v}	= five-minor	٥Md	= flat mediant major's
sm	= submediant minor		dominant
m	= mediant	þm	= flat mediant minor
SM	= submediant major	bsm	= flat submediant minor
Μ	= mediant major	bmv	= flat mediant minor's five
SM M	submediant majormediant major	Þsm Þmv	= flat submediant minor= flat mediant minor's five

[*N. B.* All symbols in capitals refer to major keys; those in small letters to minor keys]

Figure 2.1. Schoenberg's Chart of the Regions

I have not adopted this arrangement for my own analytical purposes but it inspired me in the development of my own system of charting the stations of the harmonic space. I have tried to expand upon this idea in order to create a way of, not only locating points of arrival in a harmonic succession, but tracking the motions between them in such a way that each could be characterized. Particularly inspiring within Schoenberg's theories and his Chart of the Regions are these implications and considerations:

 Motions between harmonies are an important compositional device to consider. This physical layout affords the person considering a tonal piece the opportunity to track the piece's harmonic activity from a number of perspectives.
The ordering of harmonies within a succession, because of their relationship to others, allows for an awareness of the shape and direction of the path through the harmonic space.

3) The ability to locate tonal centers, whether they be local or global, anywhere on the chart, even if temporarily, and see these possible loci easily as they relate harmonically and "geographically" to one another.

4) The proximity of points along path to the tonic.

5) The relative strength of individual harmonic motions.

6) The relative character of individual harmonic motions.

7) Parallel and relative minor are features of the same fabric within a chart that at the same time is centered around a major tonic, thus demonstrating the often seamless relationship between these modes/keys.

Far from being purely a graphic depiction of simple functional theory, the chart of the regions is a device that suggests much for the revision and development of functional harmony. Not only is it useful, perhaps necessary, for the visualization of certain principles of harmonic function and motion as we have traditionally studied it on the printed page, it may suggest ideas that must be considered in a spatial model represented in three dimensions. I consider Schoenberg to be a primary architect of the study of harmonic motion, someone

who remained sensitive enough to this realm to communicate ideas about harmony which theorists of today can build upon.

CHAPTER 3

METHODOLOGY

My choice and development of theoretical and analytical techniques stems partly from the work of the influential theorists I discussed in the preceding chapter, partly from a combination of some of their insights, and partly from some of my own observations. This methodology derives directly from an objective to enable the assessment of progressive and retrogressive motion, which I discuss in the context of each theoretical device below.

Of the methods I outline below, some I include for purposes of demonstration. My primary aim is to show how an increased set of perspectives may be gained from one these devices. Although some of them may not always be the most appropriate tools for the theory or analysis within certain contexts, they may yet provide a critical insight. Secondarily, I introduce a method I have developed called the harmonic "Space Plot," as a potential theoretical tool, not only for the purpose of pop music analysis within this study, but for the purpose of investigating the nature of tonal music, its theory and our perception of it.

For this study, I propose four modes of analysis:

1) A Roman numeral analysis that incorporates R and P values.

This is the most traditional analytical mode, where, in a "chord-by-chord" format, one may survey both the variety of harmonies, and, more important to this study, the kind of root motions occurring between them. These root motions I have symbolized as R1, R2, and R3, for the weakest through the strongest retrogressions, and analogously, P1, P2, and P3, for the weakest through the

strongest progressions. This enables one to observe how patterns of progressive or retrogressive motions arise within each harmonic succession and their location and role within the unfolding piece.

2) A display of R and P values.

This analytical phase qualifies, along a timeline of the musical span of a constituent phrase, period, or section, the harmonic motion as progressive or retrogressive and indicates that motion's relative strength. Also, I include a tabulation, per constituent formal unit (often one line of a verse or chorus) of summed motion, derived from adding P and R values together. By reducing the assessment of the song's harmony solely to its progressive and retrogressive "values," one may better appreciate the location and quantity of motion types allocated within a section or throughout the piece. The tabulation and ratio provide a basis for comparison between motion-type use on the level of the line, section, or entire piece.

These first two phases are what I relied upon for the bulk of my analysis. They represent the clearest, most familiar way that most theorists relate the idea that motion between diatonic stations equates to motions of various types. Below, please see Figure 3.1, where I have utilized the first two methods described above in order to represent the order and succession of harmonies within a key, as well as what type and strength of motions obtains therein.



Figure 3.1. R/P Assessment in Method Phases 1 and 2.

Here I've used the I–IV–V–(I) harmonic model, what I call the "simple journey."³⁹ This is the path through the harmonic space that touches upon the three primary triads in the order that generates an all-progressive motion succession. P3 indicates the strongest progression; therefore I use a "P" with the highest number, 3. Where down by third motion would be a P2 designation, the P1 is generated here in moving from IV to V, or, up by second. The tabulation of the total of P and R motions yields a perspective on the character of the line or section, in terms of motion type used. Pieces with different harmonic vocabulary from line to line or section to section will present a more mathematically complex tabulation or ratio.

³⁹ This harmonic path is also what Riemann referred to as the "principal cadence." I discuss this in greater detail below.

3) A representation of the harmonic flow according to the graphic approach developed by Nicholas Meeus.⁴⁰

In this phase, the diatonic tonal functions are graphically represented by parallel, horizontal lines extending across a grid, where each consecutive line indicates a harmony whose root lies a perfect fourth above or below the next. In this graph (see Figure 3.2), the line representing the tonic (the "I-line") is the only line in boldface. Above it lies the V-line; above that, the ii, then the vi and, possibly, others corresponding to this pattern. The lines below the I-line (in this case) are those representing the IV and \flat VII harmonies.



Figure 3.2 Meeus Notational System Template

Chords of the piece (or line or section) are plotted along the X-axis of this graphic (through time), and a diagonal symbol, moving left-to-right and down,

 $^{^{\}rm 40}$ Meeus, "Toward a Post-Schoenbergian Grammar of Tonal & Pre-tonal Harmonic Progressions."

indicates what Meeùs calls a "dominant" progression (progressive motion down by fifth or up by fourth) (see Figure 3.3).



Figure 3.3 Meeus Notation of I-IV-V-I Progression

The IV to V motion, one which moves up by second, is represented here as an equivalent, in terms of motion type, to the up-by-fourth motions that flank it. The nodes of the graph that indicate the harmonic stations do not include ii, but the diagonal moving to V is pictured as if it were originating from it. The vertical dotted line drawn between the area of IV and ii is one indicating the theoretical harmonic substitution of ii for IV, in this case as dominant preparation. However, this simultaneously creates an alliance between the resultant "V-approaching" motion types as well.

Conversely, a "subdominant" progression (retrogressive motion)⁴¹ is represented by an upward diagonal symbol (see Figure 3.4).

⁴¹ Please see a detailed discussion of what constitutes a progressive and retrogressive motion in a succeeding section of this chapter titled "Theoretical Approach."



Figure 3.4. Meeus Notation of I-V-IV-I Progression

The other type of progression, down by third, which Meeùs calls a "substitute" for the up-by-fourth motion, can also be represented as a downward diagonal. Again, a substitution is assumed and the diagonal does not connect two nodes a fourth apart, but one node and a substitute for the other that is. At this point, a vertical, dotted line is used to carry one up or down through the grid to a line representing the harmony a fourth below the destination chord. This rationalization is depicted in terms of a I–vi motion in Figure 3.5.



Figure 3.5. Meeus Notation of a Down-by-Third Progression

4) (Introducing) The Harmonic Space-Plot.

The harmonic Space-Plot is a graphic approach I have developed in an effort to provide an effective way of understanding the journey a tonal harmonic succession makes. The shape of this diagram resembles the model of an atom one might see in an inorganic chemistry text. It is composed of a central nucleus and two subsequently larger shells that take on the appearance of (electron) orbital levels. In this model the seven diatonic triads are positioned so that their physical orientation to each other naturally expresses the hierarchical and functional relationship that exists between them in a tonal context. Similar to Riemann's table of relations or Schoenberg's chart of the regions, this model spatially represents the harmonic functionality of the constituent tonal harmonies (see Figure 3.6).



Figure 3.6. Orientation of Diatonic Harmonies for the Space-Plot

This graphic scheme also provides for the observation of harmonic flow in terms of progressive or retrogressive motion. In the harmonic Space-Plot the constituent diatonic triads are arranged in this way: The I occupies the center of the graph. The other primary harmonies (IV and V) complete the first orbital level and the secondary triads—ii, iii, vi, and vii°—occupy the outermost orbital level. The placement of these triads in the graph is specific to several purposes. Two of them are 1) It creates an appropriate geographical hierarchy among harmonies situated with either an analogous relative proximity or distance to the tonic, and 2) it depicts an arrangement whereby root successions that emulate V–I motion (up-by-fourth root motion), or are otherwise progressive motions, create *clockwise*, *curved* paths through the tonal space when these motions are drawn as connections between certain pairs of the harmonies. See Figure 3.7, as the all-progressive simple journey is depicted in the Space-Plot.



Figure 3.7. Harmonic Space Plotting of the Simple Journey

It follows analogously then that retrogressive motions, such as would be the case in the retrograde of the succession depicted above, I–V–IV–I, would create *counterclockwise* paths through the space. Additionally, this physical orientation naturally produces zones of shared function. This is especially clear, as the sharing relationship is particularly strong among the pairs of tonic, dominant, and subdominant function chords. Figure 3.8 shows, in grey-scale ellipses, the zones that contain IV and ii, V and vii°, I and iii, and I and vi—all pairs of viable substitutes for each other.



Figure 3.8. The Space-Plot and Zones of Shared Function

To add to the benefits of seeing the hierarchical relationship between the tonic and the other constituent triads of a key, of visualizing the way progressive motions create clockwise and retrogressive motions create counterclockwise curved paths, one now may observe similarities in harmonic paths that utilize substitute harmonies of similar function. This is integral to the design of the Space-Plot, for, although it may seem physically plausible to navigate from one chord to another via any route among myriad possibilities, the locations of chords sharing similar functions makes harmonic subtleties like ii substituting for IV visible in a number of important ways (see Figure 3.9).



Figure III.9. Space-Plot Depictions of Two Paths, One with a Substitute Chord of Shared Function

First, a substitution within a functional pair like this creates two paths that are physically very similar, as one would expect given the similar musical effect created by the substitution of one of these chords for the other. And important to the theory of the musical effect is the way that the Riemannian standard tonal functions of Tonic, Subdominant (even Supertonic), and Dominant (T, S, D) are similarly represented in terms of "zones." However, one may now see that the path in the second Space-Plot moves further away from the tonic area, into the outer "shell" that contains the secondary triads. Here, the reason that this path is more adventurous, or at least provides a contrast to the path using IV, is now visible from the graphic depiction. Finally, the second path provides a different set of motions, which can be seen to not only create an all-progressive path, but, within the realm of moving away from and back to I, the P3(\uparrow 4), P1(\uparrow 2), P3(\uparrow 4) set of motions bears much in common with the alternative P1(\uparrow 2), P3(\uparrow 4), P3(\uparrow 4) set. A subtle difference may be heard in the relative strength of motions as they approach I: The second does so with two consecutive P3 motions.

Theoretical Approach

This theory accepts the premise borne out in the work of Rameau that the perception of a forward harmonic motion may exist between two consecutive roots along a fundamental bass line. According to Rameau, this is demonstrated most convincingly in a dominant-to-tonic cadence, in motions that are functionally similar to it and in those that belong to a similar category in terms of a harmonic motion's interval and direction. This "forward" motion, which other theorists have thought of as a procession through the tonal space "toward" a tonic from a chord bearing dominant function, is what I refer to as "progressive" harmonic motion.

Rameau's contention that V-I motion, or a functionally equivalent emulation of it, is the strongest harmonic motion is well supported in the musical and theoretical literature. As well, theorists such as Sechter, Riemann, and others have indicated that particular harmonic changes can be classified as forward moving, or "progressive," especially in the case of the authentic cadence. Rameau and Schoenberg accept particular motions as substitutes for the paradigmatic V–I progressive motion. This creates a division, in my estimation, within the gamut of possible diatonic harmonic root motions: one between the V-I motion and its substitutes and those that remain. By defining *progressive* motion in this way, these theorists also by implication define *retrogressive* motion.

The definition chosen here for a progressive or retrogressive motion between two consecutive harmonic roots depends on a specific determination of the interval and direction traversed in completing this motion. Each harmonic motion is classified here either as one of three possible intervals up or as one of three intervals down. To take the V–I cadential model of forward harmonic motion as an example, I refer to it as "up by fourth." In an effort to minimize the size of the interval identified, I assume the interval traversed in the fundamental bass to be the smallest tonal (octave-equivalent) complement, taking motions of a seventh, sixth and fifth to be functionally equal to their inversions of a second, third and fourth, respectively.

Root motions of a third and a second may also be classified as progressive or, as some theorists describe, may "substitute" for the up-by-fourth motion.⁴² Taking elements from the work of Rameau, Sechter, dualist theory, the function

 $^{^{\}rm 42}$ That is, *down* by third and *up* by second are similar motion types to the up-by-fourth progression.

theory of Riemann, Schoenberg, and more recent theorists,⁴³ one may observe a uniformity of thinking regarding the character of a root motion as defined by interval and direction. This consensus implies that motions that are up by fourth, down by third, or up by second are harmonically "forward" moving and their inversions, those that are down by fourth, up by third and down by second move comparatively backward.

I wish not only to distinguish between these kinds of motions, but also to quantify their intensity. To better accomplish this I assign to each motion the arbitrary value of P1 through P3, and R1 through R3 to indicate the relative strength for each motion. These are what I call "P values" or "R values," and I contend that the patterns that arise in the flow of the music, in terms of the frequency, repetition, or alternation of various harmonic motions often provide distinctive or important elements of style and structure within tonal works. The values I establish here, P1 through P3 and R1 through R3 designate, respectively, the increasingly stronger harmonic root motions created in moving by second, a third and a fourth, where the direction of the root motion, be it up or down, is as much a determinant in whether the motion is progressive or retrogressive.

The following table illustrates the assignment of P/R values across the gamut of root motion types and their relative strengths.

⁴³ Besides Meeus, a scholar who has codified several principles relating to the analysis of popular music is Ken Stephenson. I discuss some of his contributions in Chapter V. His work draws a clear line between the three types of root motions I call progressive and the three I call retrogressive.

	Progressive motion:	Retrogressive motion:	
Strongest:	P3 = up by 4th	R3 = down by 4th	
	P2 = down by 3rd	R2 = up by 3rd	
Weakest:	P1 = up by 2nd	R1 = down by 2nd	

Figure 3.10. Root Motion Types and Their Relative Strengths.

Within this theory I assume that each of the chords belonging to the set of seven diatonic triads may bear either tonic, subdominant, or dominant function. This assumption applies well for the songs or song portions whose harmony I am considering in this paper, for almost all of them consist only of the diatonic harmonies germane to one key. However, pop music pieces do not always exclusively utilize a key's seven diatonic harmonies.

Is this dichotomy—one of harmony's physiology (its motion) and not its anatomy (chord vocabulary)—a form of dualism? Perhaps. My belief throughout my research, especially while examining Riemann's theories, is that it is, depending on how this is assessed. This comparison is compellingly borne out in two areas: in the functional implications of the way I perceive harmony, much as Riemann has and, in the way the Space Plot creates a "forward or reverse" scenario with which to envision possible motion. The clearest support for a dualist approach, however, may be contained within Riemann's addressing of the "principal cadence." In major mode, this amounts to I–IV–I–V–I, or what I have dubbed the simple journey, with a dependent interior I coming after IV, likely in six-four position (cadential) holding forth before the dominant. In Riemann's dualist transposition to minor mode, this succession becomes

I–V–I–IV–I,⁴⁴ which equates to a retrogressive motion succession used as the model for (if the interior, dependent I is removed) the changes in countless popular songs.

One of Riemann's musical-theoretical goals, was to distill the concept of function. This can be seen in his interpretation of the principal cadence and his application of function to all diatonic triads. In essence, the functions of T, S, and D, which represent actual chords in the cadential scheme, can on a more fundamental level represent the most elemental *functions* that these primary triads most often perform. In this way all of the secondary and, possibly some non-diatonic, chords (depending on musical context) can take on the function of T, S, or D. It is my aim, knowing that in traditional tonal art music this is too simplistic a scheme to adequately address the functions of each triad in all of its possible contexts, especially given situations where linear voice activity overrides much of the harmonic organization, to test harmonic motion on the basis of T, S, and D functionality.

In the following section, I consider the gamut of harmonic motion types outlined above by composing harmonic sequences generated by using only one of these motions, following it until it returns to the tonic. In doing this in correspondence with a T, S, D approach and using the harmonic Space-Plot method, I will better be able to verify the progressive or retrogressive character of each of these motions and demonstrate the utility of this analytical and theoretical method. The Space-Plot proves useful for this analysis because it points up zones of shared function (Figure 3.8). The Space-Plot reflects that I

⁴⁴ For an elaborate discussion of Major-Minor mode dualism, see Harrison's *Harmonic Function in Chromatic Music*, 270–73.

assumes tonic function, as do the often-used substitutes vi and iii. It also shows that V assumes dominant function, and "occupies" a zone of function along with its substitute vii[°]. Similarly, IV, assuming subdominant function, shares a functional zone along with its substitute ii. This set of alliances denies the assignment of some other functions these chords can serve in traditional tonal music. However, I choose this specific set of substitutions after examining not only precedents in the literature of traditional tonal music, but also those in popular music.

Examining chord sequences aided by functional substitution makes the character that certain motion types possess more recognizable. Moving between harmonies by only one motion type often creates a cyclical, regular pattern in the harmonic sequence of the chords that follow. If each of the examples of progressions listed and described above demonstrates a journey that is I–IV–V–I (functionally: T–S–D–T), then observe the parallel routes also created by the "all-by-upward-fourth" harmonic sequence:

Ι	IV	<u>vii</u> °	iii	vi	ii	V	Ι
funct	ionally allie	es with					
Т	S	D	T^{45}	<u> </u>	S	D	Т

Figure 3.11. Harmonic Sequence Based on All-P3 Motion.

⁴⁵ Here the principle of substitution I discussed earlier in this chapter applies similarly as it did with that for the S or D functions, even if perhaps this creates a weaker substitution.

⁴⁶ The effectiveness of the substitution differs depending on the specific functions involved. For example, although the ii lies a third below IV and substitutes effectively for it, this may not mean that the iii, which lies a third below the V chord, substitutes for it with the same effectiveness.

The underlined chords in Figure 3.11 share tonic, subdominant, or dominant function with either I, IV or V chords, respectively. In this sequence the insertion of the secondary diatonic harmonies, into the principle cadence (I–IV–*–V–I) between IV and V creates yet another "journey" through the harmonic space, all by progressive motion. Although this succession's extension, or "outpocketing," through the middle of its span feels less strong or, more accurately, less tonally grounded than the simple journey created in moving only between primary harmonies, it adds dimension (as well as length) to the journey by providing another level (that of the secondary triads) through which the journey proceeds. To better depict the tonal characteristics that this journey takes on as it moves through the space, a comparison of two complete models using the Space-Plot method will be given.

In Figure 3.11, a set of motions is depicted as it moves from the tonic to the zone of subdominant function to the zone of dominant function and back to the tonic. This rather simple, but tonally common, path provides the most basic journey through the tonal space, yet still moves through all of the primary functions.



Figure 3.12. Harmonic Space-Plot of the Principle Cadence

Figure III.13, however, demonstrates how the path, in moving through secondary functions which may act as primary substitutes, moves through or nearly through each zone of primary function *twice*. Therefore, the path through the space, when utilizing the cyclical sequence, is like a loop that has been twisted and folded over upon itself once, so the path is no longer in its number of chords (or motions) but now, by containing an extra "loop," reflects a reinforcing of the T–S–D–T journey. (see Figure 3.13). Also useful is the path of the curved arrows along this set of motions: They reinforce the order of harmonies that are produced by the sequence of all P3 motions.



Figure 3.13. Space-Plot of the All-P3 Sequence

Example 3.13 demonstrates the forward-moving nature of the sequence that moves completely in upward-by-fourth motion, and how this emulates, through the alliance of functional substitutes, the most basic of forward-moving successions: T–S–D–T.

In an effort to reinforce the argument for their alliance along a progressive motion type, it would be advantageous to test the other motions similarly. Take the example of a sequence of all down by third (P2) motions. This ordering of harmonies can be construed as forward-moving as shown in Figure 3.14.



Figure 3.14. Functional Substitution Within the All-P2 Sequence

It appears that the answer is yes, if one notices that although there is (again) not a pure T–S–D–T cycle projected, but a gradual shifting, through the primary functions that sums to the principal cadence. This confers with the overlapping of function that one might expect in moving by thirds between harmonies, with each harmonic move presenting the exchange of only one of the tones in the process. The one exception to the "gradual shifting" is perceived in moving from ii to vii°, where the roots of each chord are the more active tendency tones, and in most contexts (as roots) do not share function: One is subdominant, the other dominant. As important is the fact that the order is still forward-moving in terms of classification of motion types: Here, it is moving from subdominant function to dominant.

When the Space-Plot model is used to portray the sequence made exclusively of down-by-third motions, a clockwise path through the space also results, as depicted in Figure 3.15.



Figure 3.15. Harmonic Space-Plot of the All-P2 Sequence

One aspect of the progressive character of the down by third motion deserves some attention: It is progressive not only due to its destination chord, it is also because of the "progress" that this motion achieves in moving through the space in the specific way it does. The IV to ii motion ($\downarrow 3 = P2$) and the IV to vii°($\uparrow 4 = P3$) motion are both progressive, but they arrive at much different functions within the tonal harmonic space. The first example starts at a subdominant function and moves to a subdominant substitute. But one could easily argue that the destination chord, ii, stands to progress (move by progressive motion) more strongly to the next chord in the harmonic space, to V, by up-by-fourth motion. The second example, IV to vii° motion, progresses to a chord whose function is farther along in the journey through the tonal harmonic space, namely from a preparatory subdominant function chord to one that can only function as dominant.

The other harmonic sequence to examine via this approach is that created by all up-by-second (P1) motion, for which the Roman numeral and functional substitutes can be seen in Figure 3.16.



Figure 3.16. Functional Substitution Within the All-P1 Sequence

With the motions of I–ii, IV–V, and vii°–I anchoring the fundamental T–S–D–T scheme, it is difficult not to hear the general nature of this sequence as forward-moving, although it is perhaps an awkward musical case to support. This motion type, in the history of functional theory, is notorious for the hackles it raises in terms of legitimacy, for its precariousness in a part-writing scenario,⁴⁷ and it would be difficult to imagine any sustained span of tonal music using the progression

I-ii-iii-IV-V-vi-vii°-I

without sounding contrived or ineffective. The intermediary iii and vi (those located between the more obvious progressive shifts of function: I–ii, IV–V, and vii°–I), by not substantially effecting the functional direction of the journey demonstrate the reason why they have the least-chiseled identity of the seven functions. If that is their character, they interrupt the flow of a T–S–D–T cycle somewhat unobtrusively. In Figure 3.16, spans where the tonic substitute iii and vi occur have been underlined. There they are each surrounded by two chords of non-tonic function. In the case of iii, those on either side assume a subdominant function; in the case of vi, the flanking chords are dominant in function. As iii and vi are subsidiary chords much of the time, here they are prolongational within each span. These mild substitutes for I do not divert from the S or the D effect of either three-chord span. Furthermore, if what many theorists claim to be a tonal convention is true, then vi and iii are acting in accordance: the tonic chord, with which they are allied, may interrupt or appear at any point within a succession of chords without destroying the thrust of the harmonic succession.

⁴⁷ For instance, Rameau regards them as illegal and Schoenberg sees the progression as "superstrong." This, to my perception, supports the empirical experience that many of these harmonic motions in succession have an excessive effect, perhaps more so than with the other progressive motion patterns of up by fourth and down by third.

What remains, then, is a relatively drawn out progression through the principal cadence. This sequence is shown using two views of a Space-Plot in Figure 3.17.



(motions 1, 2 and 5)

(motions 3, 4, 6 and 7)

Figure 3.17. Harmonic Space-Plot of the All-P2 Sequence

Several of the above figures structurally detail the harmonic Space-Plot and serve to show how a harmonic journey may be realized graphically when hypothetical sequences of up-by-fourth, down-by-third, and up-by-second motions are used. The progressive harmonic motion of these successions is indicated by the clockwise direction the path makes through the graphic. Retrogressive motion, the subject of so much of the inventive harmonic structuring of contemporary popular music, would analogously be indicated by the same path plotted in counterclockwise motions. The value of the Space-Plot does not so much lie in its ability to render a complete and efficient analysis, but in how it can provide an alternative and convenient way to visualize functional relations in the harmonic space and the properties of harmonic motion. Another way to demonstrate how this set of three motions is progressive is to take the information collected in the functional assessment of the three sequences (and seen via the Space-Plot) and itemize it in a table. It is useful to see this information from another perspective, and it is depicted in Figures 3.18 and 3.19. For each diatonic harmony of origin, I have enumerated the destination chords that arise via the three motions P3, P2, or P1. Also, I have listed what function the originating and destination harmonies possess. From this, the functional path each of these motion types may be compared.

origin	motion	destination	functional
chord	type	chord	path
I I ï ïi ïi ïii IV	via P3 motion(\uparrow 4) arrives at via P2 motion(\downarrow 3) arrives at via P1 motion (\uparrow 2) arrives at via P3 motion(\uparrow 4) arrives at via P2 motion(\downarrow 3) arrives at via P1 motion (\uparrow 2) arrives at via P3 motion(\uparrow 4) arrives at via P2 motion(\downarrow 4) arrives at via P1 motion (\uparrow 2) arrives at via P1 motion (\uparrow 2) arrives at via P1 motion (\uparrow 2) arrives at via P3 motion(\uparrow 4) arrives at	IV vi ii V vii° iii Vi I IV vii°	T-S T-T T-S S-D S-D S-T* T-T T-T T-T T-S S-D
IV IV IV	via P2 motion (\uparrow 2) arrives at via P1 motion (\uparrow 2) arrives at	ü V	5–D S–S S–D
V	via P3 motion(↑4) arrives at	I	D–T
V	via P2 motion(↓3) arrives at	iii	D–T
V	via P1 motion (↑2) arrives at	vi	D–T
vi	via P3 motion(↑4) arrives at	ii	T–S
vi	via P2 motion(↓3) arrives at	IV	T–S
vi	via P1 motion (↑2) arrives at	vii°	T–D*
vii°	via P3 motion(↑4) arrives at	iii	D–T
vii°	via P2 motion(↓3) arrives at	V	D–D
vii°	via P1 motion (↑2) arrives at	I	D–T

Figure 3.18. Measurement of the Functional Path for All Diatonic Progressive Motions

In Figure III.18, each type of progressive motion is assessed in terms of its functional path. Likely roles of T, S, or D are designated for the chords taking part in the twenty-one possible motions created by considering the seven possible diatonic origins and, for each of these, the three possible progressive motions. Remarkably, every functional path except for two (*) reflects a motion among those contained in the progressive-demonstrating principal cadence,

either T–S, S–D, or D–T, unless the two-chord succession moves from a chord of a specific function to one that is a substitute for the same function (T–T, S–S, and D–D), creating something that resembles harmonic stasis. The two instances where the motion is neither a progressive nor a static path between functions are the ii to iii and vi to vii^o successions.

Reasons why the path through the space originating with these chords creates a seemingly retrogressive effect are as follows: 1) this is one of the weaker "progressions," the up by second motion, in terms of ability to emulate the V–I motion; 2) these are the only moves through the harmonic space that exist between secondary triads—substitute functions already—that lie a second apart; 3) partly because of the way I envision the Space-Plot, and partly because of a record of elastic and lubricious character of functional role, vi and iii are most likely to engage in unexpected ways.

Owing to this, and a desire to know more about the "static" successions as well, I have generated a table, similar to the one in Figure 3.18. The revised version, Figure 3.19, is one that considers the pliability of the iii and the vi, so as to allow them a lesser-than-likely substitute for purposes of comparison. Indeed, in traditional tonal music, the iii can substitute for the tonic and the vi for the subdominant.⁴⁸ However, this occurs less frequently than iii as a substitute for V and vi for I, and in a harmonic succession would produce a less-defined character of function than when substituting for the primary triad found a diatonic third above.

⁴⁸ It should be little wonder that the intriguing effect of V–vi, the deceptive cadence, one that earns its moniker through the avoidance of closure, creates this effect partly by moving from a well defined dominant function chord to a chord that although most often functions as tonic substitute, sometimes even presents subdominant function.

origin chord	motion type	destination chord	functional path
I I I ü	via P3 motion(↑4) arrives at via P2 motion(↓3) arrives at via P1 motion (↑2) arrives at via P3 motion(↑4) arrives at via P2 motion(↓3) arrives at	IV vi ii V vii°	T–S T–T <u>(or T–S)</u> T–S S–D S–D
ii iii iii IV IV	via P1 motion (\uparrow 2) arrives at via P3 motion(\uparrow 4) arrives at via P2 motion(\downarrow 3) arrives at via P1 motion (\uparrow 2) arrives at via P3 motion(\uparrow 4) arrives at via P2 motion(\downarrow 3) arrives at	iii vi I IV vii° ii	S-T* <u>(or S-D)</u> T-T <u>(or D-T)</u> T-T <u>(or D-T)</u> T-S (or D-S**) S-D S-S
IV V V V	via P1 motion (\uparrow 2) arrives at via P3 motion(\uparrow 4) arrives at via P2 motion(\downarrow 3) arrives at via P1 motion (\uparrow 2) arrives at	V I iii vi	S–D D–T D–T (or D–D) D–T (or D–S**)
vi vi vi vii°	via P3 motion(↑4) arrives at via P2 motion(↓3) arrives at via P1 motion (↑2) arrives at via P3 motion(↑4) arrives at via P2 motion(↓3) arrives at	ii IV vii° iii V	T-S (or S-S) T-S (or S-S) T-D* <u>(or S-D)</u> D-T (or D-D) D-D
vii°	via P1 motion (\uparrow 2) arrives at	I	D-T

Figure 3.19. Diatonic Functional Paths Allowing for Non-Tonic Substitutes for iii and vi

Two features are now worth noting. The substitutions marked in parentheses (ii–iii and vi–vii°) now appear progressive. As well, every "static" succession has become a progressive motion (<u>underlined</u>). In a few instances, what was a progressive motion has been replaced by a static one, and in two of those instances (**), a progression appears now as a retrogression. As with the anomalies in Figure 3.18, these occur as P1 motions (weakest) and involve the least functionally defined chords, iii and vi.

Classifying harmonic motions by progressive and retrogressive types makes sense based upon how they are used in tonal practice. The reason I believe this is because of the strong alliance I detect among motions of the same type. First, I have provided a theoretical argument above to establish what is progressive and this will serve as my first level of proof. Second, there is a purely mathematical/statistical record that bears out the more common use of progressive motion in traditional tonal music, as well as in Western folk and popular forms contemporaneous with the common practice era.

A third, more empirical way that I qualify progressive motions as forward-moving or contextually traditional is by playing at the keyboard each motion type as a sequence comprised completely of one of the progressive motions. For instance, I will play, following conventional guides for voice leading and chord voicing, the up-by-fourth sequence. That this (cyclical or circular) succession is no stranger to several types of tonal music, the result is something expected. It is a device that harmonizes any number of passages of tonal music from the Baroque to twentieth-century standards. Then I perform the same experiment with the down-by-third sequence. This works well from a tonal function standpoint, when the continually descending bass is offset in the upper voices with some contrary motion. The only ineffective portion of this scenario (I–vi–IV–ii–vii°–V–iii–I) is the last motion (iii–I), where it sounds as though iii, in coming between V and I, dilutes any effect of tonal progressive motion closure. As a substitute for V it reduces the cadential expectation V can produce; as a substitute for I, it delays the arrival in an awkward, if interesting way. Finally,

although it is excessive and a voice-leading conundrum, the up-by-second sequence at least sounds plausible.

But perform the same kind of experiment with the inversions of these motions and it becomes apparent that this is a group of motions (retrogressions) that, as a type, create a fundamentally different sound and effect than their analogous motions of opposite type. What I hear are retrogressions that, as portions of these seven-motion sequences, are employed commonly in pop-rock music but, even as of yet, are rarely used as a complete sequence.

Methodological Allowances

1) For the purposes of this study, I measure harmonic motions as intervals between notes of the fundamental bass, but I understand the meaning of these motions not only as changes along this bass line, but as a part of a composite counterpoint of motions in voices throughout the texture. Furthermore, I understand that these voices are engaged in musical activity that determines many musical possibilities outside of any harmonic changes and that this activity has the power to direct the goals of the musical passage independent of the fundamental bass. This study, however, is an attempt to isolate the aspect of harmonic motion along the fundamental bass in order to observe this parameter within the development of pop-rock music. Because of this, I often will interpret an inverted chord as if it were in root position, so as to best assess its function, and its role within a harmonic motion.

2) I take recurring patterns of harmonic successions to be "models." This approach simplifies an organization of pop-rock harmony and aids in the

perception of its usage over a broader span of time. Harmonic model classification makes no statement about the quality of a song presenting a particular model. Although many popular songs demonstrate or contain a model that occurs with great regularity in the repertoire, some of the most interesting pop songs written between the 1960s and now demonstrate a deviation from a commonly used model. Often it seems as though this is done for the purpose of demonstrating how a slight alteration to a familiar model can create an unusual harmonic effect. Additionally, there are songs from this repertoire whose harmony arises through an innovative combination of models. This is the case in many songs by the Beatles. Although there are many sections or pieces of theirs that demonstrate or establish a particular model, in general their harmonic approach is subtle because they rarely build a piece exclusively from one standard model, or they alter standard ones in innovative ways even if small ones, creating new perspectives on previous materials.

3) Songs in minor mode are treated as if they possess the same scope of harmonic relations and patterns of motions between functions as do songs in major mode. This is especially the case where the harmonic inflection of the mode is present for the (major) dominant and leading-tone chords. Where natural minor mode is followed, I still interpret the chords spelled accordingly the same way I would if they where in major, where the set of major diatonic functions I, ii, iii, IV, V, vi and vii° translates analogously to minor as i, ii°, III, iv, v, (b)VI, and (b)VII. The exception for this is addressed below.

4) For the analysis of some minor popular songs or their sections, I find it useful to think of the harmonic center as "vi" and not "i." I am persuaded to use a notation that does not recognize a minor tonic as "i," but rather establishes vi as tonic. In this case, the assignment of function is accomplished as a transposition, so that iv is really ii and v is really iii. Although in harmonic minor mode the dominant is spelled as a major chord, this can be indicated by III, III#, [V] or V/vi.⁴⁹

The advantages to this are two. First, the relationship with relative major, which in pop music is often very close, is very strongly indicated by retaining the same Roman numerals per chord between each mode. I imply that the minor mode⁵⁰ is something that can be placed within its relative major mode or, at least, adopt its functional labels in such a way that going between the two key centers does not reassign the labels. This may mean that vi is somehow less of a tonic than I would be, but it does not have to. For most cases, I am thinking of vi as a tonic in the same right as I might i, but now all the traditional functions have a different label: iv becomes ii, and V now III.

The second advantage is that the major key relationship often established between the submediant, the dominant, and the subdominant (vi, V, and IV) can be expressed similarly by Roman numerals when the section is determined to be in minor. The interplay between vi, V, and IV in a major key is often, musically speaking, of exactly the same kind when one hears them as i, \flat VII and \flat VI in traditional minor. I believe it serves well to continue to use vi, V and IV,

⁴⁹ Against most conventions in the practice of harmonic theory that indicate spelling and functional details about such a dominant, I prefer simply, "III." This owes something to my philosophy regarding the functional relationship of diatonic constituent harmonies: Each one is a fourth below another. This means that each has the ability (except along the tritone "break") to act as a dominant to another harmony. I believe it is incumbent upon the interpreter of the music to assess the functional role of each chord and that should not always entail symbology that reduces the potential for a chord to function outside a traditional harmonic context.

⁵⁰ Parallel, not relative.
respectively, in order to preserve this relationship, even if one thinks vi as tonic in a natural minor context.

5) Quite often a progression will be either made up of, or feature prominently, chords that in repeating alternation create what I call "oscillation." For this situation, I make the following two allowances: first, that in a harmonically static situation such as this, there is no real motion, progressive, or retrogressive. Often times, this stasis sets up the expectation of motion that traverses a specific path, but up until that point I argue that there is no true motion, and I often do not represent these spans in my analysis.⁵¹

I make the other allowance with regard to oscillation when the harmony for a segment of a piece is comprised exclusively of motion to a chord and back, or when there is motion through several chords and directly back through them in reverse order (larger scale oscillation): If there is any assessment of harmonic motion made, it should be more in terms of the initial motion(s) than the return one(s). An example of this occurs in the pop realm with the bVII "decoration" of the I chord. This "mixolydian" atmosphere is a common element in pop music, and is often expressed as the bVII chord, as given out after the I chord, especially. In a song such as the Grateful Dead's "Fire on the Mountain," where the entire song is a vamp on the succession | |: I bVII :| |, it is more notable that the harmony makes its initial move, a characteristic downward step to the

⁵¹ I find a parallel to the idea of oscillation the process described by Daniel Harrison as "embedding." I refer to his adoption of this term when he discusses Riemann's expansion of cadences (into larger spans of music) (*Harmonic Function in Chromatic Music*, 269–71). Here he shows how small-scale departures and returns to a chord can amount to something that reduces away on a deeper level, as he says, through *embedding*. Although oscillation would likely be considered a form of embedding, it usually serves a similar function, and that is to prolong a portion of a phrase or section (in some cases, a pop tune can be completely a series of oscillations).

alternative harmonic area, than it is that it returned, especially if that return is only for the purpose of restarting the pattern. In a situation such as this, I consider the effect of the initial motion more important than the return motion, as it is the reason that an alternate harmonic station exists.

6) When a piece's harmonic substance is a model formed by a repeating succession, and that repeat usually leads the flow of the music back to the model's first chord, I assume that at the end of the section it will normally end with the first chord of the model. Take ||: I X Y :|| as a hypothetical example. At the end of the succession's repeats I may be taken to be the final chord even though it is not presented at the "end" of the model. This becomes important because the chord beyond the repeat is usually attained via what is perceived as the last motion of a section.

7) Generally, I view some chromatically altered chords as bearing the same or similar function as their diatonic counterparts. For example, I take secondary dominants to bear the same function as the tonally unaltered chord of the same root. Similarly, I take chords resulting from minor borrowing, especially the subdominant, to function similarly to their major mode equivalent. In some of these cases, one could argue, the functional role is actually enhanced as a result of the voice-leading implications of the alteration. The ubiquitous example of the major chord built on the lowered seventh degree of the scale, \flat VII, is a special case in that its *root* changes with the alteration of scale degree seven. Although it may take on a contrapuntal role that is not the dominant, I make the case for it as a common dominant substitute in chapter V.

CHAPTER 4

A. ANALYSIS OF POP-ROCK MUSIC HARMONIZED MOSTLY OR COMPLETELY BY PROGRESSIVE MOTION.

Introduction: Blues Harmonic Theory

The playing of a 12-bar blues can take on numerous adaptations, especially when one considers a "jazz" blues, replete with subsidiary substitutions and secondary ii–V–I "turnarounds." This discussion, however, will focus on a more straightforward model. On a fundamental level, a 12-bar blues consists of three four-measure phrases, which harmonically arise in two possible ways: The phrase is either 1) made up entirely of one of the three primary triads of a tonality (the I, IV, or V chords), or 2) it is reinforced by one of the primary triads on a fundamental level.

Consider this model for the 12-bar blues:

bar: phrase 1:	1 : I	2 I	3 I	4 I	I
phrase 2:	5 IV	6 IV	7 I	8 I	Ι
phrase 3:	9 V	10 IV	11 I	12 V	:

Phrase one is simply a setting up—a grounding—of the tonic through repetition, and this is no less the case when bar two of the blues is harmonized by a dependent IV. Phrase two witnesses a move of the underlying harmony to the level of the subdominant. It forms a hypermetrically strong accent by virtue of its placement, on the first bar of the second of the three 4-measure phrases and thus earns itself the status of background constituent harmony. In these terms, IV may be assigned its most common duty, that of preparing the dominant, even though the I chord returns in the second half of the second phrase. I would argue that this I chord is intermediary, especially being that the dominant arrives with the third phrase.

V is the harmonic goal for phrase 3. Either in the model I have just presented, which "bookends" the phrase with dominant harmony, or models that set up a more far-reaching substitution pattern that builds up to, and cycles back to V, as in this example:

phrase 2: $\begin{bmatrix} 5 & 6 & 7 & 8 \\ | & IV & | & IV & | & | & | & VI & | \\ 9 & 10 & 11 & 12 & \\ phrase 3: & | & ii & | & V & | & | I & vi & | & ii & V & :| |^{52} \end{bmatrix}$

or even in the (harmonically) simpler rural blues (no cadential V in measure 12) that eventually gave rise to the use of the blues in other popular styles there is, at the very least, V in measure 9. This the first use of this chord in the form, and it receives an emphasis by virtue of its metrical placement, giving it status as a form-shaping chord.

The Simple Journey as Background Progression in the Blues; Other

Characteristics

This interpretation produces a harmonic assessment whereby the primary triads are given out in the order I–IV–V (–I). This can be thought of as the order in which they often are expressed, moving through the harmonic space in

⁵² Substitutions, do not change the background level harmony-reinforced form, and substitution schemes, such as the simple ones shown here, are often not incorporated in pop-rock uses of the blues.

progressive root motion.⁵³ This route through the scheme of tonal possibilities amounts to the briefest survey of the set of basic tonal functions: tonic, preparatory subdominant, dominant, and (with a repeat or closing cadence) a return to the tonic. Alternatively, some would call this progression "T, S (or P (for "preparatory"), and D." This scheme has for centuries provided the core for many tonal piece's (or section's) harmonization, that being I–IV–V–, then either repeating or ending on I. I refer to this model as the "simple journey" because it most concisely demonstrates the three-function harmonic tour.

Various pedagogical strategies exist for the understanding of a musical passage harmonized as such. In keeping with the idea of a "journey" through a space whose functions remain contextually or geographically fixed, I would like to suggest the analogy of a hiking trail that forms a "loop" that returns to where it harmonically began, one that is dotted by "mile markers" representing the location of the constituent harmonies of a key. In this scenario it may be easy to hear the relative functions of these harmonies: As one prepares to depart, the location of the tonic is observed, and the pervading atmosphere is one of "home" or a "starting point," because the musical effect is stabilizing and noncommittal. The move to the subdominant in progressive fashion indicates forward motion, but away from the tonic. Here one may experience the feeling of having just "shoved off" and the wealth of possibilities one may sense being so "far back" in the potential scheme of harmonic motions that could lead through the tonal space and back toward the tonic. It might even seem as though one has just

⁵³ This analysis is only a background interpretation. A reading closer to the surface is the subject of a more detailed discussion I give in part B of this chapter.

played a first move at chess or backgammon, and the playing out of the remainder of moves lies ahead.

At this point in the harmonic succession there is neither a compulsion for the harmony to proceed necessarily to a particular station nor an indication of imminent return to the tonic. Although the subdominant serves often enough as a preparatory chord, it possesses a unique status in the hierarchy of volatility: Unlike the tonic, it is in transit, but not in the context one usually finds the dominant. As for the physiological comparison between IV and its closest functional relative, ii, IV (in the pop realm) plays the preparatory role more often but proceeds to V less powerfully than does ii. This comparison indicates that, on average, the IV would be more likely (than ii) to proceed to a chord other than V when the progression is extended as such:

Tonic-Subdominant-??-Dominant-Tonic

Put another way, the ii is compelled more strongly than IV, with its root positioned a fourth below, to progress to V. This is especially true when one considers the I–IV (back to)-I scenario: The ii could substitute for the subdominant here, but it is much less often that one encounters a span containing the move I–ii–I. The potential for the P3 motion in a ii–V succession is powerful enough to command a propensity for this pattern much more so than if IV is the preparation.

Upon moving to the dominant, the list of harmonic possibilities one might expect next shortens essentially to one. Not only because of the potential for an up-by-fourth (many may prefer "down-by-fifth") root motion, but also strong voice leading tendencies, the motion returning to the tonic within this model generates a relatively powerful close to this harmonic path, or, "simple journey."

The crafting of the rock and roll style was characterized in large part by the inclusion of the blues form into pop music. In the 1950s, arguably the most often-recorded pop music was the blues-based rock and roll song. If the song was not a ballad, or perhaps a song written in the tradition of the golden era "standard," then except for few kinds of pieces it was likely to be a rock and roll song often patterned on the twelve-bar blues.

A short list of some of popular blues-based pop songs of this era includes:

[&]quot;Kansas City" (Leiber/Stoller, '52)
"Rock Around the Clock" (Bill Haley and the Comets, '54)
"See You Later Alligator" (Bill Haley and the Comets, '55)
"Tutti Frutti" (Little Richard, '55)
"Roll Over Beethoven" (Chuck Berry, '56)
"Peggy Sue" (Buddy Holly '56)
"Blue Suede Shoes" (Carl Perkins, '56)
"Rip it Up" (Little Richard, '56)
"Long Tall Sally" (Little Richard, '56)
"Torng Tall Sally" (Little Richard, '56)
"Rock and Roll Music" (Chuck Berry, '57)
"Whole Lotta Shakin' Goin' On (Jerry Lee Lewis, '57)
"Everybody's Trying To Be My Baby" (Carl Perkins, '57)
"Slow Down" (Larry Williams, '57)
"Good Golly Miss Molly" (Little Richard, '58)
"Dizzy Miss Lizzy" (Larry Williams, '58)
"Money (That's What I Want)" (Janie Bradford, '59)
"You Can't Do That," v. (Beatles , '64)⁵⁴
"Why Don't We Do it in the Road" (Beatles , '68)⁵⁵

⁵⁴ Where only specific sections of a song demonstrate a particular model, they are listed after the title of the song according to the following abbreviations: v. = Verse, ch. = Chorus, ref. = refrain, br. = Bridge, intro = Introduction. These and several other song form terms are defined in a glossary of terms that follows the last chapter of this dissertation. For portions of sections that are projections of the model, I designate which "lines" of that section, where a "line" is a single phrase of lyrics as one might find in the printing of a poem. For instance, the title-bearing section of the Beatles "Love Me Do," can be heard to encompass four lines: "1) Love, love me do, 2) You know I love you, 3) I'll always be true, 4) So please love me do."

⁵⁵ Although the Beatles covered many more 12-bar blues songs than they wrote, two originals are included here. Several of the songs on this list were staples of their performing and recording repertoire until 1965 and the influence of blues-based music on their rock and pop writing is undeniable. Some bands of this generation went on to make the blues the backbone of their output. Notable among these are Eric Clapton and bands in which he played, Led Zeppelin and The Allman Brothers. These artists insured a powerful presence of the blues in the rock idiom through the 1980s.

A review of this list reveals that the 12-bar blues is a common format for pop writing in the '50s, and into the '60s. The artists listed here, while laying part of the foundation for rock and pop-rock music, were a primary influence on the Beatles, who for all of their first records included several of these artists' songs. This served to maintain the popularity of the blues-based pop song during this time, as well as to encourage the writing of a plethora of pop songs largely similar in style and structure.

"Money (That's What I Want)" was one of these blues-based rock and roll songs that the Beatles included on their 1963 LP *With the Beatles*. Its harmony follows a model I include and describe above, namely:

"Money (That's What I Want)" (Gordy, Jr./Bradford, '59)

surface: : I	I	I	I	I	background: I
IV	IV	I	I	I	IV
l V	IV	I	V	:11	V

Like several other patterns of progressive harmonic flow that historically are common to the tonal repertoire, the Simple Journey, in pure form, whether as a surface or middleground manifestation, enjoys a rich tradition as the harmonic underpinning of a large group of pop songs or their sections. What I mean by "in pure form" is that the harmonic glossary of the given portion, allowing for repeats but not for interruptions or substitutions, is exclusively I–IV–V–I. This is the usual pop music implementation, however. The model often is the harmonic material comprising the whole section, and at times this model even serves as the format for the harmony of the entire song. The most obvious examples of this include "La Bamba" and "Twist and Shout," where the entire harmonic texture is

a repeating I–IV–V–I progression. Below I include a list of examples of the

Simple Journey in the standard pop repertoire.

Songs or sections based on the Simple Journey model ||: I IV V :||

"Words of Love" (Buddy Holly, '57) "La Bamba" (Ritchie Valens, '59) "When Will I Be Loved," v., (Everly Brothers, '60) "Twist and Shout" (Bert Russell & Phil Medley, '60) "Please Please Me," Intro, riff, tag-line of ch., br. (Beatles, '62) "No Reply," v. (The Beatles, '64) "What Goes On," v. (Beatles, '65) ||: I IV :|| V I "You've Got to Hide Your Love Away," ch. (Beatles, '65) "Like a Rolling Stone" (Dylan, '65) "My Girl," ch. (Smokey Robinson, rec'd. by The Temptations, '65) (ii subs for IV) "Get Off of My Cloud," ch. (Rolling Stones, '65) "My Girl," br, ch. (Temptations, '65) | : I ii (IV, in br.) V : | (ii = sub. for IV) "Here Comes the Sun," intro, v., lines 1–2 (The Beatles, '69) "Pinball Wizard," ch., lines 1–3 (The Who, '69) ||: IV V I :|| "Evil Ways" (Santana, '70) ||: ||: i IV :|| V:|| "Moon Shadow," ch. (Cat Stevens, '71) | |: I IV (I IV) V I : | | "Blinded By the Light," ch., lines 1–3 of 4 (Bruce Springsteen, '72) "Behind Closed Doors," ch, lines 1–3 (Charlie Rich, '73) "Daniel," intro (Elton John, '73) "Rosalita," ch. (Bruce Springsteen, '74) "I Want to Rock and Roll All Night," ch. (Kiss, 75) "Born to Run," v. (Bruce Springsteen, '75) "Magaritaville," ch. lines 1–3 (Jimmy Buffet, 77) "Only The Good Die Young," ch. (Billy Joel, '78) "Two Tickets to Paradise," ch. (Eddie Money, '78) "Hold the Line," v., lines 1–2 (Toto, '78) "Old Time Rock and Roll" (Bob Seger, '79) (Added V at end of each section) "Keep On Lovin' You", ch. (REO Speedwagon, '80) "Take it on the Run," v. (REO Speedwagon, '81) "I Love Rock 'n' Roll," ch. (Joan Jett, '82) "Jump," ch. (Van Halen, '84) "Cherish," ch. (Kool & the Gang, '85) (ii subs for IV) "Stand," ch. (R. E. M., '88) "Tear Stained Eye," v. (Son Volt, '95) "You're Still the One," v. lines 1-3 (Shania Twain, '97)

The Simple Journey is certainly a concise tour through the primary tonal

functions, but there are other significant elements. One is the strength of the

progression. This model is, of course, completely progressive in terms of the

three motions along a complete pass through the tonal space. The order of these motions is P3, P1, then P3, which makes for a balancing of the strength of the motions through the Journey: The strong opening P3 progression is balanced by the same in the return to I. The opening and closing progressions of this model are exactly the same opening and closing progressions in the all-P3 motion "cyclical" model: I–IV–vii°–iii–vi–ii–V–I.

The intermediary weaker progression signifies a sort of ebbing of the energy in the flow along this progression. As the listener moves from preparatory chord to penultimate chord it is a bit like riding a roller coaster and slowly cresting the top of the ride, where it may seem to be moving slower than anywhere else. Part of this effect may be caused by the acceleration through the expected destinations following each primary triad. One expects with more confidence that V will cadence to I via P3 motion. However, the motion from IV to V is not nearly as predictable. Especially if IV is prolonged for any significant length, the move to the next chord can be particularly dramatic. Does tension via voice-leading and counterpoint make the V–I motion more dramatic? I think the expectancy, except perhaps in the case of the deceptive cadence, actually reduces the drama. (There is a mystery created from the lack of harmonic, voice-leading, and contrapuntal tendencies, the absence of common tones to smooth the harmonic change and the absence of leading tones, such as is the case in moving from IV to V via P1 motion (upward by step), which creates more drama—a point coinciding with the weaker P1 motion within the Simple Journey.)

Viewing the Simple Journey model in the notational system derived by Nicholas Meeùs, one sees a consistently progressive path of three motions (lines slanting downward to the right) in succession (see Fig. 4.1). The I–IV and V–I progressions demonstrate the motions from actual points on the lattice, but the IV–V motion is different. Here we invoke Rameau's principle of harmonic

substitution (*subposition*) in order to represent the IV–V motion as a progression. A dotted line upward from IV to ii indicates the substitution, thus positioning the progressive motion (P3) graphic symbol moving to V.



Figure 4.A.1. The Simple Journey Expressed in Meeus Notation

The three-motion Simple Journey, when realized in terms of harmonic Space-Plotting, is also depicted as three graphics, one per motion. Here, however, they are expressed as clockwise (progressive) arc spans. Beginning from the centrally positioned tonic, the harmonic motion is a venturing out from, around, and back to the central tonic chord. Notice the location of the other diatonic functions, representing the possibility of other harmonic destinations, as well as proximal versus distal orientations, a positioning that distinguishes primary from secondary functions. (See Fig. 4.A.2).



Figure IV.A.2. Harmonic Space-Plot of the Simple Journey

I, IV, and V, therefore, reside within an "orbital shell" more central than their secondary harmonic counterparts. Compare how the path of a progression where ii substitutes for IV, in terms of this Space-Plot, would travel further through the space, to the more distal location of the secondary triad ii, but it would still bear the clockwise (progressive) motion and roughly the same shape, being that the path moves similarly through the region that ii and IV share as subdominant functions.

The motion for either of the progressions I have just described crosses a line one might draw from the center of the graphic through the six o'clock position. This imaginary vertical line located in the bottom half of the graphic (see Figure 4.A.3) represents a boundary line between the regions of subdominant function and dominant function. Inherent in the design of this graphic is the delineation of these functional regions, where the sound and character of the progression changes most markedly, where one might say the progression "turns the corner" and becomes less a succession moving away, and more one that is moving toward the tonic.



Figure 4.A.3. Subdominant-Dominant Polarity Within the Space-Plot

The use of either IV or ii serves as a dominant preparation in a pop progression. In a Tonic–Preparation–Dominant–Tonic model, such as the Simple Journey, either IV or ii may play the role of dominant preparation, but they do so in different ways.

IV acts as preparatory chord in the pop realm more often than does ii. ii is used more often in the role of preparation in Classical and Jazz than it is in popular music. The reason for this may lie in the traditional use of cyclical progressions to express more compellingly "forward" motions, or at least this seems to be the case in the harmonic language of Classical and Jazz music (most notably in Baroque and bebop progressions). In these older forms the ii–V–I progression returns to I via a P3–P3 progressive succession, a very powerful closure to the harmonic loop. Comparatively, IV–V–I moves respectively by P1–P3 to the harmonic close. Although this is still a "progression," its strength is lessened a bit by the up-by-second motion coming in the middle:

 $\begin{array}{rcl} I-ii-V-I & = & P1 & P3 & P3 & = & traditional \\ I-IV-V-I & = & P3 & P1 & P3 & = & contemporary \end{array}$

The comparison between the strength of ii–V and that of IV–V within the model

starts with Rameau's assessment that among the complete set of harmonic motion possibilities the up-by-fourth root motion is the strongest. This suggests that even in retrogression-laden pop music ii is more likely than IV to progress to V, or perhaps more to the point, that IV is more likely than ii to move to a harmony other than V when the progression may be extended at "X." Because of the potential for ii to proceed by the strongest harmonic motion (P3) to V, when ii replaces IV as preparation, or when it comes directly after I in a succession instead of IV, there is a diminished likelihood of a wider, more extended exploration for the rest of the harmonic succession.

This greater flexibility of the progression at the point where IV acts as preparation is evidenced even when one considers a I-to-IV-and-back-to-I scenario. The ii could, and often does, substitute for IV here, and one sometimes encounters a span whose harmony is I–ii–I, but not nearly as often as one hears the I–IV–I succession. ii bears subdominant function as does IV, so there must be other reasons why in pop music it does not nearly as often substitute for IV. I suggest that the P1–R1 motion (up and down by step) is less attractive to the tonal pop composer because the voice leading retains no common tones, and this

succession of harmonies, by comparison, produces a less smooth motion within the composite of voices. Alternatively, the traditional routing would be I to ii, which encourages a more sequential progressive motion to V rather than a return to I via the harmonic voice-leading mechanism of root motion by step described above.

Another perspective on this comparison concerns the motion *to* the preparation chord. Although the more common pop expression of this model (I–IV–V–I as opposed to I–ii–V–I) has a weaker, more flexible middle (IV – V), it has a stronger beginning.

To be realistic, the two expressions of a Tonic–Preparation–Dominant– Tonic model contain the same number and type of P motions, the difference is that they occur in a different order. I would argue, however, that this difference in order creates a different effect, for the reasons I have just enumerated, an effect noticeable especially by the time one arrives at the middle of the succession. Here, the harmonic path may become locked into a smaller set of possibilities and thus the ordering is perceived as more consequential to directing the remainder of the harmonic path.

Out of all the section types listed in my analysis including introductions, verses, refrains, bridges, transitions, solos, and vamps, the chorus is the section that most often contains the harmony of the Simple Journey. My belief is that there is a core simplicity to both entities (the progression and the section) that makes them an effective match for one another. First, there is a harmonic simplicity to the character of the progression itself. There may be no more elemental a representation of the three Reimannian "functions" than T–S–D–T. This would coincide with my perception of the Simple Journey as geographically

(through the Space-Plot) the path of tightest circumference, but one that still proceeds through the territory of the primary harmonic functions.

Analogously, the chorus is the section of the song that most simply and directly conveys the mood, or central meaning, for that song. The chorus is a section whose name derives from its traditional role in staged vocal works where the many-voiced ensemble echos, affirms, reaffirms or declaims a central and important feeling or plot text. Who can deny the operatically similar declamatory power of "I Want to Rock and Roll All Night," "Get Off Of My Cloud," or "I Love Rock and Roll"? Below is a list of pieces for which the chorus is a projection of the Simple Journey:

"When Will I Be Loved," v., ch. (Everly Brothers, '60)

"Twist and Shout" (Bert Russell & Phil Medley, '60)

"Please Please Me," Intro, riff, tag-line of ch., br. (Beatles, '62)

- "You've Got to Hide Your Love Away," ch. (Beatles, '65)
- "Like a Rolling Stone" (Dylan, '65)

"My Girl," ch. (Smokey Robinson, rec'd. by The Temptations, '65) (ii subs for IV)

- "Get Off of My Cloud," ch. (Rolling Stones, '65)
- "Pinball Wizard," ch., lines 1–3 (The Who, '69) ||: IV V I :||
- "Moon Shadow," ch. (Cat Stevens, '71) | |: I IV (I IV) V I : | |
- "Blinded By the Light," ch., lines 1–3 of 4 (Bruce Springsteen, '72) (note: Manfred Mann's 1976 recording is harmonized differently in the chorus)
 "Behind Closed Doors," ch, lines 1–3 (Charlie Rich, '73)
 "Rosalita," intro, ch. (Bruce Springsteen, '74)
 "I Want to Rock and Roll All Night," ch. (Kiss, 75)
 "Magaritaville," ch. lines 1–3 (Jimmy Buffet, 77)
 "Only The Good Die Young," ch. (Billy Joel, '78)
 "Two Tickets to Paradise," ch. (Eddie Money, '78)
 "Old Time Rock and Roll" (Bob Seger, '79) (Added V at end of each section)
- "Keep On Lovin' You," ch. (REO Speedwagon, '80)
- "I Love Rock 'n' Roll," ch. (Joan Jett, '82)
- "Jump," ch. (Van Halen, '84)
- "Stand," ch. (R. E. M., '88)

The Simple Journey in pure form is not the only manifestation of a core

I–IV–V–I progression. Several variants of this model exist as the harmonization

for numerous sections of music in the pop repertoire. Two that occur frequently are I–IV–I–V–I and I–IV–V–IV–I.

I-IV -I-V-I

Various theorists have indicated in their interpretations of harmonic progressions that the composer of tonally functional music may move to I at almost any point in the middle of a progression without disrupting the progression's essential character. Their thinking here, is that I is not "polarized" in the sense of its function, as are chords such as the IV and the V. These seem to have a certain definition of function that would prohibit them from being inserted into a progression such as one hears with the tonic in the I–IV–I–V–I model. In this case, the intermediary tonic reduces IV to a chord of dependence–in the service of a tonic expansion, thereby diminishing the IV–V motion that served to give the Simple Journey its characteristic dimension.



Figure 4.A.4. Space-Plot of I–IV–I–V–I

Please see the following list for a set of popular pieces that utilize this model:

| |: I–IV–I–V–I : | | (Simple Journey with intermediary by I, often an adapted blues)

"Honey Don't" (Carl Perkins, '56)
"Matchbox" (Carl Perkins, '57)
"I Saw Her Standing There," v. (Beatles, '63)
"Rainy Day Women #12 and #35" (Bob Dylan, '66)
"Folsom Prison Blues" (Johnny Cash, '66)
"Brown Eyed Girl," v. (Van Morrison, '67)
"Birthday," v. (Beatles, '68)
'Honky Tonk Woman," v. (Rolling Stones, '69)
"The Long and Winding Road," br. (Beatles, '70) ||: I IV I (ii) V :||
"In the Summertime" (Mungo Jerry, '70)
"Blinded By the Light," v., lines 1–7 of 8 (Bruce Springsteen, '72)
"Bad Case of Lovin' You" (Doctor Doctor), ch. (Robert Palmer, '79)
"Free Fallin'" (Tom Petty, '89)

The character of this progression is one of oscillating between I and one of the other primary functions while still making progress through the harmonic space. This model is only a few changes shy of the basic 12-bar blues model, which should come as no surprise being that most of the writers of the rock and roll 12-bar blues form were fond of the I–IV–I–V–I model. It functions as a smaller version of the 12-bar form, so it could be used for smaller pop song sections, sometimes of eight, four, or even two measures in length. This abbreviation was often a reference to the blues form, and as such it was usually set within the blues style with regard to surface rhythms, harmonies (with seventh chords, etc.), and melodies (incorporating pentatonic and blues scale elements). Below is a representation of the two successions demonstrating their alignment as blues forms.

Blues:	Ι	IV	Ι	V	IV	Ι
Pop model:	Ι	IV	Ι	V		Ι

In the late fifties and early sixties the use of this was often in relation to the blues, but by the seventies and later the I–IV–I–V–I progression took on a life

of its own, one that was more in the "radio-ready" pop style, often devoid of the surface features that allied this type of section to the blues.

I-IV-V-IV-I

The I–IV–V–IV–I progression can be considered to be the Simple Journey which doubles back on itself before cadencing, and it bears similarities to the model I have just discussed. As well, it is often used as a blues, and similarly, its pared-down size makes it more convenient for the smaller pop-song section. One of the key differences in this particular model, however, is that the steps in the harmonic succession are "retraced," and the atmosphere of oscillation is gone. Where any retrogressive motion contained in the previous model occurred in the "middle" of the succession, the retrogressive motion here is present in the second half of the succession. Figure 4.A.5 is a Space-Plotting of this succession.



Figure 4.A.5. Space-Plot of I–IV–V–IV–I

This feature, depending upon the stylistic and harmonic rhythmic context, renders the effect of a reversal of harmonic flow. This, at times, can produce the effect of prolongation of the tonic when the segment containing IV–V–IV takes on a somewhat structurally insignificant role, such as when these harmonies come in rapid succession. Also, one fundamental difference for this model is that there is no concluding progression, such as V–I. It would almost appear as if the plagal cadence, when used in a pop music setting serves as a substitution for the authentic cadence. This replacement cannot, however, occur without there being a fundamental change in the harmonic function of the two chords, and of course, without a change in our perceived meaning of that portion. Listed below is a set of examples utilizing this succession:

"Simple Journey" that doubles back on itself ||: I-IV-V-IV-I :||

"Great Balls of Fire," Intro, v. (Jerry Lee Lewis, '57)
"Louie, Louie" (Richard Berry, '56, rec'd by The Kingsmen, '63) altered to be: ||: I IV v IV I :||
"I Saw Her Standing There," ref. (Beatles, '63)
"You've Lost That Lovin' Feeling," coda (retransition to last ch) (Righteous Brothers, '64)
"Get Off of My Cloud," v. (Rolling Stones, '65)
"Hang On Sloopy," v., ch. (Feldman/Goldstein, rec. by the McCoys '65)
"Good Lovin" (The Rascals, '66)
"Wild Thing," v. (The Troggs, '66)
"Don't Pass Me By," v. (Beatles, '68)
"The Joker," v. (Steve Miller Band, '73)
"Come Sail Away," ch. (Styx, '77)

One element of the I–IV–V–IV–I succession that allies it with the blues is that it contains the V–IV retrogression, perhaps the most distinctive functional move in the blues. Harmonic features that resemble the blues may be see in the following alignment:

Blues:	Ι	IV	I	V	IV	Ι	V	(I)
Pop model:	Ι	IV		V	IV	Ι		

The Simple Journey differs from these variant models in a number of

fundamental ways. First, it is certainly the more purely progressive succession of

motions. If frequency of occurrence is any indicator, this "purity" may be the reason that I have been able to locate a greater number of examples of the Simple Journey than the others; perhaps the simpler I–IV–V–I succession is more often useful to the pop writer in achieving a certain effect for a particular section, especially, as I have discussed, for that of the chorus. I believe that in an allprogressive succession as short as this one, a certain efficiency and directness prevails.

The variants, even though they are "progressions" on the background level, incorporate surface level retrogressions. In the I–IV–I–V–I succession, the series of P/R values would read: P3–R3–R3–P3. So here the inner portion of the succession takes on a retrogressive quality. I believe this does not keep the succession from functioning as a "progression" because of the fact that its first and last motions are progressive. Because these progressive motions are in these significant beginning and ending positions within the succession and are in motions that include the tonic, they serve to characterize the overall succession to a greater degree.

The P/R values for the I–IV–V–IV–I succession would read P3–P1–R1–R3. In contrast, the reversal of flow occurs after the midpoint of the succession. Here, all the harmonic space that was traversed through progressive motion(s) is retraced through retrogressions along precisely the same path. This model might more often serve as a prolongation of the tonic, rendering the effect of the subdominant and dominant less distinctive than in a Simple Journey of the first variant. This is especially the case for pop songs in which the harmonic rhythm between the chords is very quick. "Good Lovin," Wild Thing, and "Louie, Louie" are songs for which this so. Alternatively, the bridge in the Beatles' "I Saw Her

Standing There," with its slower harmonic rhythm, makes a better case for hearing and perceiving the juxtaposition of the functions and the distinction of their effect.

Progressions Based on the Cycle of Fourths:

In a way, the cycle of fourths progression, what has also been called the "cyclical progression," where the succession comprises harmonies whose roots are successively up by fourth, is possibly the most emphatic expression of progressive motion. It is a repeating series of identical root motions, all of the P3 classification. This P3 variety of root motion is thought by many musicians to be the most powerful of the three progressive motion possibilities, and a harmonic motion that Rameau codified as a paradigm in his writings. When a succession is comprised completely of P3 motions, a very forward-moving atmosphere prevails. This is because the fact that even if the P3 motion is not a V–I succession, it still traces the very same interval and direction between roots, creating, in essence, a series of local V–I motions.

By the time Rameau was writing *Traité* (1722), the cyclical progression was enjoying use to such a degree that it helped to shape the harmony within music of the high Baroque. The cyclical progression plays a role of differing importance and is used with varying frequency in the history of tonal music. It is implemented often in both Baroque music and in the popular music of the early twentieth century, and especially by mid-century in swing and bebop styles. Although it is fairly common in the Classical Period, it is more often used as a transitional device in that music. Largely because of this history, its use in any

twentieth-century style seems to invoke a traditional atmosphere, at least in terms of functional harmony and the effect rendered through it.

The way a cyclical progression is presented can be very similar in both Baroque and jazz scenarios. Repeating P3 motions with exactly the same harmonic rhythm could be the harmonic underpinning for portions of a great number of Baroque pieces, also a great number songs of the swing or bebop style. Now let us examine a typical occurrence from each of these periods.

One clear example of the cyclical progression that one could select from a vast number of occurrences in music of the Baroque is a segment of the first movement of Johann Sebastian Bach's Brandenburg Concerto No. 2.⁵⁶

Local scale degrees (trumpet)	515	6	474	5	363 4		25213	3 etc.
Local Harmony	i	iv	♭VII	þIII	ÞVI	ii°	V	i
Bass Part	1	4	7	3	6	2	5	1

As well, we see a similar harmonic/counterpoint device in "Autumn Leaves:"

Melody		123	6	.712	2 5	671	$4\ldots$	5671	3 etc.
Local Harmony		i	iv	♭VII	þIII	ÞVI	ii°	V	i
Bass Part		1	4	7	3	6	2	5	1

A cursory comparison of the harmony within the spans from the Brandenburg Concerto excerpt and the verse of "Autumn Leaves" reveals that they are alike in terms of harmonic rhythm and the length of the harmonic succession. As well, apart from syncopation, their melodies have the same basic rhythm and placement within each piece's meter. To add to this, when the

⁵⁶ This is one if the many portions of Brandenburg Concerto No. 2 that (it is basically a trumpet concerto) features trumpet as soloist. I am describing measures 32–6 of the first movement (although in a different local key, this music is given out later also).

harmony changes on the downbeat of each measure in the succession (every other chord), the melody contains the third of the chord. Herein lies also a statement about the counterpoint that serves both of these styles on a fundamental level: A linear intervallic pattern drives the harmonic progression and melodic sequence, and this is often the case when a cyclical progression makes for the harmony. The same or similar device is used in conjunction with a cyclical progression in either traditional or contemporary contexts. "Fly Me to the Moon" and "All the Things You Are" are just two other of many jazz standards that make use of the cyclical progression, driven by a harmony/counterpoint model such as is found in "Autumn Leaves."

A remarkable paradox occurs when these two traditions that are so removed from each other in time are compared: Although the fundamental harmonic organization of these jazz pieces serves to maintain a centuries-old harmonic tradition born out in the music of the Baroque, the most significant stylistic differences presented by these kinds of jazz pieces are centered around a the areas of improvisation, rhythm, and chord qualities.

The cyclical progression is nothing short of pervasive in the jazz standard literature. Although it comprises the core of the songs discussed above, it fills different roles as well even if only a portion of the diatonic circle is used in the succession. The progression iii–vi–ii–V–I is common, especially as the harmony of a bridge. vi–ii–V–I is found often too, and it is used similarly, or as the end of a section or a transition to another one. When a progression reads: I–vi–ii–V(–I), which is comprised completely of P3 motion (after an initial P2 motion), it creates what jazz players often call a "turnaround." As the term implies, it usually brings the section to a close and provides a small-scale transition to the

beginning of another section that begins in the tonic. This is almost always the case when jazz players perform the blues: the last two measures are harmonized with this turnaround, propelling them into the next chorus.

Because it is a much shorter succession, the ii–V–I is even more common. It can fill several roles, including that of the turnaround. One aspect of this pattern is that the seventh chords built diatonically on this progression are of three different qualities and three different functions: the ii7 is a minor seventh chord (m-m), the V7 is a dominant seventh chord (M-m), and the I chord is a major seventh chord (M-M). The three chords also present preparatory, dominant, and tonic functions. This enables the succession to affirm efficiently the key of the piece, or to imply a local tonicization of another chord or key.

ii–V–I's are essentially what turn a "blues" into a "jazz-blues." This is achieved when the primary triads of the simpler blues format discussed earlier are prepared with local ii–V motions. This turns a piece, that is a progression on the background, into one whose surface harmony is mostly progressive as well. ii–V–I's are so much a staple of the jazz repertoire that they are one of the most often-used training exercises. Not only is it an ideal set of root motions to practice improvising or comping over, it helps the player gain a deep tonal awareness of the piece by playing over the complete diatonic cycle. In the jazz field, playing over ii–V–I's often is called playing "Rhythm" changes, owing to the set of ii–V–I motions that figure prominently in George and Ira Gershwin's song "I Got Rhythm."

In "I Got Rhythm," the cyclical progression and the local ii–V device play different roles. First, there is the repeating ii–V that grounds the key in the verse that opens and closes the tune. The bridge, however, contains progressive

motion on two different levels. First we find a cyclical progression that moves III7–VI–II7–V7 (–I), where each chord is the harmonization for each line (phrase of text). This I take to be a middleground event (see first scenario below). Add then to this a progressive motion compounding of each of these harmonies by local ii–V motions (see below the underlined portions in the second scenario of the refrain). This serves to render the music more "progressive" functioning (and sounding), even on the foreground level. This embedded progressive motion demonstrates the warrant prevalent in jazz to create tension and resolution on different levels. Progressive V–I motion, and any emulation of it further back in the cyclical progression, especially when it employs tendency tones beyond the chordal third and seventh, is therefore a particularly effective device.

"I Got Rhythm"

Verse ||:(3x) I ii V :|| I V I

Roman numeral harmonic analysis of bridge (boldface Roman numerals are the basis of cyclical, progressive motion):

III7	viim7	III7
VI	iii	VI
II7	vi	II7
II	\mathbf{V}	(I = return to verse)

OR

Roman numeral harmonic analysis demonstrating embedded progressive ii–V motion (underlined spans) in refrain:

III7	ii of VI	V7 of VI
VI	ii of ii	V of ii
II7	ii of V	V7 of V
II	V	(I = return to verse)

My first jazz teacher called the succession I–IV–vii°–iii–vi–i–V–I the "logical" progression. I believe this speaks to a different mindset with regard to the use of harmony by jazz composers/improvisers and early common practice tonal musicians, such as baroque composers. Baroque composers were apt to harmonize or compose counterpoints against melodies they crafted or that they borrowed. This compositional scenario differs fundamentally from a jazz musician's in that it is one where the harmony was often a byproduct of the counterpoint and often a compositional material of secondary interest (to linear concerns). But by calling this succession of harmonies in a jazz progression and labeling it with the term "logical," I am led to conclude that the cyclical harmonic progression was (is) thought of by jazz musician as a precomposed musical material; at the least, a very familiar one which sizable portions of music can be composed with or "played over."

Not that in jazz the first compositional priority is the harmonic succession, but in this scenario a set of "changes," often progressive and cyclical, provides a prefabricated template over which melodies or solos are often conceived. The whole idea of playing over changes is fundamentally different than the compositional process of the Baroque masters. How many different solos can be played over the cyclical progression? The answer to this question is certainly less important than the remaining fact that the progression itself is considered as a musical building material to be used even in the planning of a piece at the most fundamental level.

The cyclical progression plays a more limited role in modern popular music, however. Its use and the very sound that is created when it is implemented pegs that music as a traditional "throwback." And although many

pop-rock pieces incorporate progressive motions, the purely cyclical progression is not very often one of them. Instead, the exclusive use of P3 motion is more often used in combination with other motions, such as in the Simple Journey. Here is a set of representative songs that present the all-P3 succession:

Cyclical Progression-Based:

"The Way You Look Tonight" (Dorothy Fields/Jerome Kern, '36)
"All The Things You Are" (Oscar Hammerstein II/Jerome Kern, '39)
"Autumn Leaves" (Johnny Mercer/Joseph Kosma, '47)
"Fly Me to the Moon" (Bart Howard, '54)
"You Never Give Me Your Money/Carry That Weight," v. (Beatles, '69)
(||: vi ii V I IV vii° III vi :||)
"Wild World," v. (Cat Stevens, '71)
"Dirty Work," v. (Steely Dan, '72)

Other Progressive Motion Models

There are a few other models comprised entirely of progressive motion that, although I have found to occur less frequently than the models I have just discussed, recur in somewhat significant numbers. These progressions are

- 1) ||: I IV ii V :||,
- 2) | |: I vi IV V :| |, and
- 3) | |: I vi ii V :| |.

The reason that these progressions are chosen less often than others is difficult, if not impossible, to determine. I believe that perhaps these are less "pure" in terms of the kind of model they are, which from an acoustic or a phenomenological perspective may make them less "effective" as successions. What I mean by this is that they are less homogeneous in terms of motion type (cyclical progression is all P3 motion) and that they contain secondary triads as well (simple journey is only primary triads). Of course, even if they are somehow different in their content or flow type, they still are models demonstrating completely progressive harmonic motion, and as well they can be thought of as amalgams of the more frequently used models described thus far.

||: I IV ii V :||

The progression ||I IV ii V (I) :|| makes for a motion series of P3 P2 P3 P3 and can be thought of a number of ways through the numerous comparisons possible with other progressions. By dividing the succession between the IV and ii, the model's beginning and ending are shown to be those of the cyclical and Simple Journey models. The interruption, or perhaps prolongation, of it comes with the intermediary P2 motion between IV and ii. ii is often thought of as a substitute for IV, and in the case of this succession the area of the subdominant/preparatory chord is occupied by both IV and ii, in that order. This is still a progressive motion that maintains an all-progressive flow for the entire model.

Evidence of the shared function of these chords is borne out in 1) their close alliance due to their two shared tones, making possible a very subtle shift in harmony, as is heard in the move from IV to ii6. Here, a rootposition IV moves to the ii in first inversion without requiring even a change of bass note and otherwise only the replacement of scale degree 1 for 2; 2) the progressive motion between them is in fact a progression of medium strength, a P2 motion or one where the flow moves down by third, thereby maintaining the all-progressive flow of the model;

3) the fact that they both approach V by progressive motion and are both perceived as pre-dominant chords; and

4) in many contexts they are grouped together in the temporal space much more closely than are the other chords of the succession, such as with the progression

|| I | IV ii | V | I ||.

Something that enhances the strength of the progression is the fact that as the harmony moves from IV to ii it achieves a position whereby the approach to the dominant may happen via the stronger P3 motion, not possible directly from the IV.

A few examples of this pattern include:

"Goodbye Stranger," ch. (Supertramp, '79) "It's Raining Again" (Supertramp, '82) "Runaround" (Blues Traveler, '94) "All For You" (Sister Hazel, '93)

||(I) vi ii V I :||

The I-vi-ii–V–I model is a portion of the cyclical progression interrupted by a P2 motion between the first and second chords. In this model I is prolonged by vi, but in moving to ii begins the turnaround made of the succession vi–ii–V–I. The exception to the jazz or blues usage of this turnaround segment is that in its pop manifestation, each chord would usually last longer or would take up more metric units. Instead of each chord being only two beats of a fast fourbeat rhythmic context they now might likely be a whole measure or longer, producing a slower harmonic rhythm. A few examples of this pattern include:

"America," v. lines 1–2 (lyrics by Samuel Smith, 1827 set to Anacreon Forever)
"Mack the Knife," every even-numbered line (Kurt Weill, 1928) (alternates w/ I ii V I)
"Tell Me Why," v., ch. (Beatles, '64)
"You're Going to Lose That Girl" (Beatles , '65)
"Good Day Sunshine," v. (Beatles, '66)
"When I'm Sixty Four," v. last line (Beatles , '67) ||: I VI ii V I :||
"Alice's Restaurant," v. (Arlo Guthrie, '67) ||: I VI ii V I :||
"Rocky Raccoon," v., ref. (Beatles, '68)
"Joanna," v. (Kool & the Gang, '83)

||: I vi IV V :||, The "50s Pop" Progression

The progression I vi IV V (I) is one I think of as the "50s pop" progression and is certainly one that found a very popular niche, even if for only a few years from the middle 1950s into the '60s. Remarkably, it is one that recalls distinctly that time period in a stylized way when it is used in a pop song format, and it does this as well or better than any other harmonic model.⁵⁷

Structurally, it can be thought of the Simple Journey interrupted in a different place than is the I–IV–ii–V–I model, and not by one but by two P2 motions. These are the motions I–vi and vi–IV. In this context, I–vi can be heard as a prolongation of I, with vi substituting for I in the same way that ii substitutes for IV (see last model discussed).

The question of harmonic function with regard to the vi chord is a worthy one. Although it shares two tones with the tonic, it also shares two tones with the subdominant. It is as though it could function as either of these primary functions. The fact that the vi occurs directly between these two functions in this model tends to blur a distinct hearing for either function. In terms of other uses

⁵⁷ I am reminded of the powerful connotation drawn by the $|\cdot|$: I – vi – IV – V : $|\cdot|$ model to the popular music of the sock-hop era when I hear the song "Those Magic Changes" from the musical *Grease* (1972). Here Warren Casey and Jim Jacobs leave little doubt that merely a set of "changes," as they term it, can recall vividly an atmosphere from a time period and a culture. Several of the selections from this musical are built around this progression, including the memorable closer, "We Go Together."

of the submediant that although one could say that tonic prolongation is in effect, the vi also represents a subtle shift away from tonic function. In this scenario, by the time the submediant appears, the "starting point" effect of the tonic is erased, and a more gradual transition into the rest of the harmonic path is made possible.

There is, however, another possible hearing: one where the vi bears its own function, even though it is a secondary triad. There is some reason to award the submediant this status especially when one considers ii and vii[°], two other secondary triads, and the fact that they rarely function in a tonal context any differently than as subdominant/preparation or as dominant. vi, however, is not so closely allied with I, such as in the case of the other functional pairs. That may also be because of the fact that the tonic cannot have a true functional analog, being that it is not only a primary triad. It is more central to the harmonic space than either the IV or the V; in a sense, it is in a league of its own.

The intense popularity of the I–vi–IV–V model in the age of rock and roll demands an explanation. I can think of two that are possible: that the progression is more dynamic because there are three different root motion types, and that this creates a variety in terms of the relative power with which one is pulled through the harmonic space. At first the succession is two down-by-third (P2) motions. These are medium strength motions that transport the listener to the preparatory chord. Here a second motion type, an up-by-second (P1) motion, occurs. This is a move from the subdominant to the dominant. Then there is a concluding up-by-fourth (P3) motion, the strongest type yet, similar to an authentic cadence, to round off the model.

Another possible reason is more sociologically based. Foretelling a more completely unique expression of the youth of the baby boom (the 1950s and '60s), this progression hints at a very subtle breaking with tradition, at least in terms of harmony. Where the Simple Journey is so very traditional and includes no P2 motions, the "50s pop" progression allows for an interruption and extension of the Simple Journey in a novel way. These are still progressive root motions, but a variety and ordering of them that occurs in such a way as to alter a more traditional device ever so slightly. This represents to me a kind of "breaking out" for this generation, even if it is somewhat conservative. But it is difficult for someone like me, as removed chronologically from the scenario as I am (b. 1965), to determine how dramatic this deviation from tradition may have been. This "detour" between the tonic and the subdominant may have on some level translated to quite the individualized territory maker for a generation who wrote, played, listened, and danced to music containing these motions with a fervor.

A few examples of this pattern include:

"Heart and Soul" (Hoagy Carmichael, '38; popular in the '50s)
"All I Have to Do Is Dream" (Everly Brothers, '53)
"In the Still of the Night" (Fred Parris, '56)
"A Teenager in Love" (Doc Pommus, '59)
"Every Day" (Buddy Holly, '58)
"Donna" (Ritchie Valens, '59)
"Dream Lover" (Bobby Darin, '60)
"Let's Twist Again," v. (Chubby Checker, '61)
"Where Have All the Flowers Gone?," lines 1–3 of form (Pete Seeger , '62)
"Sherry" (Four Seasons, '62)
"Breaking Up is Hard to Do," v. (Sedaka/Greenfield, '62)
"Please Mister Postman," (B. Holland/F. C. Gorman, '62; rec'd by The Marvelettes)
"I Want To Hold Your Hand," ch. (Beatles, '63) ||: IV V I vi IV V I :||

"Baby I Need Your Lovin'," v. (Four Tops, '64) ||: IV V I vi :|| (realligned)
"Oh, Pretty Woman," v. (Roy Orbison, '64) (after I/vi oscillation)
"Hard Day's Night," ref., line 2 (Beatles, '64)
"I Should Have Known Better," ref., lines 3–4 (Beatles, '64)
"I ve Just Seen a Face," v. (Beatles, '65)
"I Can't Explain," br. (The Who, '65)
"Brown Eyed Girl," ch. (Van Morrison, '67) || IV V I vi IV V I ||
"Happiness is a Warm Gun," ch., (Beatles, '68)
"Octopus's Garden," Intro, v. (Beatles, '69)
"The River," ch. (Bruce Springsteen, '80) ||: vi IV V I vi IV V :||
"Take it on the Run," ch, (REO Speedwagon, '81)
'I Legs," v. into ch. (ZZ Top, '83) ||: I vi :|| IV V

Comparing Progressive Models Discussed Thus Far

The cyclical progression (all P3, or, motion up by fourth) can be considered to be the most comprehensively powerful succession that demonstrates progressive harmonic root motion. Although it rarely occurs in its entirety as the basis for a piece (or a section of a piece) in the pop style, this progression or the hypothetical model it produces is a kind of a baseline. We may use it effectively to compare the various pop music harmonic motion models discussed thus far.

I-IV-vi	<u>i°–iii–vi–ii–V–I</u>	=	P3 P3	<u>P3 P3 P3</u>	P3 P3	(cyclical)
1. I–IV–	-V-I	=	P3	P1	P3	(Simple Journey)
2. I–IV -	-11-V-I	=	P3 1	.22	P3 P3	
3. I-	-V1-11-V-I	=	P2	P3	P3 P3	
4. 1–	-V1-IV-V-I	=	P2	P2	PI P3	(^{50s} pop)

Relative Strengths of the Following Progressive Models:

The schemata shown above is constructed in order to visually demonstrate similarities and differences among this set of progressive models.

Essentially, what measure of the P3 model is contained in each of the smaller ones is shown, and how each of them are different from it, and from each other.

The Simple Journey (1.) is the most basic of these models because it contains the opening and closing motion of the cyclical model. There is also a distinctive harmonic move found in the middle, that although only moves up a step, it moves directly from the subdominant to the dominant. Models 2. and 3. are longer but add to Simple Journey harmonies that precede the dominant, first with the ii, then with the vi and the ii, respectively. In the '50s Pop model, IV replaces ii (compared to model 3.). This presents a different order than is heard in the other three, which emulate more closely the order found in the cyclical progression.

Р	ossible	readings	for s	hared	function:
Τ.	0001010	readings	IOI D	nuica	runcuon.

2.	I T	<u>IV</u> S	<u>ii</u>	V D	I T
3.	<u>I</u> Т	vi	ii S	V D	I T
4.	<u>I</u> Т	vi	IV S	V D	I T
UN	I T	<u>vi</u> S	IV	V D	I T

Where a pair of primary and secondary functions lie a third apart, the possibility that they may share functional role exists, depending on the musical context and which functions it involves. In the schemata I included above I indicate possible interpretations for this by underlining such pairs in the progressions. In the case of model 2., IV moves to ii by progressive motion and moves to a chord that just as often functions as dominant preparation. For

number three, a substitute is explored. This relationship, as described, is more tenuous, however, when IV follows vi and provides a possible alternative substitution, one where vi may share function with IV. The relative implausibility of this reading leads me to doubt that vi can act as a substitute like ii and vii° can, and that I is less of a replaceable function than are IV and V.

||: **bVI bVII** I:||

An interesting set of progressive motions, one that provides an alternative to more traditional diatonic cadential gestures, is the succession built of major triads whose roots are respectively, scale degree \flat 6, scale degree \flat 7 and scale degree 1. Technically, this makes for a harmonic assessment of \flat VI, \flat VII, and I, a progression that for a song in major, borrows from outside its mode or diatonic scale.

The root motions that exist between the chords of this progression are upby-second (P1), which qualifies them as progressive. This can be confirmed another way, however. The I– \flat VI– \flat VII–I model can be thought of as a rereading of the I–IV–V–I (Simple Journey) model if one accepts the respective substitutions. Walter Everett points out the ability for \flat VII to substitute for the dominant,⁵⁸ and I am encouraged for some of the same harmonic and contrapuntal reasons to ally the \flat VI harmony with the subdominant.

Oftentimes this succession is used as a cadence to round off a section in a novel way. This is the case in the last line of the verse of the Beatles' "P. S. I Love You." Other times it functions as the progression generating the "out of key" atmosphere for a bridge or transition, such as in The Police's "Every Little Thing

⁵⁸Walter Everett, "Confessions from Blueberry Hell," in *Expression in Pop-Rock Music*, ed. Walter Everett. (New York: Garland Publishing, 2000), 329.
She Does Is Magic." Its other use extends to providing the harmonic

underpinning for a central section, or perhaps the entire song, such as in Steely

Dan's "King of the World," (verse) or Joe Jackson's "Steppin' Out" and

"Something's Always Breaking Us In Two" (verse and refrain).

Example Spans Harmonized by I–bVI–bVII–I:

"P. S. I Love You," v., last line and repeats (Beatles, '62)
"I Am The Walrus," end of ch. (Beatles, '67) ||: bIII IV V :||
"With a Little Help From My Friends," end of song. (Beatles, '67)
"I Can See For Miles," end of ch. (The Who, '67)
"Lady Madonna," v., lines 2 and 4 (Beatles, '68)
"Polythene Pam," v., line 4 and repeats (Beatles, '69)
"Midnight Rider," ref. ((Betts) Allman Brothers, '70) (iv bVII I)
"Aqualung," verse (Jethro Tull, '71)
"Brown Sugar," vamp, second pair of measures (Rolling Stones, '71)
"King of the World," v. (Steely Dan, '73)
"Show Me the Way," intro/v. (Peter Frampton, '76) (I vi bVI bVII)
"We Are Family," ch., bar 4 of 4-bar unit (Sister Sledge, '79)
"Hold On Loosely," br. (.38 Special, '81)
"Every Little Thing She Does is Magic," end of br. (Police, '81)
||: bVI bVII (8X):|| I
"Something's Always Breaking Us In Two," v., ch. (Joe Jackson, '82)
"Steppin' Out," v., ch. (Joe Jackson, '82)
"Every Breath You Take, br. (Police, '83)" ||: bVI bVII :|| bVI I

Submediant Cycles

"Submediant Cycle" is a term used to describe a chord succession that utilizes a minor chord, heard as the submediant, and two major chords whose roots are successive whole steps below. This amounts to vi (the submediant), a IV and a V chord, when the piece can be said to be in major. But the same chord quality and interval relationship exists between these three chords when the song ostensibly is in (natural) minor, and it is the minor chord on which the "cycle" is based (the tonic).

Taking vi to Be Tonic

We would normally take a minor chord that seems to be the tonic to be "i," and the other chords in a submediant cycle would become the \flat VI and \flat VII. (Indicated here are the harmonies built on scale degrees 6 and 7 of the natural minor scale, where the flat sign is meant to imply the "lowered" version of both the major sixth and seventh scale degrees.) But even when the piece has all outward signs of being in minor, it is still quite useful to think of it with the harmonic labels borrowed from the relative major key. This makes for a somewhat fundamentally different harmonic orientation, because the piece is now "in vi."⁵⁹

Please see the appropriate correspondence table necessary to convert the piece to this shift in orientation:

tonic	i	becomes	vi
supertonic	ii°	becomes	vii°
mediant	III	becomes	Ι
subdominant	iv	becomes	ii
dominant	v or V	becomes	iii (v of tonic) or III (V of tonic)
submediant	ÞVI	becomes	IV
subtonic	ÞVII	becomes	V

I believe it is necessary to consider this shift in orientation because it is very often the case that a minor key pop song will use this form of the harmonic language. It is a form that utilizes the natural minor mode and which incorporates the raised seventh degree, but only in order to make possible a major dominant triad. That said, although the conventional terminology where

⁵⁹Please see my discussion of this "methodological allowance" near the end of chapter III, allowance number three.

"i" is tonic works well to describe the Simple Journey (even if) in minor, as in the case of i-iv-V, it will take on a somewhat more cumbersome vi-ii-III assessment in the vi = tonic mode. The benefit of the shift, however, is that the vi-IV-V progression replaces the even more cumbersome i-bVI-bVII and provides reference to a context in which these three harmonies are found with no confusion because of scalar inflections or mode type. Perhaps those who embrace the sight-singing system which assigns to degree 1 of the minor scale the syllable "la" and construct around that the remaining degrees and corresponding syllables would more easily hear the analogy of making the tonic "vi." In the sight-singing forum, one of the intentions is to preserve the mi-fa and ti-do half steps, or in other words, the context of the tonal system shared by both major and minor modes. The warrant to preserve those relationships and way of referencing the musical context obtains similarly in the harmonic sphere; I believe that this is accomplished much better by implementing a system where vi is tonic. This is what I will use in my discussion of the "Submediant Cycle."

Submediant Cycles are, by virtue of the makeup of their root motions, less polar and less functionally directed successions, being that they are made up exclusively of seconds and thirds (no fourths). This "weaker" set of motions that steers clear of I is almost like a repeating loop of deceptive cadences. Perhaps because of this, the Submediant Cycle should not be considered a part of the models I have discussed here, or at least not assumed to have the kind of directed harmonic flow that the others do. However, this formula has remained popular among pop music writers throughout the later part of the twentieth century, and thus it remains worthwhile to examine its structure and how it is used.

This repeating vi–IV–V pattern creates a kind of "holding pattern," or a "cul de sac" in terms of its harmonic flow. Because it seems to lack a distinct starting or ending point, such as I set up by a more strongly directed cadence would provide and because the harmonic motions are weak, the music harmonized by this succession may serve well as a respite or an alternative to stronger patterns within other parts of a piece, or for that matter to other pieces containing different flow types.

A good example of this is the chorus of Fleetwood Mac's "Go Your Own Way" ('77), where the Submediant Cycle is the sole harmonic vehicle. This kind of use, where the model ||: vi IV V :|| harmonizes most or all of an important section of the song, becomes popular among a series of successful songs from the mid-seventies through the mid-eighties. This atmosphere, that I liken to being "trapped" in a small, off-to-the-side miniature progression, is created by this cycle of three chords within many other songs of this time, including "That Smell" (Lynyrd Skynyrd, '77), "Psycho Killer" (Talking Heads, '77), "Hold the Line" (Toto, '78), "Sultans of Swing" (Dire Straits, '79), "Is She Really Going Out With Him" (Joe Jackson, '79), "Message in a Bottle" (Police '79), "Same Old Lang Syne" (Dan Fogelberg, '81), "My Kind Of Lover" (Billy Squier, '81), "No One Like You" (Scorpions, '82), and "Round and Round" (Ratt, '84).

Sometimes a span of music harmonized by the Submediant Cycle can serve as an interruption within a portion of the music, one that otherwise is generally the thrust of the piece's statement and is often harmonized in patterns of chords whose harmonic motions are more strongly directed. One occurrence of this is "Wild Night" by Van Morrison ('71) where line 1 of the chorus is a

Submediant Cycle but the rest of the chorus and the verse is harmonized by other types of motions.

Another type could exist in the body of the song and define an alternate atmosphere, one that influences the song on the same level as other sections. This is the case in Fleetwood Mac's "Go Your Own Way," itself a quintessential pop song. Here the verse sounds in major and vi is the center of the Submediant Cycle that harmonizes the chorus.

One other scenario occurs when the Submediant Cycle provides the central harmonic progression for the song. This is somewhat rare, but in the cases where it is used this way, it creates the song's core atmosphere. This is the case in Al Stewart's "Year of the Cat" ('76), where lines 1–3 of both the verse and the refrain are comprised exclusively of the Submediant Cycle.

Progressive Submediant Cycle: ||: vi IV V :||

- "Wild Night," ch., line 1 (Van Morrison, '71)
- "Have a Cigar," v. (Pink Floyd, '75)

"Go Your Own Way," ch. (Fleetwood Mac, '77)

[&]quot;Reason to Believe," ch. (Tim Hardin, '65) (||: IV V vi V :||)

[&]quot;Come Together," ch. (Beatles, '69) (progression does not repeat)

[&]quot;Octopus's Garden," br. (Beatles, '69) (progression does not repeat)

[&]quot;Year of the Cat," v. lines 1–3, refr. (Al Stewart, '76)

[&]quot;That Smell," ch. (Lynyrd Skynyrd, '77) ||: IV V vi :||

[&]quot;Psycho Killer," ch., first part (Talking Heads, '77)

[&]quot;Hold the Line," ch. (Toto, '78) ||: vi (iii) IV V :||

[&]quot;Sultans of Swing," ch., part of solo (Dire Straits, '79)

[&]quot;Is She Really Going Out With Him," ch., (Joe Jackson, '79) ||: IV V vi :||

[&]quot;Message in a Bottle," v. (Police '79) ||: vi IV V ii :|| (variant)

[&]quot;Same Öld Lang Syne," ch. (Dan Fogelberg, '81)

[&]quot;My Kind Of Lover," end of br., ch. (Billy Squier, '81)

[&]quot;No One Like You," ch. (Scorpions, '82) "Africa," ch. (Toto, '82) ||: vi IV (I) V :|| = ||: P2 (R3 + R3 = P1) P1 :||

[&]quot;New Year's Day," end of v., ch. (U2, '83) ||: V vi V IV :||

[&]quot;Round and Round," ch. (Ratt, '84)

[&]quot;Livin' on a Prayer," br. (Bon Jovi, '86) ||: vi IV V vi :||

One variant of the Submediant Cycle worth considering is a model where the order of chords starts on the submediant, moves to the subdominant and back again. This takes on ||: vi IV :|| as a model overview. If one senses a tighter harmonic path created by the Submediant Cycle, this varied scenario may accomplish the same thing even more effectively. Because the harmonic motion is a static bouncing between the two chords, I prefer to say that the harmony of this model "oscillates" and therefore has little overall directed harmonic direction. That is usually accomplished in another section of the song, and the contrast between the effect of the two motion patterns can be very interesting.

Submediant/Subdominant Oscillation ||: vi IV :||

"Eight Days a Week," ref., line 1 (Beatles, '64)

- "Drive My Car," ch., lines 1–2 (Beatles, '65) "Eleanor Rigby," v. (Beatles, '66)
- "Glass Onion," v., lines 1–2 (Beatles, '68)
- "Time of the Season", v. (Zombies, '68)
- "Wild Night," br. (Van Morrison, '71)
- "You're So Vain," v., lines 1–2 (Carly Simon, '72)
- "Show Me the Way," ch. (Peter Frampton, '76)
- "Cold As Ice," v. (Foreigner, '77)
- "Night Moves," ch. (Bob Seger, '77)

[&]quot;Shout," ch. (Tears for Fears, '85) ||: vi IV ii :|| OR ||: i bVI iv :||)

B. ANALYSIS OF POP-ROCK MUSIC HARMONIZED MOSTLY OR COMPLETELY BY RETROGRESSIVE MOTION.

The retrogressive motion models discussed below can be thought of as functional opposites to the set of progressive ones discussed above. In comparing these two sets, we see several models for which the size and order of the motions are the same, but that the direction of each motion is the opposite. Most often this translates to down-a-fourth motion replacing up-a-fourth motion, or down-a-second motion being used instead of up-a-second motion. One clear example of this can be found by comparing the progressive model of I–IV–V–I to the retrogression I–V–IV–I. The first incorporates the motions P3, P1, and P3, and the latter incorporates R3, R1, and R3. But also interesting to me is the number of pop songs that incorporate a retrogression that is an "analog" to a progressive model, where the only difference between the two is the direction of the intervals along the fundamental bass.

The other difference these retrogressions present, to my perception, is in the musical effect of the given passage. The resultant atmosphere can approach that of moving backward, of backpedaling, or spiraling downward. This attribute might be easily felt if one compares the effect of the plagal cadence with its direction-of-motion opposite, the authentic cadence. Although there is a popular perception that V–I motion provides the most powerful conclusion to a tonal musical segment, the IV–I motion provides an alternative, way of landing or arriving at a harmonic destination. The power of this "backward" motion need not be any less, however.⁶⁰ A series of these kinds of motions can have an

⁶⁰ For many of the songs I cite in this section whose harmonic motion is largely retrogressive, any weak "backward-moving" feeling to the flow created in terms of harmonic motion is counteracted, often emphatically, through surface and agogic accent, metrical placement, tempo, textural intensity, increased volume, and an otherwise willful attitude.

effect quite removed from the atmosphere of a more traditional sounding piece comprised mostly progressive-motion harmony.

Retrogression in the Foreground of the Blues

As with progressive motion models, I would again like to use an analysis of the 12-bar blues form in order to begin the discussion of retrogressive models. As I have discussed above, it is my perception that the *background* level of an analysis of the blues reveals a purely progressive large-scale harmonic motion, namely, what I call the Simple Journey, or I–IV–V (–I). But it is the surface level of the blues that yields one of the most influential musical traits to popular music, that of retrogressive harmonic motion.

After the oscillatory motion to IV and back (phrases 1 and 2), retrogressions ensue: one to V beginning the third phrase (R3), then one to IV chrd a second below (R1), then one to I a fourth below (R3), and one to V a fourth below again (R3). This cycle of retrogressions ends as the third phrase either returns to the top of the form or ends, with a V–I cadence (P3). Observe this in the following schemata:

phrase 3:	9 V R3	10 IV R1	11 I R3		12 V R3	(1	: ?3) (oscillation)
phrase 2:	5 IV P3	6 IV	7 I R3		8 I		 (oscillation)
bar: phrase 1:	1 : I (P3)	2 (IV or) I <u>P3</u>	3	I R3	4	I	 (oscillation)

This third phrase of the 12-bar blues contains a series of retrogressive motions that taken as a whole or in various parts also presents the format for

many of the retrogressions utilized in pop music influenced by the blues. The blues is often cited as the most important influence to pop-rock, but the underlying technical aspects of this are not always easy to demonstrate. It is my estimation that rock and roll inherited these retrogressions, almost verbatim, and that folk, rock, and popular styles assimilated them in somewhat altered forms. Whatever the path of influence, it may be that these surface-level retrogressions (of the blues) encouraged succeeding generations of pop-rock song-crafters to (at times) avoid progressive and oscillatory harmonic flow patterns in order to create a particular effect, one that has become widely used in pop-rock music.

The Retrogressive Simple Journey, or, "RSJ" ||: I V IV I :||

The model that derives perhaps most directly from the third phrase of the blues form is I V IV I, or what I call the "Reverse Simple Journey," a succession whose R/P values are, respectively, R3 R1 R3. These individual retrogressions occur separately with some frequency in traditional tonal music and early twentieth-century popular music. However, there the use of R3 motion is often a manifestation of the plagal cadence, or the R3 may occur when I is moving to V in a pattern of oscillation between these two primary triads.⁶¹ Similarly, R3 motion commonly results in patterns of oscillation between I and IV. The R1 motion occurs most often as iii moving to ii, or vi to V, or perhaps I to vii° (infrequently in root position). Rarely, however, can the succession I–V–IV–I be found together as a unit. In pop music, it is not until the music of the 1960s and later does one hear these as a model that repeats as a unit often enough to create the fabric for an entire section or even the piece. It is not only the frequency with

⁶¹ Familiar examples of these might include the opening measures to either Mozart's *Eine Kleine Nachtmusik* or "America the Beautiful."

which one finds these individual retrogressions used, but also their grouping as a unit on a regular basis that defines them as a model in pop music.

Is it really true that the RSJ was not used as a unit on a regular basis until the '60s and in popular songs? In the years I have been documenting harmonic successions of many styles and periods within tonal practice, I have found that this is indeed the case. But as a check of this, I suggest the following experiment: Try to imagine the RSJ providing the harmonic underpinning for even one section of a song in a vaudeville, swing, or pre-1960s American folk style. As I hear some respectively stylistically appropriate music written over I then V harmonies, I can well imagine various harmonic paths plausible within that style. It is when I encounter the move from V to IV, and then from IV to I that, quite simply, I cannot hear the music belonging to that style any longer. In my mind this qualifies the RSJ as a kind of a style trait, one that has enjoyed a diversity of uses within the pop repertoire. Let me now enumerate some of the songs that demonstrate these uses and discuss how the RSJ figures into the structure and expression of the songs that are based on it.

When this retrogression model was first used as a unit within pop songs that it was used in only one section of the piece and that it was used as a way of providing an alternative atmosphere to the introductory sections of the song. Therefore, the earliest uses of the RSJ that occur in consistent numbers as the fabric for a chorus or of a refrain, the section that often provides the most fundamental change in the atmosphere within a pop song, when one considers that the verse and the chorus are units that typically balance one another's effect in a song according to Western art convention. So it often happened that the writer of the piece, once setting up an introduction and a verse or two utilizing more conventional, progressive harmonic motions would write a succeeding chorus or refrain that established a counterbalancing, alternative atmosphere, at

times simultaneously utilizing retrogressive motions as one of the ways of creating this effect. This retrogressive motion often took the form of the RSJ. Beyond this, in the first years that songwriters wrote retrogressions as recurrent harmonic patterns, they often did so within choruses. Please see below a chronological list of (non-blues-based) pieces that pioneer the use of I–V–IV–I as a unit within a chorus, refrain, or bridge.

RSJ as the Chorus, Refrain, or Bridge (= alternate section):

"Love Me Do," br. (Beatles, '62) "I've Just Seen a Face," ch. (Beatles, '65) "For Your Love," ch. (The Yardbirds, '65) "I Think We're Alone Now," ch. (Tommy James and the Shondells, '67) "Ruby Tuesday," ch., lines 1–3 (Rolling Stones, '67) "I Second That Emotion," ch. (Al Cleveland, '68) "Wild World," ch. (Cat Stevens, '71) | |: I V IV V IV I : | | "Superstition," ref. (Stevie Wonder, '72) "You Ain't Seen Nothin' Yet," ch. (Randy Bachman, '74) "Sister Golden Hair," ch. (America, '75) "Jackie Blue," br. (Ozark Mountain Daredevils, '75) "Dream Weaver," br., lines 3–4 (Gary Wright, '75) "Heard it in a Love Song," ch. (Toy Caldwell, '77) "You Make Loving Fun," ch. (Fleetwood Mac, '77) "Dance the Night Away," ch. (Van Halen, '78) "De Do Do Do De Da Da Da," intro, ch. (Police, '80) "Boys of Summer," ch. (Don Henley, '84) "Closer to Fine," ch., lines 1–4/6 (Indigo Girls, '89)

The first song listed, "Love Me Do," is a good example of the RSJ used as the harmony for the bridge that, by definition, provides an alternative atmosphere, and here does so in terms of harmonic motion.

Intro or Verse: ||: I IV I IV I IV I:|| Bridge: "Someone to love, Somebody new, Someone to love, Someone like you" (I) V IV V IV Ι Ι

Through the introduction and first two verses of the song, the harmony is merely an oscillation between I and IV (introduction and verse). However, John Lennon and Paul McCartney constructed the bridge completely of the RSJ, perhaps as a direct reference to the similar breakout motions heard in the third phrase of the blues, thus distinctly setting this bridge apart in the song.⁶²

Although the RSJ-containing bridge in "Love Me Do" brings about V for the first time in the song (yet another change in an element of the atmosphere), this is not typical. Most of the tunes listed here preview in one setting or another V, but simply use it apart from either a retrogression or outside of the RSJ model. One of these is Fleetwood Mac's "You Make Loving Fun" from their megapopular album of 1978, *Rumors*. In this song, the writer feigns a minor key for the verse as it moves through the harmonies vi, V, and IV–repeatedly in that order–before entering the RSJ (||: I V IV :||) for the chorus over the lyric that is the title of the song. This is typical of what became a very successful design in pop tunes in the '60s and '70s, and continues to be used regularly in certain pop songs today.

Part of the success of this device derives from, I believe, the clarity of the writing coupled with the release the listener experiences in the dramatically different direction of harmonic motion created within the alternative section. It is often effective in songs that utilize this device to do so for the chorus and couple it with an equally alternative or summarizing sentiment and message of the lyrics. The ultra-basic "You Make Loving Fun," the visionary "I can see you, your brown skin shining in the sun . . ." from Don Henley's "Boys of Summer," the epiphany reached when the Indigo Girls sing: "I went to the doctor, I went to the mountains, I looked to the children, and I drank from the fountain . . ." in

⁶²This retrogression also serves as the same harmony for the harmonica solo Lennon plays later in the song.

their "Closer to Fine" are all examples of where the harmonic motion emphasizes the special nature of the chorus. Besides, who can deny the profundity Sting exudes "when that eloquence escapes" him—as he croons in the chorus of the song so onomatopoetically named: "De do do do, De da da da, is all I want to say to you."

RSJ as Refrain Line of Verse (substitute for chorus):

"I'm Into Something Good," ref. (Herman's Hermits '64) "I Feel Fine," intro, ref. (Beatles, '64) "The Word," v., lines 5–6 (end of verse) (The Beatles, '65)

There are many songs for which a culminating line of the verse serves as the refrain, or, something sometimes called the "tag line." The Beatles' "I Feel Fine" and Herman's Hermits' "I'm Into Something Good," both from 1964, are songs that demonstrate this. In this situation, when the reversal of harmonic direction occurs at the end of the verse, this device performs much the same function as does a full chorus that alternatively moves via retrogressive harmonic motion. The tag line becomes a kind of a chorus that carries the RSJ succession.

In the Beatles example, one line precedes the RSJ-containing line, and it moves I to V. The tag line continues from there, V to IV to I over the titlecontaining-lyric: "I'm in love with her, and I Feel Fine." This makes the whole structure of the verse a projection of the RSJ. But one might hear this as an "alternative" section, because of the fact that the bridge moves mostly by progressive motion:

I'm so glad, that she's my little girl,(= R2 P1 P1 P3)IiiiIVV,She's so glad, she's telling all the world . . .(= R2 R1 P3 P3)

The case is similar in "I'm Into Something Good," but the first part of the verse is an oscillation of I to IV and back again, not unlike the verse/bridge relationship in "Love Me Do," where the bridge breaks up the alternation of I and IV. The resemblance to the blues form should not be overlooked, however. Were the rhythm a bit different and if the harmonic vocabulary extended to dominant seventh-chord structures, these pieces could be called blues forms. The absence of these elements and the presentation of the RSJ as a unit unto itself tends to create not only a brighter sound, but demonstrates the craft and style of a pop song in terms of form as well.

Although the trend seems to have begun later, using the RSJ as the basis for the verse was not long in coming. More than just creating an alternative atmosphere to a more traditional sounding section within the same song, this retrogression, when used to make the first major statement of the song (when the verse occurs early on), can provide an element of instability or alienation. However, this can create a kind of potential energy, because it gives the writer the option of reversing the demeanor of the song (with progressive motion) in a subsequent section, such as the chorus. This is not nearly always the choice made, but writers have used this effect in several of the following songs:

RSJ as the Verse:

"Eight Miles High," v. (Gene Clark, '66) | |: (vi) I V IV I V IV : | |
"Come Together," v. (Beatles, '69)
"Bad Moon Rising" (John Fogerty, '69)
"And It Stoned Me," v. (Van Morrison, '70)
"Maggie May," v., first two lines (Rod Stewart, '71)
"Take it Easy," v. (Jackson Browne, '72)
"5:15," v. (The Who, '73)
"Money," end of v. (Pink Floyd, '73)
"Small Town," lines 1–3 of v. (John Mellencamp, '85)
"The Way It Is," v. (Bruce Hornsby and the Range, 86) (| |: (ii) I V IV I V IV : | |)
"Drops of Jupiter (Tell Me)," v. (Train, 2001) The way the Byrds take us "Eight Miles High," or the way Lennon depicts the strange character "Old Flat-top," in "Come Together," how Van Morrison takes us on a trip through the rain in the back of an old pick-up, until the more comforting chorus where "it stoned me to my soul" arrives, or how Townsend's depiction of the amphetamine-fueled ride on the rush-hour train–all depict scenes of this kind that, generally, are contrasted by the harmonic motions of surrounding musical sections. Although the Byrds never bring us down to earth (the verse is the only section in the piece), Lennon's one-line chorus is built on progressive motion: vi–IV–V–I, Van Morrison's chorus begins with a I–IV progression, and Townsend's bridge in "5:15" is an oscillation between I and IV, thus providing contrast to the landscapes within each song, as in "Love Me Do," but with the assignment of motion type to the sections reversed.

Cases arise still a few years later, where the RSJ provides the harmonic structure for the entire song. To my knowledge this is historically unprecedented before the twentieth century: For the first time, the harmonic motions for a complete tonal composition are entirely retrogressive. Not that these were important works for any other reasons, nor generally are these works expansive; but until this time retrogressions were never left to make the only expression of harmonic motion in a tonal piece. Here is a small list of some of these for which the harmony is basically rendered through repetitions of the RSJ.

RSJ as the Entire Song

"Crimson and Clover" (Tommy James and the Shondells, '69) ||: I V IV :|| "Suite: Judy Blue Eyes" (Crosby, Stills and Nash, '69) verse: ||: I bVII <u>I V IV (I)</u> :|| ch.: <u>I V IV I</u> IV br.: ||: (I) IV <u>I V IV I</u> :|| "Helpless" (Neil Young, '70) ||: I V IV :|| (I) "Werewolves of London" (Warren Zevon, '78) ||: V IV I :||

RSJ as the Entire Song Except for Bridge

"Baba O'Riley" (The Who, '71) ||: I V IV :|| "Little Miss Can't Be Wrong" (Spin Doctors, '92)||: I V IV :||

Of the music that makes up the songs for which the RSJ serves as the entire song, the variations in placement of the chords are striking within the model as it repeats. "Crimson and Clover" and "Helpless" present the order of chords expected for the RSJ. The various sections of "Suite: Judy Blue Eyes" are basically the same, except they incorporate one other chord that either precedes or follows the RSJ. In "Werewolves of London," however, the dominant is the beginning of the RSJ cycle of chords, which produces a different feel for the model. Especially until the model is repeated a few times, the listener may be tempted to take the first chord as the tonic, and hear the model as I→VII–IV instead. Indeed, this is another common succession in pop music which also comprises entirely retrogressive motion.

The Who's "Baba O'Riley" presents a most intriguing structure, set up by a near-to-exclusive use of the RSJ. The powerful piano chord rendering of the repeated I V IV, which is supported by Townsend's power chord⁶³ strumming over the same chords moving into and through verse two, creates a musical setting that could easily stand for the entire song. But after the second verse the piano and guitar follow IV with V to begin the bridge, the first "progression" of the song. Here the only instrument that plays over static V in the 10-measure bridge behind Roger Daltry's vocal is an ostinato synthesizer. This dominant pedal is accentuated all the more by the marked change in texture, now that none of the rhythm instruments are playing. The flow of the piece, having undergone

⁶³ Power Chords are a mainstay of hard rock and heavy metal. Guitarists of this style play these aggressively (both in strum speed and force) and with high volume these two note "chords," made only of the chord's root and fifth.

its first non-retrogressive motion, is suspended for all of this time on the dominant. This dramatic effect is heightened all the more when, at the end of the bridge, Daltry croons higher than at any other point in the song, "it's only teenage wasteland." As he finishes this line a powerful authentic cadence slams the piece back into the last verse, simultaneously returning it to the RSJ pattern bolstered by Townsend's power chords with the complete rhythm section returning.⁶⁴

This device, where one type of motion paves the way for a reversal and continuation of motion of the opposite type, is termed here "loading," where the sense is taken from the analogy of loading a vessel for travel or a weapon for discharge. It is as though in the case of this Who song the reversal of flow (progressive movement) throughout the bridge is like the winding of a spring that reinvigorates the song once it proceeds onward in continued retrogressive movement. More specifically in this case I would call this "progressive loading."

As a way of creating an alternate setting in the harmonic scope of the music, the RSJ is particularly effective when it is reserved for the harmonization of a small section of the song. It provides a special way to trim a piece when used as an introduction, an intermediary riffing vamp, an instrumental solo, or a small linking bridge. The list given below enumerates these kinds of uses.

RSJ as Intermediary Music

"Lovely Rita," intro. (Beatles, '67) "Sugar Mountain," intr., vamp (Neil Young, '69) "Behind Blue Eyes," riff beginning ch. (The Who, '71) "You're So Vain," br. (Carly Simon, '72) "Time Passages," intro, vamp (Al Stewart, '78) ||: I V (iii) IV :|| "My Sharona," instrumental (The Knack, '79)

⁶⁴ "Sally take my hand . . ." are the words that accompany this willful return to the core musical fabric of the piece.

Carly Simon's "You're So Vain" makes particularly effective use of this device for this purpose: Between a verse in minor and a chorus in the relative major, there is a link of music that is harmonically constructed of the RSJ, and it is the only section of the three that is completely retrogressive. Here are the series of harmonies and the motions between them.

Verse:	vi IV vi IV vi IV V iii vi IV I	= oscillation between submediant/subdom.= P2 P1 P2 P3 P2 R3
Bridge:	(I) V IV (RSJ)	= R3 R1 (R3)
Chorus:	I IV I iii IV V	= P3 R3 R2 P1 P1 (P1, returning to vi.)

What is effective here is that the harmonic flow reversal in the bridge is coupled with a complete change of atmosphere. The bridge lacks the rock backbeat that supports all of the other sections. This back-beat—which is created by typical eighth—note high-hat part/snare on beats 2 and 4, etc., and active bass, guitars and piano—completely drops out. In fact, there are no drums or any rhythm instruments playing anything active in the beginning of the bridge; as Baba O'Riley, the music all but stops and we the music is suspended for a moment in more tranquil, much less active harmonic padding. The drums enter gradually as Simon sings through the retrogression to IV, and after a gradual addition of drums to the mix, a big rock drum fill in the last measure of this link brings a crescendo toward the chorus. Tonic harmony coincides with the first downbeat of the chorus. This produces a revitalized groove, creating yet another distinctive atmosphere in a song marked by several significant changes in its musical and textural elements. I would argue that one of the most important of these in creating this effect is the contrasting patterns and types of harmonic motions.

Although the RSJ as a compositional element, especially when first introduced, was novel in its effect and has been used with some regularity across the history of popular music, there are still plenty of successful writers and artists who did not make retrogressive motion a prominent feature of their style. Notable here are some of the more "learned" writers: Paul Simon, Billy Joel, and for all the little instances of retrogressions that pop up in their composing, the Beatles, were not especially prolific writers of retrogressions. The use of retrogression for them was reserved for a special effect, and its use was rarely pervasive throughout a song.

RSJ use in Special Cases

Nowhere Man, v., lines 1–2 (The Beatles, '65) I Am a Rock, v., line 2 (Paul Simon, '66)

In the Beatles' "Nowhere Man" the line between what is the verse (first verse) sounds much like the chorus. It is almost as though a small refrain begins the verse, as they sing "He's a real nowhere man" This creates a somewhat unusual scenario in the retrogression-using segment of the pop repertoire. If I default to labeling this span the "first line of the verse," for argument's sake, the form and harmony would appear as follows:

"Nowhere Man":	
Verse:	
<u>I V IV I</u> ii <u>iv I</u>	= <u>R3, R1, R3</u> , P1, <u>R2, R3</u>
Bridge:	
: iii <u>IV</u> : (3X) ii V I	= : P1, <u>R1</u> : P2 P3 P3

The RSJ begins the verse, but it does not comprise it entirely. The RSJ serves as the first half of a mostly retrogressive section, one that stands in contrast to a bridge that is mostly progressive. This contrast is made more vivid due to the cadences ending each section. Where the verse concludes via a retrogressive plagal cadence, the refrain concludes via the ultra-progressive ii–V–I motion.

The placement of the RSJ is distinctive in Paul Simon's "I Am a Rock." After hearing an opening progression for lines 1–2 of the verse, Simon used the RSJ for lines 3–4, which has the effect of reversing the flow in a bold, sudden way. Coming as it does in the first verse out of soft, finger-picked guitar and gentle voice texture ("A Winter's day, in a deep and dark December . . . ") and announced by a big rock drum fill accompanied by the groove-carrying rhythm section ("I am alone!"), this reversal of harmonic motion is effectively coupled with an abrupt change in other elements. I believe that this effect can be likened to being on an amusement park ride and feeling the car suddenly change from spinning in one direction to turning in the other.

"I Am a Rock": Verse: I IV I ii <u>V IV I</u> (RSJ) = P3 R3 P1 P3 <u>R1 R3</u> Bridge (or verse extension): ||: ii iii :||(2X) ii IV V = ||: P1 R1 :|| R2 P1 P3 Refrain: I IV V I (SJ) = P3 P1 P3

Additionally, this use of the retrogressive model (RSJ), which comes at the beginning of the verse, is balanced symmetrically by its progressive analog (SJ) from which the refrain is constructed.

Retrogressive "Simple Journey" with Recursion ||: (I) V IV V I :||

"No Time," ch., lines 1–3 (Guess Who, '70) "Black Magic Woman" (Peter Green, '69) "Fox on the Run," ch. (Sweet, '76) "I Need a Lover (Who Won't Drive Me Crazy)" (John Cougar Mellencamp, '79) "Super Freak (Part 1)" (Rick James, '81) "Jack and Diane," (John Cougar Mellencamp, '82)

As a subset of the RSJ model, I list songs whose form or a constituent section thereof is harmonized by the RSJ but includes an additional V before the final I. This additional harmony creates two progressions at the end of what is without it an all-retrogression model. Now the order of motions is I V IV V I, and the corresponding series of R/P values is R3 R1 P1 P3. This creates a "balancing out," a symmetrical, palindromic return along the harmonic path, as the order of chords and the motions between them turns back. This portion of the path—that returns back to the tonic—sets the end of the series into contrasting progressive motion, a reason that one might perceive the demeanor of the series to have reversed. However, the character of this succession remains largely that of a retrogression, due to the marked retrogressive motions that began the sequence.

The RSJ in many ways is the most basic of retrogressions, and many pop music writers have used it regularly along with several other retrogressive models within their writing. Stephen Stills and Neil Young, both active within several groups (including Crosby, Stills, Nash and Young) during their careers which began in the 1960s, are two songwriters for whom this is true. Their songwriting contrasts with that of many artists, which stylistically may not be wholly different but only incorporates retrogressive successions sparingly. Stills and Young, along with many others who, in using retrogressive motion to define their sound as early as the mid-1960s, were artists who made a novel and lasting

statement articulated through this new-found patterning of their harmonic motion.

Double Plagal Motion (or Cadence) DPM: ||: I **b**VII IV :|| Significance and Abundance

Although the RSJ is a direct reversal of the traditional pop chord ordering of primary triads, the "Double Plagal Motion" (DPM), is perhaps as commonplace and in some respects more important to the shaping of more recent popular harmony. This retrogression contains, among its three different harmonies, two of the traditional tonal functions—the tonic and the subdominant—and the major triad built on the lowered seventh scale step (in major), one that in Roman numeral analysis I represent with " \flat VII." The progression can then be indicated by the roman numerals I– \flat VII–IV–I. A cycle of these chords concludes with the motion that also defines the plagal cadence: IV–I and the root motion that directly precedes this is exactly the same, that from \flat VII to IV. This can be thought of as a plagal cadence in the key of the subdominant, and it is these two consecutive down-by-fourth root motions that give rise to the term "double plagal."⁶⁵

I base the term "double plagal motion" on the term "double plagal cadence," a harmonic definition Walter Everett provides in his 1999 volume, *The Beatles as Musicians*. In his table of chord functions Everett describes the double plagal cadence as a typical use of the *b*VII function, so common or important that he calls the device "rock-defining." ⁶⁶ In my discussion I will explore some

⁶⁵ If plagal means motion from IV to I, it is well to recall that Meeus called the down-byfourth motion a "subdominant" motion as opposed to a "dominant" motion, its directional opposite.

⁶⁶ Walter Everett, *The Beatles as Musicians: Revolver through the Anthology* (New York and Oxford: Oxford University Press, 1999), 312. This is the earliest printed use of the term I have found , but it was in use before Everett's book, by his and others' admission. Although the DPM functions often as a cadence in several musical respects, I choose to use the term "motion" rather

possible reasons for why it is that the DPM has had such a central role in

defining harmonic motion in pop-rock over the last part of the twentieth century.

Please see below a list of some of the many songs for which DPM is a significant

feature.

2.a Double Plagal Motion (or Cadence) DPM: ||: I bVII IV I :||

"You're Going to Lose That Girl," ending (Beatles, '65) "The Night Before," v. first 3 chords of each line (Beatles, '65) "Taxman," ch. (Beatles, '65) "I Want to Tell You," intro, vamp (Beatles, '65) (over tonic pedal) "Gloria," vamp, v. (Van Morrison with Them, '65) "Can't Explain," v. (The Who, '65) "If I Were A Carpenter," v. (Hardin, '65) (covered by many) "She Said, She Said," v. (Beatles, '66) "Lovely Rita," v., line 1 (Beatles, '67) "With a Little Help From My Friends," ch. (Beatles, '67) "Magical Mystery Tour," intro. (The Beatles, '67) "Manic Depression" (Jimi Hendrix, '67) "Foxy Lady," br. (Jimi Hendrix, '67) "Dear Mister Fantasy," v. (basis for most of song) (Traffic, '67) "For What It's Worth," ch. (Buffalo Springfield, 67) (I bVII IV bIII I) "Dear Prudence," v., last line (Beatles, '68) "Magic Carpet Ride," v., ch. (Steppenwolf, '68) "Magic Bus," v, ch. (The Who, '68) "Hey Jude," coda (Beatles, '68) "Sympathy for the Devil," v. (Rolling Stones, '68) "Polythene Pam," Intro, v., lines 1–2, riff, guitar solo (Beatles, '69) "Ramblin' Gamblin' Man" (Bob Seger, '69) "Fortunate Son," v. (John Fogerty, '69) "When You Dance You Can Really Love," intro, riff (Neil Young, '70) "Wooden Ships," ch., first 3 lines (Joni Mitchell, '70) "All Right Now," ch. (Free, '70) "Candyman," ch., lines 1–2 (Grateful Dead, '70) "I Don't Know How To Love Him," br., mm. 5-6 (Andrew Lloyd Webber, '70) "Bargain," v., end of ch. (The Who, '71) "Won't Get Fooled Again," end of v., end of ch. (The Who, '71) "Wild Horses," ch., mm. 3-4 and 7-8 (Rolling Stones, '71) "Deal," ch. (Jerry Garcia, '72) "Join Together," ch. (The Who, '72) "Taking Care of Business' (Randy Bachman, '73)

than "cadence" as I describe this model, leaving open the interpretation of this device as something other than a phrase or section conclusion.

"Rikki Don't Lose That Number," v., lines 1-3 (Steely Dan, '74) "Sweet Home Alabama" (Lynyrd Skynyrd, '74) "You Ain't Seen Nothin'" Yet, v (Randy Bachman, '74) "Radar Love," beg of br. (Golden Earring, '74) "Bad Company" (Bad Company, '74) "The Bitch is Back," v. (Elton John, '74) "Can't Get Enough of Your Love," v, ch (Bad Company,'74) "Tangled Up in Blue," ref. (Dylan, '75) "Get Down Tonight," ch. (K. C. and the Sunshine Band, '75) "Never Been Any Reason," ch. (Head East, '75) "Rock n' Me" v., ch.(Steve Miller Band, '76) "Take the Money and Run," v., ch. (Steve Miller Band, '76) "More Than a Feeling," v. (Boston, '76) "Peace of Mind," ch. (Boston, '76) "China Grove" (Doobie Brothers, '73) "Cat Scratch Fever," v. (Ted Nugent, '77) "Don't Stop" (Fleetwood Mac, '77) "Feels Like the First Time," ch. (Foreigner, '77) (over tonic pedal) "Jet Airliner," v., lines 3–4/4, ch. (Steve Miller Band, '77) "Lido Shuffle," end of br.-into ch. (Boz Skaggs, '77) "Night Moves," intro, v. (Bob Seger, '77) "We Are Family," ch., bars 1–3 of 4-bar unit (Sister Sledge, '79) "Comes a Time," ch., Lines 1–2 (Neil Young, '78) "Beautiful Girls," ch. (Van Halen, '79) "Cool Change," v. (Little River Band, '79) "Back in Black," v, end of ch. (AC/DC, '80)"Livin' After Midnight," ch. (Judas Priest, '80) "The Stroke," intro, ch., (Billy Squier, '81) "Freeze Frame," v. (J. Geils Band, '81) "Centerfold" (J. Geils Band, '81) "Southern Cross,' intro, v., lines 1–7 (of 8) (CSN, '82) "Pink Houses," v. (John "Cougar" Mellencamp, '83) "Gimme All Your Lovin'," ch. (ZZ Top, '83) "Sharp Dressed Man," v. (ZZ Top, '83) "Don't You Forget About Me," (Simple Minds, '85) ||: I bVII IV bVII :|| "The Way It Is," intro, vamp and ch. (Bruce Hornsby and the Range, 86) "White Wedding," (Billy Idol, '88) "Sweet Child o' Mine," v. (Guns n' Roses, '88) "Jimmy Olson's Blues" (Pocket Full of Kryptonite) (Spin Doctors, '92)

Modal Affiliation

To many listeners, the delineation between tonal orientation in a song with the motions present in the DPM is a fine one. Before the advent of a "Ibased" series of motions that is R1 R3 R3 (for I->VII-IV-repeat) or, depending on the metric orientation, R3 R3 R1 (for *VII–IV–I–repeat*) there was a similar pattern of motions in the RSJ. In this model it is either I–V–IV–repeat, or V–IV–I - repeat producing either R3 R1 R3 or R1 R3 R3 motions, respectively. The latter is the same exact ordering of these motions, and both retrogressions are "journeys" of the same number and size root motions.

The difference is that the pop-rock songwriter of the latter twentiethcentury has changed the orientation of the key or mode by incorporating the subtonic harmony, the \flat VII, into the flow of these motions. What was perhaps an emulation of the third phrase of a blues, whose harmony is a traditionally diatonic V–IV–I and takes the start of that succession to be the dominant, now becomes translated as a succession that maintains the same motions and starts on the tonic, creating a I– \flat VII–IV path. In doing so it moves outside the realm of traditional tonal functions in order to include the subtonic harmony. As a result, the leading tone is supplanted by the lowered seventh scale degree.

To the listener in the twenty-first century, this is no sizable leap. But to the generation who used and heard primarily the traditional, diatonic language that rock grew out of, it changes much fundamentally. First, we have allowed for a motion downward by step (whole step) from the tonic. Second, we have added to the harmonic materials something that either comes "from the flat side" on the circle of key relations or we have implemented a modal affiliation. In this case, for major mode the affiliation is toward mixolydian, and for minor mode, toward aeolian (natural minor) and perhaps dorian.

The difference can be subtle in terms of the sound and the function. This provides an argument for the musical importance of the expression of its harmonic motion, not just that of its harmonic materials. What is the tonic of the classic-rock favorite "Sweet Home Alabama?" Did the members of Lynyrd Skynyrd, (its writers) care much about this when they composed this very

popular song based completely on repeated cycling of D, C and G chords? I would guess not. The motion is partly what creates the effect, and the effect is a blurred line between I-based hearing (DPM) and V-based hearing (RSJ). Although their live performance concludes on G, indicating its key as the same, there are plenty of pieces from the same period for which, undeniably, the first chord is truly a tonic and a modal affiliation has been suggested by the DPM.

Interchangeability of DPM with RSJ Because of Mode

What is particularly convincing of the modal affiliation in the DPM is that the very first motion of this harmonic path takes the harmony to a place outside the traditional, diatonic realm. Were this move somewhere in the middle or end of the succession, there would still be a degree of significance. However, it is my perception that in the case of the DPM and the other models I am discussing, the first motion of a "journey" away from tonic has a particular significance. I ascribe this significance to a succession's initial move because it gives the implication of direction of harmonic flow from the outset.

It appears as though there has arisen, from what may be ascertainable at this point in time in the development of our harmonic language, an interchangeability of key orientation because of the tendency in pop-rock music toward "flat-side" modality. Indeed, it may be hard to imagine tonal music of the past that does not incorporate the *b*VII harmony into its harmonic language. Equally difficult to hear is tonal music that moves between harmonies without any systematic retrogressions (as defined here). These are two compositional elements woven into the musical language of pop-rock, however. But this music's harmonic language need not seem too far removed; there are ways of describing the relationship between pop-rock and its predecessors that explains how the difference is not as large as it first may appear. Because in several

regards it is reasonable to assume that the \flat VII chord may substitute for a conventional dominant or dominant seventh chord.

Substitution

First, one might assume that a well-rounded succession presents the widest variety of functions in its vocabulary, and that if there are three chords used with the frequency such as are presented with the DPM model, two of which we maintain to bear traditional subdominant and tonic functions. Then perhaps, the dominant is represented by the third chord. However, this is a prediction based more on perceptual conjecture. There is a more systematic way to assure that \flat VII, when coupled with I and IV in a three-chord (three-function) context, plays the role of dominant among them.

Where diatonic intervals of two perfect fourths and one second trisect an octave along a journey from the tonic back to another tonic (octave transferred), six patterns bear out the presence of the three functions–tonic, subdominant and dominant. They are as follows: progressions I–IV–V–I, I–ii–V–I, I–IV–vii°–I; and retrogressions I–V–IV–I, I–V–ii–I, and I–vii°–IV–I. In the scenario of a progressive model, it is reasonable to assume that vii°–I (perhaps the vii° is inverted) would complete a cadence, and very likely with good voice-leading too, but in the case of the retrogression of vii°–IV the prospect of root position chords is unlikely because of the problems associated in moving from I to vii° as well as from vii° to IV. But even in comparing a move of vii°6 to IV, the substitution of bVII for the diatonic vii° would improve the smoothness of the leading within the upper voices, and, in the case of a root position bVII, allow for a dramatically effective fourth/fifth along the bass line.

What about using Rameau's (as communicated through Meeus) theory of substitution of chords that are a third apart? If it is a substitute for IV in the role

of subdominant or preparatory chord, even if verified through the interval of motion—a fourth up can substitute for a second up—what of having the \flat VII substitute for the V as it moves to IV? This way, the math is the same, but the motions are now retrogressions. This translates to a fourth down substituting for a second down. I believe that the transitive property bears out a great measure of congruency here: If there is a substitution that permits equal functionality in the realm of progressive motion and the motions are the same except for the their direction, then the substitution functions similarly for retrogressive models. As well, the interval between IV and ii is a minor third, just as it is between V and \flat VII. In sum, \flat VII may substitute for V much the same as ii does for IV.

What is also interesting is that we are first allowing for substitutes as they "prepare" the dominant in a progressive setting, then drawing an analogy for substitutes that precede the subdominant in a retrogressive setting. Does this make a case for a "subdominant preparation" on the way to a retrogressive (plagal) cadence? Whatever the answer to that question, it seems apparent that the congruency in terms of function and interval of motion can be extended in order to supply the following analogy:

I–IV–V–I compares to I–ii–V–I as I–V–IV–I compares to I–**bVII**–IV–I.⁶⁷

In a recent writing, Everett cites what may be the most convincing evidence to legitimize a substitution of the *b*VII for V. In his article "Confessions from Blueberry Hell, or, Pitch Can Be a Sticky Substance," he implies that the *b*VII, although a part of the minor-pentatonic system, is an "aberrant substitute for V." He continues, "the *b*VII chord is often tied directly to dominant function,

⁶⁷ When one considers the \flat VII subbing for the V chord, where the RSJ as (I)–V–IV–I can easily become the DPM as I– \flat VII–IV–(I), this question comes to mind: Can the \flat VI harmony substitute for the IV chord, and if so, can IV–V–I be replaced by \flat VI– \flat VII–I? In other words, can \flat VI prepare the dominant in a progressive motion scenario? Or, in a retrogression?

even when that chord is absent. The dominant, after all has a largely contrapuntal role, in that its third, fifth, and—if present—seventh all resolve by step. So the *b*VII–I progression fulfills quite a few roles of V7".⁶⁸

I believe that indeed there is an alliance of the bVII to V in terms of V-I (progressive) motion voice leading. But that fact provides us just as suitable an explanation for the bVII to substitute for the V in the context of a retrogression, such as I–V. This translates to the DPM (I–bVII–IV–I) functioning similarly to the RSJ (I–V–IV–I), the only difference being in the initial move away from—not its cadencing move into—I. The path of the voice leading is roughly the same, so why would we not expect similar utility between these two functions? As well, the bVII moving to IV creates an issue of the voice leading between them. But this is inherently smooth, as is the case of the plagal (IV–I) motion. This prospect, however, prompts the following question. Since in a progressive root-motion scenario the major chord that is built on scale degree 2 stands to progress to the dominant by an upward fourth is called a secondary dominant, could not the major chord that stands to "prepare" or lead to the subdominant by a downward fourth be called a "secondary subdominant"? Similarly, could a series of R3 motions, especially if they lead to tonic, be called a "chain of subdominants"?

Before I investigated the analogy of these substitutions in terms of voice leading or chord succession, I graphically demonstrated the functional arrangement of these chords in a Space-Plot diagram. As can be seen in its inherent orientation (see Figure 4.B.1), paths of clockwise (progressive) and counterclockwise (retrogressive) motion can be easily drawn in curved arcs both away from and back to the tonic, completing a tonal "journey" exhibited in the most paradigmatic models of chord succession described thus far. I find that the

⁶⁸ Walter Everett, ed., *Expression in Pop-Rock Music* (New York: Garland Publishing Company, 2000), 329.

Space-Plot is useful in interpreting the role of functions and the path of motions for a number of reasons.



Figure 4.B.1: Space-Plot Reflecting Substitution Within the Zone of Dominant Function.

First, it accommodates the paths of these staple successions by virtue of the physical orientation of the tonal functions (and substitutes). This is to say, that common motions such as by fourth and third are made to be contiguous and demonstrate by proximity the likely path between them, and that the direction the arc moves when the music moves from one station to another reflects the motion type of the succession, progressive or retrogressive. Second, by virtue of the orientation of the functions from a circular perspective, one can glean a sense of relative importance of each function to the tonal setting. Those harmonies located closer to the center are what are often called the primary functions, and those lying further out, or in the more peripheral "orbital shell," constitute the secondary functions.

However, as a result of the orientation that facilitates these two components of interpretation, a third interpretive arrangement is produced. It is

the visibility of shared function, not unlike that between the chords of substitution allowed for in the above discussion. Clearly one can see the proximity of the chords of these substitutions: ii and IV and \flat VII (or vii°) and V. Just as the general sound (especially where the all-diatonic models are concerned) and functional effect of the succession seems to be roughly the same when comparing four-chord successions different only by one of these substitutes, the path taken by the succession of the graphic is roughly the same shape and distance. See the similarity in figure 4.B.2 in a comparison of sound and functional effect in a graphic comparison through the Space-Plot of the RSJ and DPM models.



Figure 4.B.2. Pathways of Substitute Retrogressions through the Tonal Space

DPM as harmonic succession

It is debatable how much the DPM device functions truly as a succession. Because this model is typically used within the context of a repeating cycle of chords, there are many instances where the rhythmic organization or quick harmonic rhythm lends only a fleeting aural impression of the chords between one tonic and the arrival of the next. To add to that, there is the effect, not unlike the plagal cadence itself, because of the voice leading along a DPM, that relegates the bVII and IV chords to a decorative or somehow a subsidiary role, at least on a more fundamental level. There are many times that I believe this is plausible, but I would argue that there is a legitimate role the bVII plays in the scheme of the pop-rock music harmonic spectrum.

My basis for this argument is that there are enough situations in the repertoire that bear out a significant distinction to the sound of the bVII chord as well as point to a significant function. As in the case with I–bVII oscillation (discussed below), especially convincing are the spans where the harmonic motion is slow enough or the rhythmic organization is such that the bVII chord is somehow emphasized. The final section of "Hey Jude" or the majority of the spans in "Dear Mr. Fantasy" are two examples among many in which there is an emphasis of the bVII in such a way that it is projected on a deeper level than the surface.

Therefore, the way a retrogression operates in the voice-leading sphere is worthy consideration. When we speak of voice leading and the tendencies readily noticeable in tonal composition, we tend to envision them from a progressive motion perspective. After all, the resolution of dissonance is what on the surface drives progressive motion, and this warrant lies at the heart of traditional tonal harmony. At this time many musicians and scholars root their assessment of harmonic motion in a traditional theoretical approach, even when analyzing music which embraces retrogressive motion. The difference between the styles that do and do not include retrogressive harmonic motion may only translate to a change of direction, not only in the intervals of the fundamental

bass, but in those within the constituent motions in any of the parts in the texture. The comparison of analogous motions arriving on the tonic, one progressive (V–I) and one retrogressive (IV–I), reveals that neither contains smooth or more powerful voice leading than does the other. In Figure 4.B.3, note that there is an analogous voice leading motion for the constituent parts in each scenario.



Figure 4.B.3. Summary of Voice Leading in Authentic and Plagal Cadences

To some extent, my theory of harmonic motion disregards the subtleties of tonal voice leading. I am not trying to make less of this linear aspect, for in most cases, whenever writers of pop-rock music strive to engage more fully in this, one of the finer aspects of composition, a more subtle craft is achieved. This does not always translate to popularity, however. And the question of how large a role these linear manifestations play in the pop-rock music I am discussing is valid. From a stylistic and a technical point of view, I believe that it is plain that these devices occur less prominently in the repertoire as a whole than perhaps would have been featured in the tonal composition heard a century or two ago. This perhaps is an indication not only of a redistribution of musical details in this style, but an indication of a musical population (generation?) less adept at composing music that is so crafted and so appreciated. It seems apparent, at any rate, that pop-rock music is organized more emphatically through successions of (mostly) root position chords, and, at least to a degree, "vertically." The incorporation of a harmonic theory, such as is proposed here, one that concerns the motions between roots along a fundamental bass, somehow has a greater relevance if indeed this is true.

Analysis of the Use of DPM Respective of Level and Type of Use.

What is remarkable concerning the use of the DPM and similar models of unit motion is that not only is their use beginning in the 1960s within pop-rock music one that typically designates the succession as a model through its repetition within the same song or even within the style of music itself, but that for many pieces this model serves as an integral part of the harmonic organization, sometimes as for the entire piece. Initially, however, this was not often the standard. When the DPM was first utilized as a unit in songs of the pop-rock repertoire, its purpose was for alternative effect, a use that played only a small role in the harmonic structuring of the piece.

One song for which this is true is the Beatles' "You're Going to Lose That Girl" (1965). The opening succession, which becomes the body of the chorus, is completely progressive, and the verse is a mixture of progressive and retrogressive motion types. Even the refrain is basically a progressive path, although through harmonies "on the flat side" of tonic. It is not until the end of the song, which concludes with a refrain, that the DPM is used—as a cadence. Even in this instance the retrogressions are of little consequence to the structure or flow: The music directly preceding it is harmonized by ii for four beats before moving quickly through the DPM to end the song to \flat VII for only two beats then IV for two beats before landing on the final tonic chord. Below is a schematic demonstrating the diminutive role that the retrogressive DPM plays here:

Verse:	: I iii ii V :	=	R2 R1 P3 P3
Chorus:	I vi ii V ii bVII	=	P2 P3 P3 (P3)
Refrain:	þIII þVI þIII þVI þII I	=	P3 P3 R3 P3 P3 R1
Ending Chorus:	I vi ii V ii <u>ÞVII IV I</u>	=	P2 P3 P3 (P3) P2 <u>R3 R3</u>

All of the R3 motions in the piece are isolated, never creating a series where an all-retrogressive "model" could form save the final harmonic cliché. Other songs that demonstrate a use of the DPM in more a diminutive role include Van Morrison's "Gloria," ('65) where the chords are glossed over quickly as a part of a vamp, the Beatles' "Dear Prudence" ('68), where, after a linear intervallic projection happens over the tonic pedal, the final line of the verse is harmonized by the DPM.

The surface-level use of this model is just the beginning of the exploration of its use, however. The DPM was soon being used frequently in a wide variety of ways, often as an organizing feature on deep structural levels. In what I perceive to be increasing levels of structural role, I have enumerated various accounts of the DPM in this order:

- 1. the introduction and/or vamp,
- 2. the end of a verse,
- 3. the end of a chorus or refrain,
- 4. the bridge,
- 5. the verse,
- 6. the chorus,
- 7. a large alternative section, or
- 8. the entire song.
Examples of DPM Uses

Introduction or Vamp:

"I Want to Tell You," intro/vamp (over tonic pedal) (Beatles, '65) "When You Dance You Can Really Love," intro/riff (Neil Young, '70) "Night Moves," intro, v. (Bob Seger, '77) "The Stroke, intro," ch., (Billy Squier, '81) "The Way It Is," intro, vamp and ch. (Bruce Hornsby and the Range, '86)

Except for "I Want to Tell You," a George Harrison-composed Beatles song, the DPM used in the introduction often foretells its use in a significant portion of the song to come, likely to be repeated more than once. The analog in the realm of melody is that of a theme exposed in an overture, to be developed in earnest later in the body of the work. Although I am confident that there are many more uses of this kind to be found in the pop-rock repertoire, it seems evident to me that the DPM has been used in this way consistently from the '60s to the present.

End of Verse:

"Won't Get Fooled Again," end of v., end of ch. (The Who, '71)

End of Chorus or Refrain:

"Bargain," v., end of ch. (The Who, '71) "Won't Get Fooled Again," end of v., end of ch. (The Who, '71) "Wild Horses," ch., mm. 3-4 and 7-8 (Rolling Stones, '71) "Join Together," ch. (The Who, '72) "Tangled Up in Blue," ref. (Dylan, '75)

The DPM at the end of a section provides its own form of punctuation. Notable here is the narrow span of years I happened to find this device popular.

Bridge:

"Foxy Lady," br. (lead-in to ref) (Jimi Hendrix, '67) "I Don't Know How To Love Him," br., mm. 5-6 (Webber/Rice, '70) "Radar Love," beg of br. (Golden Earring, '74) "Lido Shuffle," end of br.–into ch. (Boz Skaggs, '77) "Round and Round," br. (Ratt, '84)

Not only against the backdrop of traditional tonal harmony does the DPM stand out, often times it can also serve to further distinguish a bridge section of a song that already provides a change of atmosphere to the rest of the song. Particularly poignant among these uses is the use by Andrew Lloyd Webber and Tim Rice in the solo for Mary Magdalene from *Jesus Christ Superstar*. The bridge fits among sections arranged in a standard way for a pop-rock song and among sections that provide a fairly balanced mixture of motion types. During the bridge, a series of "Should I . . . " questions is asked over the first four measures, arriving by V–I motion at the tonic. It is then, that in frustration she sings over the DPM, thus reversing the harmonic flow in a marked crescendo: "I never thought I'd come to this(!)" Immediately the last two measures of the bridge return to the peaceful and plaintive atmosphere—over a ii–V–I turnaround.

Verse:

"The Night Before," v.: first 3 chords of each line (Beatles, '65) "Can't Explain," v. (The Who, '65) "If I Were A Carpenter," v. (Hardin, '65) (covered by many) "She Said, She Said," v. (Lennon / McCartney, '66) "Lovely Rita," v., line 1 (Beatles, '67) "Manic Depression" (Jimi Hendrix, '67) "Dear Mister Fantasy," v. -basis for most of song (Traffic, '67) "Sympathy for the Devil," v. (Rolling Stones, '68) "Polythene Pam," Intro, v., lines 1–2, riff, guitar solo (Beatles, '69) "Fortunate Son," v. (CCR, '69 "China Grove," v, lines 1–2, ch. (Doobie Brothers, '73) "Rikki Don't Lose That Number," v., lines 1–3 (Steely Dan, '74) "The Bitch is Back," v. (Elton John/Bernie Taupin, '74 "Tangled Up in Blue, v, ref. (Dylan, '75) "More Than a Feeling," v. (Boston, '76) "Night Moves," intro, v. (Bob Seger, '77) "Cool Change," v. (Little River Band, '79) "Freeze Frame," v. (J. Geils Band, '81) "Southern Cross," intro, v., lines 1–7 (of 8) (CSN, '82) "Pink Houses,' v. (John "Cougar" Mellencamp, '83) "Sharp Dressed Man," v. (ZZ Top, '83) "Sweet Child o' Mine," v. (Guns n' Roses, '88)

Chorus:

"Taxman," ch. (Beatles, '65)

"With a Little Help From My Friends," ch. (Beatles, '67)

"For What It's Worth," ch. (Buffalo Springfield, '67) (I bVII IV bIII I)

"Wooden Ships," ch., first 3 lines (Joni Mitchell, '70)

- "All Right Now," ch. (Free, '70)
- "Candyman," ch., lines 1–2 (Grateful Dead, '70)
- "Deal," ch. (Jerry Garcia, '72)
- "China Grove," v, lines 1–2, ch. (Doobie Brothers, '73)
- "Bad Company," ch. (Bad Company, '74)
- "Get Down Tonight," ch. (K. C. and the Sunshine Band, '75)
- "Peace of Mind," ch. (Boston, '76)
- "Cat Scratch Fever," v. (Ted Nugent, '77)
- "Feels Like the First Time," ch. (Foreigner, '77) (over tonic pedal)
- "Comes a Time," ch., Lines 1–2 (Neil Young, '78)

"We Are Family," ch., bars 1–3 of 4-bar unit (Sister Sledge, '79)

- "Beautiful Girls," ch. (Van Halen, '79)
- "Livin' After Midnight," ch. (Judas Priest, '80)
- "The Stroke," intro, ch. (Billy Squier, '81)

"The Way It Is," intro, vamp and ch. (Bruce Hornsby and the Range, '86)

Verse and Chorus:

"Magic Carpet Ride," v., ch. (Steppenwolf, '68)
"Bargain," v., end of ch. (The Who, '71)
"Can't Get Enough of Your Love," v, ch (Bad Company,'74)
"Rock n' Me," v., ch.(Steve Miller Band, '76)
"Take the Money and Run," v., ch. (Steve Miller Band, '76)
"Jet Airliner," v., lines 3–4/4, ch. (Steve Miller Band, '77)
"Back in Black," v., end of ch. (AC/DC, '80)
"Centerfold," v, ch. (J. Geils Band, '81)
"Don't You Forget About Me," v., ch. (Simple Minds, '85) | |: I \$VII IV \$VII: | |

The use of the DPM as exclusive or prominent harmonizing agent for the verse and/or chorus is certainly prolific, and consistently so, in pop-rock music during the last four decades of twentieth century. Besides this frequency within the repertoire, it is notable that after its introduction as a model used for the underpinning of various sections of pop-rock songs its most frequent use soon became that of fodder for verses and choruses, arguably the majority of most of the musical material in these songs. Writers of the pop-rock song idiom quickly gravitated toward the use of the DPM and made it a staple of the repertoire. This power of this trend has left an emblematic mark for the style of pop-rock music in this time. My perception of this scenario, that the harmonic structure is rather simple, and that the DPM is used so frequently within songs and within the repertoire, is that there must be a novelty about this device. I believe the popularity of it stems in large part from the effect produced by these harmonies' retrogressive motion.

Coda:

Hey Jude, last section (Beatles, '68)

The final section of "Hey Jude" is a song that demonstrates a distinctive use of the DPM as a coda. I provide here a schematic of harmonies and motions for the three sections that make up the entire song:

verse:	ΙΥΙΙΥΙΥΙ	<u>R3 P3</u> <u>P3 R3</u> <u>R3 P3</u> *
bridge:	: IV I6 ii ii/^1 V6-53 I : V	<u>(P3) R3</u> P1 P3 P3
coda/chorus	: I ÞVII IV :	R1 R3 R3

(*here the underlined pairs represent oscilliatory motions)

The intensity of the final section of "Hey Jude" can be attributed to a number of factors. This uncharacteristically large final section (coda) completely redesigns the scale on which the length of section had traditionally been measured. Additionally, the atmosphere amidst the song changes in several ways, besides just the path of harmonic travel, including only "na na's" for lyrics, screaming background vocals, and a seemingly indefinite build-up in texture and volume attenuated only in the fade out, which comes several minutes after the coda begins. Magnifying the difference in atmosphere is the DPM and its presentation of \flat VII. Until this section begins there are only retrogressions associated with oscillation to and from the tonic. With the commencing of the coda, McCartney provides such a different musical landscape that is seems as though a new piece has begun. My feeling is that this landmark use is part of what provided inspiration for other writers, especially those writing shortly thereafter the success of "Hey Jude," to use the DPM as a prominent feature within their songs, as well as to explore the writing of large, more distinctive episodes within their pieces.

Entire Song:

"Ramblin' Gamblin'" Man (Bob Seger, '69) "Sweet Home Alabama" (Lynyrd Skynyrd, '74) "Taking Care of Business" (Bachman-Turner Overdrive, '73) "Don't Stop" (Fleetwood Mac, '77) (except last line of v or ch) "White Wedding," (Billy Idol, '88) "Jimmy Olson's Blues" (Pocket Full of Kryptonite) (Spin Doctors, '92)

In one sense, the use of the DPM as the harmonic fabric for the entire song is significant. It could be taken to be the strongest statement of non-traditional harmonic motion possible: a total giving over to an aesthetic embracing the effect of harmonic retrogression. But in another sense, to use it as the exclusive vehicle for harmonic transportation lacks originality, or at the least variety. However, more fascinating than this overt use of retrogressive motion is a use that defines a particular effect within a song, one which employs the retrogressive model as a contrast within a combination of motion types. That is a subject I will explore in greater detail below.

DPM in Other Forms

Below, please see a short list of double plagal motions that do not fit the model I–bVII–IV–I. For each, the motions are still some arrangement of the retrogressions that make for the DPM, but they bear differences such as 1) the motion begins in a alternate location or 2) additional chords accompany the DPM.

- "Piggies," br., mm. 2–3 (Beatles, '68) IV I V (I-centered)
 "Down By The River," ch. (Neil Young, '69) ||: I V II :|| (V-centered)
 "Free Ride," intro., (Edgar Winter, '72)||: I bVII IV (bVII IV) I :||
 "Radar Love," ch. (Golden Earring, '74) ||: bVI bIII bVII i :|| (IV I V vi; if vi = tonic)
- 2) "Main Street," v. (Bob Seger, '77) ||: I bVII IV ii :||
- 2) "Who Are You," v., (The Who, '78) | |: I bVII IV bVI : | | (R1 R3 R2 R2) 1) "Crazy Train," ch. (from end of br.)(Ozzy Osbourne, '80) | |: (IV) I V (vi) : | |
- 1) "The Breakup Song," ch. (Greg Kihn Band, '81) ||: IV I V (vi) :||

Motion to the Subtonic: ||: I **b**VII :||

The first root motion of the DPM is that of down by second, shifting the harmonic scope away from traditional diatonicism in order to accommodate \flat VII. The use of this motion, as well as that of the chord both as a sound and as a function although somewhat ubiquitous, has a somewhat exclusive status in the harmony/patterns of harmonic motion of more recent popular music.⁶⁹ What this says about the acceptable realm of harmonies within a "tonal" piece is certainly an important question, as I have raised in my previous discussion of modal affiliation via the DPM. But what of the ever-popular use of the subtonic chord (\flat VII) in the repeating succession of roots along the fundamental bass that is exclusively tonic and subtonic, or $||: I \flat$ VII :||?

Please see below a list of songs or spans within that are harmonized as such.

Motion to the Subtonic: ||: I **b**VII :||

"Tequila" (The Champs '58)
"Hard Day's Night," v., lines 2 and 4 (Beatles, '64)
"If I Needed Someone," v., (George Harrison, '65) (over tonic pedal)
"We Can Work it Out," v. (Beatles, '65)
"Satisfaction" (Rolling Stones, '65)
"Gloria," vamp (Van Morrison with Them, '65)
"She Said, She Said," br., lines 1–2 (Beatles, '66)
"Tomorrow Never Knows," lines v., (Beatles, '66) (over tonic pedal)
"Got To Get You Into My Life," lines 1–2, (Beatles, '66) (over tonic pedal)
"Got To Get You Into My Life," lines 1–2, (Beatles, '66) (over tonic pedal)
"The End" (The Doors, '67)
"Nights in White Satin," v., lines 1–2 (Moody Blues, '68)
"Born to be Wild," ch. (Steppenwolf, '68)
"Sugar Mountain," v, lines 1–6 (Neil Young, '69)
"Ironman" (Black Sabbath, '70)
"LA Woman" (The Doors, '71)
"If You Could Read My Mind," v., lines 1–4 (Gordon Lightfoot, '71)
"Smoke on the Water," v. (Deep Purple, '72)
"Any Major Dude," intro (Steely Dan '74)

⁶⁹Unless one considers pre-tonal repertories, in which the harmonic organization arises less deliberately along the "vertical" axis. Retrogressive motion in this music is documented, and this is one of the points that Nicholas Meeùs makes in his paper cited above. His conclusion is that before the advent of common tonal practice, various pieces can be demonstrated to be harmonized largely with retrogressive motion.

"Bad Company," v. (Bad Company, '74) "Lady," v., lines 1–3, ch. lines 1–3 (Styx, '75) "Magic Man," v. (Heart, '76) "Breakdown," intro, v. (Tom Petty, '76) "Jungle Love," riff. (Steve Miller Band, '77) "Running with the Devil," v. (Van Halen, '78) "We Are Family," v. (Sister Sledge, '79) "Beautiful Girls," v. (Van Halen, '79) "And the Cradle will Rock," ch. (Van Halen, '79) "Celebration," v. (Kool & the Gang, '80) "The Breakup Song," v. (Greg Kihn Band, '81) "Turn Me Loose," (Loverboy, '81) "Gimme All Your Lovin'," v. (ZZ Top, '83) "Beat It," intro, vamp, ref., ch. (Michael Jackson, '83) "Burning Down the House" (Talking Heads, '83) "I'll Wait," ch. (Van Halen, '84) "West End Girls," v. (Pet Shop Boys, '85) "Enter Sandman," ch. (Metallica, '91) "Come As You Are," v. (Nirvana, '92)

This list only scratches the surface of the use of the "motion to the subtonic" cliché so firmly embedded in the pop-rock music language. Arguably, it is not even a succession in the same terms as the other models I have been considering, being that just two chords are heard before the cycle repeats. However, I believe the device is justified as a model by its frequency, and it certainly figures significantly as a part of the sound of this repertoire. It can be heard in a variety of branches of pop music, but its most glorious use is in the realm of hard rock and heavy metal, where its presentation through distortiontinged guitar "power chords" is quite frequently the basis of the harmony for large spans of these songs.

Is it fair to say that the motion to the subtonic is an indication of modality, in this case, use of the Mixolydian mode? Perhaps. However, I think Mixolydian mode as the basis for a song or a section, as one would hear in a jazz tune, is a different case. The modal use there is often more along the linear axis, where a solo or a melody line "borrows" pitches from a certain mode. In the pop realm, although numerous exceptions exist, the inspiration for the lowered seventh degree is essentially to provide a root or lower neighbor in the bass part, even if

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upper voices also contain the lowered seventh degree. In the same way that Mixolydian is sometimes described as "major with lowered seventh," I view the use of the subtonic in pop music as "tonal, with a substitute chord."

The oscillation between two harmonies, such as is found in this model, renders the harmonic path traversed less a journey and more one of static alternation. I believe, however, that there is a powerful suggestion made by the beginning retrogression to the \flat VII chord. Initially, it indicates something similar to the retrogressive effect achieved in the DPM as it begins with the same novel motion, both down by second, and out of the traditional diatonic realm, neutralizing the leading tone. This very distinctive "starting move" is what leads me to believe that, although there may be an immediate return via oscillation, there is also an undeniable initial move made away from tonic. This "first impression" a listener receives in the I– \flat VII move is a powerful one, one which is not completely undone or counterbalanced by the ensuing return to I.

Admittedly, this device involves an oscillatory return to I, and on a deeper level, for many songs, this may amount to an augmentation of the tonic through voice leading decoration. Walter Everett, in his compendium on the music of the Beatles, when describing the \flat VII chord function writes: "In rock music but not in art music, \flat VII will be used as a lower-neighbor embellishment to the tonic."⁷⁰ This is indeed true for many instances, and perhaps on a highest level the \flat VII chord is subsidiary in most cases. However, I believe that there is a functional role that the \flat VII chord plays much of the time in the ||: I \flat VII :|| succession. This role is established in songs where the harmonic motion is slower, and the succession "sits" on each of the two chords. Especially where the \flat VII is accorded

⁷⁰Walter Everett, *The Beatles as Musicians: Revolver through the Anthology* (New York and Oxford: Oxford University Press, 1999), 312. An example Everett cites that demonstrates this is the Beatles' "A Hard Day's Night."

equal playing time, its functional role becomes more pronounced.⁷¹ Accepting \flat VII as a functional entity gives much more credibility to the concept of ||: I \flat VII :|| as a succession (progressive or retrogressive). Whenever it is more decorative, however, a comparison is still struck between that use and another for which the \flat VII plays a more important structural role. As well, regardless of how brief or auxiliary the \flat VII chord is, the character of its sound and the motion used to approach it will always project a pop-rock music tonal dialect that uses conventional motions and functions as a foil.

As described earlier, \flat VII at times "stands in" for the dominant, and with the tonic and subdominant appearing in many of these retrogressive models the process of elimination in a RSJ or DPM context would leave only the dominant to be assigned. The motion to the subtonic model feels like half of the DPM, and the implication made thus far is that it functions as an altered version of V, making for a kind of I–V–I motion. To this end it is no coincidence that I place \flat VII within a geographically shared space as the dominant in the Space-Plot model. Here it replaces vii° and thus shares the dominant "zone" with V. But is it really a I–V–I succession in a different guise? My estimations based on the voice leading and the harmony (the math and the geometry) of the situation lead me to say so. But these are rooted in comparisons based on traditional tonal musical expectations. What if the rules of comparison have now changed? What if the boundaries of tonality, and/or tonality as it is traditionally defined, have been exceeded?

My perception often leads me to a different conclusion. I do not believe at this time that I can make a theoretically strong case for an alternative definition of function for the \flat VII, but for me the "feel" is different than the dominant at times. I cannot escape my view of the dominant as polar opposite to the tonic,

⁷¹The Grateful Dead's "Fire on the Mountain" provides a good example of this.

one which represents the dissonance and the other the consonance within a key. And when this consonance is "resolved" there is left behind a feeling of opposition between the two functions. And although I hear a difference between the functions in a I–bVII motion, the subtonic seems to sound "softer" than the dominant would, and it is less effective in its role as the "anti-tonic."

This compels me to reveal what I believe to be an important fundamental difference between the I–V retrogression, and that of I– \flat VII, its quasi-substitute. Although they both play a role in retrogressive models, the \flat VII is exclusively used as such, whereas the I–V motion could be a part of oscillation or another succession of motions that includes progressions as well. This illustrates how the model I– \flat VII or the other model that we find that begins this way, the DPM, form a different class of motion, one that demonstrates not only a signal motion that is undoubtedly retrogressive but one that leaves the traditional diatonic sphere in order to do so. Because of this, the motion to the subtonic perhaps provides a more pure, essential representation of retrogressive harmonic motion.

Chains of R3 Motions⁷²

One of the most striking effects in pop music is created when R3 motions are used in chains of three or four.⁷³ The backward-spinning series of chords generates a kind of downward, spiraling momentum in this context. Several examples recall this atmosphere, and to me the effect is unmistakable. "Well it's all—right—now, in fact it's a gas . . .," from "Jumping Jack Flash" (Rolling

⁷² The earliest reference that I have found to the term "secondary subdominant chain" in the pop-rock scholarship is Richard Bobbitt's *Harmonic Technique in the Rock Idiom* (Belmont, Calif.: Wadsworth, 1976), 88. I am thankful to David Carson Berry for alerting me to this resource.

⁷³ I am not aware of successions that are larger, although I would not rule out the possibility. The analog in the more traditional harmonic realm runs the complete cycle of P3 motions to complete the "diatonic" set of seven harmonies in "Autumn Leaves." It seems to me that going the opposite direction around the circle of fifths does not produce the same musical effect.

Stones, '69), "and we've got to get ourselves back to the garden," from "Woodstock" (Joni Mitchell, '70), "Old man, look at my life, twenty-four and there's so much more . . .," from "Old Man" (Neil Young, '72) and "Hey Joe, I heard you shot your old lady down . . ." from "Hey Joe" (Jimi Hendrix, '67) are four lines from the songs contained in the two lists below, lines that create this specific sound and effect due in large part to the compounded retrogressive harmonic succession.

Triple Plagal Motion (or Cadence) ||: I bIII bVII IV :||

"Jumping Jack Flash," ch. (Rolling Stones, '69)
"Woodstock," ch., last line (Joni Mitchell, '70)
"When You Dance You Can Really Love," ch., last line (Neil Young, '70)
"Old Man," v., Lines 1–2 (Neil Young, '72) || I bIII bVII IV (I) ||
"Take Me To The River," br. (Talking Heads, written by Al Green, '78)
"Jane," v., ch. (Jefferson Starship, '79) (minor mode)
"Walk on the Ocean," part of ch. (Toad the Wet Sprocket, '91) || (ii) IV I V ii ||
"Crowing," v. (Toad the Wet Sprocket, '94)||: I V ii vi (ii IV) :||

Quadruple Plagal Motion (or Cadence)

"Hey Joe" (Jimi Hendrix, '67) ||: bVI bIII bVII IV I :||
"Here Comes the Sun," br. (Beatles, '69) ||: bIII bVII IV I V :||
"Feelin' Stronger Every Day," coda (Chicago, '73) ||: bVII IV I V II (II, I, bVII) :||
"Walk on the Ocean," end of v, into ch. (Toad the Wet Sprocket, '91) || bVII IV I V ii ||

Retrogressive Submediant Cycle

As with the progressive submediant cycle (||: IV V vi :||), this series of weak root motion by seconds and thirds makes for a tight, looping cycle of harmonic travel. And because the motions are weak and the functions are not all primary (whether accepting vi as tonic or calling the succession ||: \flat VI \flat VII i :|| where "i" is tonic), there is less of a powerful retrogressive effect here, by comparison to the list of musical spans that create the progressive version of this model. Its distinction is once again developed within a series of pop-rock songs

beginning in the '70s and extending into the next decade.

Retrogressive Submediant Cycle: ||: vi V IV :||

"Under My Thumb," v. (Rolling Stones, '66)
"Dream Weaver," v. (Gary Wright, '75)
"You Make Lovin' Fun," v. (Fleetwood Mac '77)
"Breakfast in America," v., lines 1–2 (Supertramp, '79)
"My My, Hey Hey (Out of the Blue)," intr., verse lines 1–2 (Neil Young, '79)
"Comfortably Numb," v. (Pink Floyd, '80) | |: vi V ii :||
"Livin' on a Prayer," v. (Bon Jovi, '86)
"Like No Other Night," v. (.38 Special, '86) | |: IV vi V :||

Retrogressive Submediant Cycle with Recursion: ||: vi V IV V :||

"Stop in the Name of Love," ch. (Supremes, '65) "All Along the Watchtower" (Bob Dylan '67) "Stairway to Heaven," final section (Led Zeppelin, '71) "Dream On," ch. (Aerosmith '73) "Don't Fear the Reaper" (Blue Oyster Cult '76) "Breakdown," ch. (Tom Petty, '76) "Carry On My Wayward Son," v. (Kansas, '77) "Burnin' for You" (Blue Oyster Cult '81) "Beat It," interior of v. (Michael Jackson, '83) "Boys of Summer," v. (Don Henley, '84)

A gravityless, spacey (or spaced-out) atmosphere is implied in many instances, one that contrasts effectively with a more "directed" succession of harmonies used in a parallel consequent section, often embellishing a verse/chorus contrasting relationship. The arrival of the major-sounding choruses in "Dream Weaver" (Gary Wright, '75), "You Make Lovin' Fun" (Fleetwood Mac '77), "Comfortably Numb" (Pink Floyd, '80), and "Boys of Summer" (Don Henley, '84) are well-known examples of this.

One special example of the Retrogressive Submediant Cycle with Recursion is perhaps the best-known musical coda in rock music: the final section to the Led Zeppelin's "Stairway to Heaven." As this epic rock song moves through several types of sections, it presents different textures and different local harmonic centers, different rhythmic organizations, and different modes of harmonic motion. The first few verses are guided harmonically by a bass-line in descending half steps. The mode of succession is largely because of this linear chromatic motion of the bass line. Subsequent sections are chordal and become syncopated and hard-edged. When the coda arrives and presents the submediant cycle as I defined it here, the rock energy is at its highest. Here the listener becomes "trapped" in this small loop of adjacent harmonies for an extended period. This makes for a dramatic series of events that eventually concludes the song, an improbable scenario at the outset of a first listening. This section begins with Jimmy Page's extended guitar-hero solo, builds to the last verse—sung in the highest octave of Robert Plant's range—and continues with more legendary licks played on Page's overdriven Gibson Les Paul to the final fermata—"and she's buying a stairway to heaven." I've heard many FM radio polls conducted over the past three decades on what is the greatest rock song ever, and I have never known "Stairway" to place lower than #3. The harmonic motion certainly is not the only reason for this success, but it is an essential mechanism within this section.

Another succession that comprises only motions between two alternating chords is oscillation between the subdominant and submediant. Here again I am taking vi to be tonic of a minor key setting, so one might also hear this relationship as i and *b*VI in a natural/harmonic minor context. Either way, the relationship of chord qualities and motions obtains congruently, and there is a limited number of times this oscillation serves as the underpinning for a span or section within a song. Among the songs that I list below presenting this succession, the majority do so in the bridge section.

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Submedediant/Subdominant Oscillation: ||: IV vi :||

"That Smell," br. (Lynyrd Skynyrd, '77) "Crazy Train," br. (Ozzy Osbourne, '80) "Rock You Like A Hurricane," v., lines 1–3, 5–7 (Scorpions, '82) "Billy Jean," br., lines 1–3 (Michael Jackson, '83)

||: I V "X" :||

The last category of retrogressions that I have found to be deserving of a model designation is really an umbrella under which several permutations exist. They are all versions of successions that begin with the R3 motion I–V, then proceed with a variety of other motions. Because the opening move is a plagal motion that equates to the reverse path of the authentic cadence, there is a clear message of retrogressive effect sent by this opening move. A variety of successions complete this category, including:

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||: I V ii :||,
||: I V ii IV :||,
||: I V bVII IV :||,
||: I V vi IV :||,
||: I V iii IV :||, and
||: I V bVII I :||.
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||: I V ii :||

"Down By The River," ch. (Neil Young, '69) "Old Man," ch. (Neil Young, '72) "Knockin' on Heaven's Door," v., ch., lines 1 and 3 (BobDylan '73) "Back On the Chain Gang," beginning of intro (Pretenders, '84)

||: I V ii IV :|| (V-centered DPM Contained Within)

"Up on the Roof" (v.) (Gerry Goffin '60) "Helplessly Hoping," v. (CSN, '69) (||: ii IV I V :||) "Baby I Love Your Way, ch. (Peter Frampton, '76) Back On the Chain Gang," intro, v. (Pretenders, '83) "Crowing," v. (Toad the Wet Sprocket, '94) ||: I V ii (vi ii) IV :|| "Crazy Life," v. (Toad the Wet Sprocket, '97) "6th Avenue Heartache," ch. (Jakob Dylan, '96) "All Star," v. (Smash Mouth, '99) "I Try," v., ch. (Macy Gray, '00)

||: I V **b**VII IV :||

"Cinnamon Girl," v. (Neil Young, '69) ||: I V ♭VII IV I V :||
"Midnight Cruiser," ch., first half (Steely Dan, '72)
"Wreck of the Edmund Fitzgerald" (Gordon Lightfoot, '76) (i v ♭VII IV I)
"Baker Street," v. (Gerry Rafferty, '78)||: I v ♭VII IV :||
"Baker Street," pre-hook (Gerry Rafferty, '78) ||: i v :|| ♭VII IV I ||: i v :|| ♭VII IV V
"Is She Really Going Out With Him," v., (Joe Jackson, '79)

Transposed Version: ||: V II# IV I :||

"Drops of Jupiter," ch. (Train, '01)

| |: I V vi IV :| | (Balanced; R3, P1, P2, R3)

"Any Way You Want It," v. and ch. (Journey, '80) "Rockin' Into the Night," v., lines 1–2 (.38 Special, '80) "Hurts So Good," v. (John Cougar Mellencamp, '82) "I'm Going Down" (Bruce Springsteen, '84) "Take Me Home Tonight," ch. (Eddie Money, '86)

| |: I V iii IV :| | (Balanced; R3, P2, P1, R3)

"Don't Stop Believing," v. and ch. (Journey, '81)

||: I V **b**VII I :||

"It Don't Come Easy" (Ringo Starr, '71) (||: I v bVII I :||) "Sweet Child o' Mine," ch. (Guns n' Roses, '88) Two analytical points bear mentioning here: 1) Several of these successions are all-retrogressive in terms of their motion types, and 2) several of these conclude or "turn around" in order to repeat with a IV–I motion, which is the exact opposite of the opening I–V move. This means that what begins as a reverse authentic cadence (R3 motion) ends with a plagal motion (also R3) that serves to complete a circular motion in the retrogressive direction, tracing a path exactly the opposite of the one formed by the cyclical "progression."

Pieces or Sections Mostly or Completely Retrogressive in Harmonic Flow

"Helplessly Hoping" (CSN '69) verse: ||: ii IV I V :|| IV I V R2 R3 R3 (R3) R1 R3 R3

"Let it Be," ch. (Beatles, '70) – a coupling of the R Submediant cycle and the RSJ || vi V IV I (I) V IV I || R1 R1 R3 R3 R1 R3

"I've Seen All Good People," ch. (Yes, '71) | : I bVII bVI bIII IV :| | R1 R1 R3 P1 R3

"Wild Horses," ch., (Rolling Stones, '71) | : ii IV I V IV :|| R2 R3 R3 R1

"And You and I," symphonic "bridge" (Yes, '72) | : I bIII ii IV bIII V :|| R2 R1 R2 R1 R2

"Baker Street" (Gerry Rafferty, '78) verse ||: II vi I V :|| R3 R2 R3 R3 br ||: v ii :|| IV I V ||: v ii :|| IV I II I R3 R2 R3 R3 R3 R3 R3 R2 R3 P1 R1

"Dream Weaver," v. (Gary Wright, '75) verse ||: vi V IV :|| ||: I V IV :|| coupling of the R Submediant cycle and R1 R1 R2 R3 R3 R1

"Carry On My Wayward Son" (Kansas '77) verse ||: vi V IV V :|| (IV) I bVII ii I V R1 R1 P1 R1 R3 R1 R2 R1 R3 ch | |: vi I V IV :| | R2 R3 R1 R2 "Comes a Time" (Neil Young, '78) verse ||: I iii V ii IV :|| R2 R2 R3 R2 R3 "Comfortably Numb" (Pink Floyd, '80) verse ||: vi V ii vi :|| DPM in min | |:| |: I V :| | | |: bVII IV :| |:| | V bVII IV I ch. (P1) R3 R2 R3 DPM in Maj "Walk on the Ocean," ch. (Toad the Wet Sprocket, '91) | : ii IV I V : | and it is preceded by four R3 motions: VII IV I V R2 R3 R3 (R3) R3 R3 R3 (R3) "Fall Down," v., ch. (Toad the Wet Sprocket, '94) || vi I V II || R2 R3 R3 (R3) "Drops of Jupiter," ch. (Train, '01) | : I V IV I : | (RSJ) intro, verse: R3 R1 R3 last line of verse when going on: I V IV (IV) | |: V II# IV I: | | (P1) R3 R2 R3 chorus:

C. ANALYSIS OF POP-ROCK MUSIC WHOSE HARMONY CONSISTS OF A CONTRASTING MIXTURE OF FLOW TYPES ARTICULATED WITHIN OR BETWEEN SECTIONS OF A PIECE

Up until this point in this study, I have focused my attention on pieces that present very short or simple patterns of harmonic motion as the models that comprise the larger and more important sections of these successful pop-rock pieces. The models examined are harmonized completely by either progressive or retrogressive motion. The music I am about to discuss, however, relies on harmonic successions containing a variety or an alternation of these motion types. This composing out of varying patterns of motion types provides a plethora of possibilities that a songwriter may use to shape and characterize various portions of a work.

Although these pieces present a harmonic character that may be perceived to be merely novel due to their utilization of retrogressive motion, they are also innovative because of the wide variety of motions possible and ways in which these are combined within and between various spans and constituent sections of each song. What follows is an analytical discussion of various pieces or sections that both individually and as a group I have found to demonstrate a variety of motion types.⁷⁴

Example 4.C.1

"It's So Easy," chorus, (Holly/Petty, '57) ||: I V IV (V) I IV V I :|| <u>R3 R1</u> P1 P3 P3 P1 P3 <u>RSI</u> SJ

It is amazing that in just four measures of a Buddy Holly song one can witness the essence of rock-pop writing from a harmonic standpoint. Here are

⁷⁴Because my discussion of the motion types within this music pertains especially to the changing of one motion type to another, I am <u>underlining</u> all symbols that represent *retrogressive* motion in order to more clearly show the contrast between it and progressive motion.

the simplest models of progressive and retrogressive motion pitted against one another—the Simple Journey and the Retrogressive Simple Journey—in one phrase. Novel as retrogressive motion may be, especially for 1957, Holly made this song more effective by contrasting its retrogressive motion, in some measure, by progressive motion.

Example 4.C.2

"I'm Looking Through You,"	verse (Beatles, '65)	
: I ii vi V :	vi II I V I ii IV I	[
P1 <u>R3 R1</u> P3	P1 P3 <u>R1 R3</u> P3 P1 <u>R2 R3</u>	

Throughout the Beatles output, their music featured many songs whose sections were built around small repeating successions, which is quite typical of pop-rock music written both before and after the Beatles. What was often intriguing about their harmony in these instances was the array of motion possibilities they produced, even with three-, four- or five-chord models. "I'm Looking Through You" demonstrates this well. For the four lines that make up the verse, three different four-chord successions are produced that are balanced in terms of their motion type. For each of these series the ratio of type and strength of the progressive and retrogressive motions is roughly even. It provides a tight but interesting tour through the tonal space, partly because the change of motion type causes the harmony to "doubles back" continually.

Example 4.C.3

"In My Life," verse,	(The Beatles, '65)
lines 1–4	: I V vi I IV (iv) I :
	<u>R3</u> P1 <u>R2</u> P3 <u>R3</u>
lines 5–6	vi IV bVII I P2 P3 P1
lines 7–8	vi II iv I P3 <u>R2</u> <u>R3</u>

Lennon's touching and personal ballad "In My Life" is a very good example of the effectiveness that variety of motion type can provide. Fundamental characteristics of its structure, as heard through an examination of the piece in these terms, now become clear. The first four lines are harmonized by a succession that is a strict alternation of motion types. This is not merely oscillation between particular harmonies, nor is the succession bland in terms of the harmonic vocabulary. The song moves to five different functions in just one of these lines, and this produces a graceful effect. The next two lines offer motion that is exclusively progressive, and the final pair of lines begins much the same, but this phrase arrives at tonic through a plagal motion proceeding directly from the iv chord. This makes for a beautifully serene ending to a form that presents several kinds of patterns along the way.

Example IV.C.4

"Yesterday," verse (The Beatles, '65) I vii III vi IV V I vi II IV I <u>R1</u>P3 P3 P2 P1 P3 P2 P3 <u>R2 R3</u>

It is not merely a coincidence that there is a masterful architecture in the harmonic motion of the verse of McCartney's "Yesterday," often touted as the most recorded song ever.⁷⁵ The way I hear the pattern of motions serving this is as follows: 1) Progressive (read: traditional) motions comprise the body of the verse-refrain. 2) The section begins with a retrogression, however, 3) what starts with motion to the secondary dominant (of the dominant), preparing the way for what could be a traditional II#–V–I turnaround to conclude the line, instead proceeds with two retrogressions, that completely alter the sound and effect of

⁷⁵ Guinness World Records world wide website page:

http://www.guinnessworldrecords.com/content_pages/record.asp?recordid=50867, Guinness World Records Limited, 2000.

the passage. Not only does the up by third retrogression (R2) signal a poignant change in flow type, it does so by neutralizing the raised fourth degree of the scale.

Where a "standard" early twentieth-century ballad might typically conclude with a V–I motion, "Yesterday" ends with plagal motion. Just these four harmonies/motions alone, that harmonize "I believe in yesterday," make for a balanced yet interesting model that serves to close such a graceful line.

Example 4.C.5

"The Night Before," verse (The Beatles, '65) ||: I bVII IV V :|| <u>R1 R3 </u>P1 P3 <u>DPM....</u>/SJ....

Here we find another of the small successions that creates an interesting and balanced set of motions. In this instance, merely the insertion of *b*VII turns what would be the Simple Journey (all-progressive) into balanced pairs of retrogressive and progressive motions. One may also look at this model as an elision of the <u>DPM</u> and the Simple Journey models.

Example 4.C.6

"California Dreaming," verse (Mamas and the Papas, '66) vi V IV III I V vi IV III ||: vi V IV III :|| <u>R1 R1 R1 P2 R3 P1 P2 R1 P3 R1 R1 R1 P3</u>

A dark sounding succession prevails here because of the near-to-complete predominance of retrogressive motion. This is a bit of an anomaly, however. The

case that arises far more often is either when a set of motion types is relatively balanced or is one that demonstrates a complete predominance of one type of motion.

Example 4.C.7

"She's Leaving Home," verse (Beatles, '67) ||: I v ii vi II V :|| = <u>R3 R3 R3 P</u>3 P3 P3

The three consecutive R3 motions that begin the verse of McCartney's "She's Leaving Home" create a powerful backward spiral effect, one that provides an unusually effective beginning to the verse. Then the succession turns back over the same harmonic ground to complete a palindrome. Palindromes of harmonic vocabulary or motions in pop songs rarely extend to this length, making this one notable.

Example 4.C.8

"Piggies," bridge (Beatles, '68) ii III <u>IV I V ii</u> III IV V (I) = P1 P1 <u>R3 R3 R3 P1</u> P1 P1 (P3)

The three consecutive R3 motions in the middle of the bridge of George Harrison's "Piggies" emphasize the somewhat acerbic line "they don't care what goes on around." A bit like a triple plagal device that has been transposed, it is a powerful burst of contrasting flow type in the middle of this otherwise allprogressive section.

Example 4.C.9

"While My Guitar Gently Weeps," verse (Beatles , '68)			
Lines 1 and 3	= a chromatic des	scent in the bass line, returning to i	
Line 2	$=$ i- \flat VII-IV-V	(<u>R1 R3 </u> P1 P3)	
Line 4	$=$ i- \flat VII- \flat III-V	(<u>R1 P3 R2 P3</u>)	

Harrison again makes an interesting statement using contrast in flow type. Here, lines 2 and 4 contrast with 1 and 3 in the nature of their harmonic flow. In lines 1 and 3 a descending chromatic bass line guides the flow of the harmony. As well, lines 2 and 4 contrast with each other in that they complete a balanced succession. For each of these lines there is an even number of R and P motions, but the pattern by which they arise is different.

Example 4.B.3.10

"Nights in White Satin," chorus (Moody Blues, '67) (i) IV bVI bVII i P3 <u>R2</u>P1 P1

The second "I love you" receives a certain emphasis produced by the R2 motion that is surrounded otherwise by progressive motions.

Example 4.C.11

"(Sitting on) The Dock of the Bay," verse (Steve Cropper/Otis Redding, '68) |: I III# IV II# :|| = ||: <u>R2</u> P1 P2 <u>R1</u>:||

Here again is another balanced set of four motions that serves to harmonize a single line within the verse, providing a tight but interesting loop through the tonal space. What is a short harmonic journey, away from and back to the tonic, serves well as one line of a multi-line verse. There is color and dimension in the model, but it stays grounded in the tonic. The novelty of the R2 motion (I–III) that begins the verse is balanced by the P2 (I–vi) motion that begins the chorus.

Example 4.C.12

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"Julia," verse (Beatles, '68)
I vi v VI IV iv I vi iii V I = P2 <u>R1</u>P1 P2 <u>R3</u>P2 <u>R3 R2</u>P3
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Lennon's tender ode is melodically static, largely made of repeated notes and neighbor-note motions decorating scale degree $\hat{5}$. What gives this trance-like piece its color is a rich variety of harmonies and interesting combinations of motion types. Without a P3 motion until the very end of the section, the song floats harmonically through inverted chords that arise by an interesting combination of all of the possible root motions, both progressive and retrogressive.

Example 4.C.13

"Carolina in My Mind," (James Taylor, '70) verse: I bVII IV V vi IV V IV I6 II# V I vi ii V I <u>R1 R3 P1 P1 P2 P1 R1 R3 P1 P3 P3 P2 P3 P3 P3 (P3)</u> bridge: IV V vi iii ii IV V bVII I bVII vi ii V I vi ii V I P1 P1 <u>R3 R1 R2 P1 R2 P1 R1 R1 P3 P3 P3 P2 P3 P3 P3</u>

James Taylor often finishes sections of his songs with a standard progressive-motion turnaround. In this case, it is against the line "going to Carolina in My Mind." It is often what Taylor composes before this point in his songs that often makes for less predictable and interesting music. In this piece Taylor's patterns of harmonic motion alternate with a sense of purpose and grace. He sets up a rhythmic flow to the pattern of harmonic motion types, one that gives the section an interesting shape and sets up a release in the allprogressive motion at the end of the section.

Example 4.C.14

"American Pie" (D	on McLean, '71)	
verse: I vi ii IV vi V		P2 P3 R2 R2 R1
I vi ii IV vi IV V		P2 P3 R2 R2 P2 P1
vi ii vi ii IV ii IV V		P1 P3 R3 P3 R2 P2 R2 P1
I vi ii V I vi ii V I		P3 P2 P3 P3 P3 P2 P3 P3 P3
chorus:	: I IV I V : (3X) vi II# vi V	: P3 <u>R3 R3 </u> P3 : P1 P3 <u>R3 R1 (</u> P3)
last chorus:	: I IV I V : (3X) IV V I	: P3 <u>R3 R3 </u> P3 : <u>R1 </u> P1 P3

If the harmony of short, simple songs tells a story, then Don MacClean's "American Pie" is a full-length novel. In a rather expansive form for the verse, the first four lines differ in such a way as to build a plot much in the manner deemed effective per the ancient Greek rhetorical model: lines 1 and 2 make central statements through a mixture of motion types, then lead to vi for the start of line 3. Oscillatory motions between vi and ii present a kind of confutation that is continued in similar fashion between ii and IV later in the same line. A IV–V–I turnaround leads us to a line 4 that is completely progressive in motion type, what I take to be a conclusive affirmation.

Example 4.C.15

"Imagine," (John Lennon, '71) Intro/verse: ||: I IV :|| (IV) iii ii ii/î V6 V ||: P3 <u>R3</u> :|| P3 <u>R1</u> P3 chorus: (V) ||: IV V I III :||(3x) IV V I <u>R1</u> ||: P1 P3 <u>R2</u> || P1 P1 P3

Lennon's "Imagine" is balanced in motion type until the end of the chorus. Retrogressive motion is used to good effect, however, when the earcatching V–IV motion announces the arrival of the first line ("You may say I'm a dreamer") of the chorus.

Example 4.C.16

"I'd Love to Change the World," int., vamp, v. (Ten Years After, '71) $|:vi I ii IV III :|| = \underline{R2} P1 \underline{R2} R1 (P3)$

This classic rock FM-radio staple enjoys a fresh change in its sound at two points through the succession making up the core of the song's changes: these are places where the acoustic guitar leads the harmonic succession up by m3 (R2). The first of these is from vi to I and the second from ii to IV; each time, this motion is outlined by step in the guitar part.

Example 4.C.17

"Killing Me Softly V	With His Song" (Roberta Flack, '73)
verse :	ii V I IV ii V vi ii V I III =
	P3 P3 P3 P2 P3 P1 P3 P3 P3 R2 (P3)
chorus:	vi ii V I vi II V IV I IV \flat VII VI = P3 P3 P3 P2 P3 P3 R1 R3 P3 P3 R1 P(3)

The verse and the first half of the chorus of this ballad make for a progressive motion tour de force, mostly manifested in cyclical motion (a chain of P3 motions). In dramatic fashion, this trend gives way midway through the chorus when Flack sings for the second time "with his song, telling my whole life." As in "Imagine" and many other pop-rock songs, the retrogressive motion that marks the beginning of a new feeling, or a kind of turning point in the music, is the R1 motion produced by moving from V to IV.

Example 4.C.18

"Free Bird," verse (Lynyrd Skynyrd, '73) v. ||: I V vi ♭VII IV V :||<u>R3</u>P1 P1 <u>R3</u>P1 (P3) What has come to be known as perhaps the quintessential "anthem" in the legend and lore of the rock world—Lynyrd Skynyrd's "Free Bird"—although harmonically based on a legitimate pop progression, contains a verse that shares a similar patterning of harmonic motion with the ubiquitous *Canon in D* by Johann Pachelbel (1653–1706). A comparison of motion type patterning demonstrates a very similar alternation throughout the course of each passage.

Canon in D: ||: I V vi iii IV (I IV) V : || <u>R3 P1 R3 P1 R3 P3 P1 (P3)</u> | | | (|) | |Free Bird, v. ||: I V vi \flat VII* IV V : || <u>R3 P1 P1 R3</u> P1 (P3) (*tritone sub)

In fact, allowing for one oscillation in Pachelbel's piece to tonic and back, and a tritone substitution in "Free Bird," they are basically the same succession. The evidence this, as well as other examples provide, demonstrates a similarity of approach to the writing of harmonic motions on either end of the common practice period. Whereas Baroque, Classical, and Romantic music demonstrate a penchant for progressive motion, the Medieval and Renaissance music that precedes this harmonic practice, or pop-rock music, allows much more often for successions of balanced flow types or even those comprised mostly of retrogression.

Example 4.C.19

"Eclipse," (Pink Floyd, '73)	
Ì : I ♭VII ♭ÝI6 V :	last time = I \flat VII \flat VI I
R1 R1 R1 P3	R1 R1 R2

Throughout the landmark recording of Pink Floyd's *Dark Side of the Moon,* can be found many interesting uses of retrogressive motion in combination with progressions. The very end of the concept album is just one of them. Here I have represented the balanced set of motions that make up the dramatically building

final lines of the work. A circular harmonic journey is repeated throughout this climax, coming back to the tonic every four chords with the other elements of the music heightened in some way. This creates a kind of a helix effect, where harmonically the listener returns to the same place, and musically (otherwise) is continuing on a goal-driven journey via these extra-harmonic forces. Each pass around features the three retrogressions (R1, R1, R1) that seem to lead us away from the tonal center, spiraling downward by whole step each time. The line ends each time with a progression (P3), however, that rewinds the spring. At the end of this repeated cycling through this model we hear the final text, "the sun is eclipsed by the moon." This pass over the harmonic space is different, however, taking a shortcut from the *b*VI chord directly to the tonic. This elimination of the dominant creates a completely retrogressive close to the line, the section, the song, and this commercially very successful record.

Example 4.C.20

"Born to Run," verse/refrain (Bruce Springsteen, '75) middle span = series of R1 motions

$: \mathbf{I} \mathbf{I} \mathbf{V} \mathbf{V} : $		VI IV V I
P3 P1 (P3)	<u>R1 R1 R1 R2 R3 (</u> P3)	P2 P2 P1 P3

Example 4.C.21

"Rosalita" (Bruce Springsteen, '74) verse: ||: I IV I V :|| P3 <u>R3 R3 (</u>P3) (=oscillatory)

	bridge #1: (I) IV iii vi V IV V (I) P3 <u>R1 P3 R1 R1 P1 P3</u>
	chorus: : I IV V : (= SJ) P3 P1 (P3)
(T)	bridge #2: (I) V ii vi iii V ii vi iii IV V I III vi IV V*ii ÞVII IV V
(P3)	<u>(R3)R3 R3 R3 R2 R3 R3 R3 P1 P1 P3 R2 P3 P2 P1 R3 P2 R3 P1</u>

Bruce Springsteen's colorful depictions of his adventurous youth as a rebellious New Jerseian often take on expansive proportions for rock songs. Indeed, Springsteen produced some of his most popularly successful work for FM radio's "album-oriented rock" format of the 1970s, where the programming of classic rock favorites that played longer than four minutes was customary. Comprising each of his musical mini-dramas were several kinds of sections creating the longer durations to each cut on the record. These sections were usually cleverly different as far as their atmosphere was concerned, giving these longer cuts diversity throughout. This was no exception in the area of harmony and harmonic motion. The multi-sectional verse/refrain of "Born to Run" displays a variety that helps to create drama, one where after two lines harmonized by the SJ model we encounter two lines, musically more intense, that are harmonized exclusively by retrogressive motion. In triumphant fashion, we hear the final line, almost shouted, over an all-progressive turnaround.

The flow of each section of "Rosalita" seems to create a different mood, and perhaps it is possible to read something into the purpose of each succession when considering the harmony of the whole song. The somewhat sparsely orchestrated verse contains mere oscillation to IV and V. The first bridge creates more drama by not presenting the tonic until its end. It seems like an extension

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of the verse, providing a few more twists and turns before reaching the chorus. It is an all-progressive romp over repetitions of the SJ model. The real drama in this song comes with the second bridge. Merely the presence of this "extra" section would give the piece a greater dimension, but the harmony provides a wonderful bit of scenery as well: coming out of the chorus's tonic, we experience four consecutive R3 (quadruple plagal) motions. All this transpires while the backbeat has ceased and Bruce talks frankly to his audience, Rosalita: "Now I know your mama she don't like me 'cause I play in a rock 'n' roll band." Proceeding through a long succession of retrogressions we reach a point where, more hopeful than before, Springsteen's voice, lyrics, and density of texture rise gradually as he continues to plead for "Rosie's" company on a midnight flight down a Garden State by-way. The harmonic motion becomes progressive all through this part of this bridge, with only the occasional retrogression. The closing argument of his case provides these lyrics (talking about her father):

Well tell him *this is his last chance, To get his daughter in a fine romance, Cause the record company, Rosie, Just gave me a big advance!

and concludes with the only decisive authentic cadence of the entire section, interrupting what begins as a double plagal cadence! This back and forth struggle that cadences progressively with "no time left on the clock" connotes a sense for the heroic that lives in both Springsteen and his music.

Example 4.C.22

"Hotel California" (Eagles, '76) verse: ||: i V bVII IV bVI bIII iv V :|| <u>R3 R2 R3 R2 R3 P1 P1 (P1)</u> chorus: bVI bIII iv i bVI bIII iv V <u>R3 P1 R3 P2 R3 P1 P1 (P3)</u>

Perhaps a peculiar harmonic path, the verse to "Hotel California" is an unrelenting series of alternating R3 and R2 motions that abates only for the turnaround. Also, what is a largely retrogressive chorus concludes with this same "release" by dual P1 motions. What is particularly striking as well is the way these two sections "turn around." The chorus does so by authentic cadence (P3) to the beginning of the verse. But this stands in vivid contrast to the deceptive "cadence" (P1) created when the harmony moves from V to bVI for the beginning of the chorus.

Example 4.C.23

"Still the One," chorus (Orleans, '76) | :I IV vi II IV V I :| = P3 <u>R2</u>P3 <u>R2</u>P1 P3

As in so many pop-rock tunes, especially from the 1970s, a refreshing change of harmonic flow comes by way of the up-by-third motion (R2). In this case the motions that accomplish this are from IV to vi and from II to IV, providing an effective balancing of flow types.

This up-by-third motion, a retrogression of medium strength, is often used to set up a subsequent chain of progressions. If the harmony moves IV–vi (or VI) or I–iii (or III), then it has moved to a position "back" in the possible chain of cyclical (P3) motions. This makes for perhaps the most effective example of retrogressive loading, as what starts as a somewhat direction-less succession, moving from a primary to a secondary function, gains more and more definition

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by moving through the cyclical motions toward I, such as in III–VI–II–V–I. Here is a short list of some occurrences of this kind:

"Dancing in the Streets," bridge (Martha Reeves and the Vandellas, '64) (I) III vi ii V (I) = <u>R2</u> P3 P3 P3 P3
"You Can't Hurry Love," chorus (Supremes, '66)
I IV I III vi ii V (I) = P3 R3 <u>R2</u> P3 P3 P3 P3
"Golden Slumbers," verse or chorus, lines 3–4 (Beatles, '69)
I III vi ii V I = <u>R2</u> P3 P3 P3 P3
"You Are the Sunshine of My Life," verse (Stevie Wonder, '72)
I IV iii VI ii V I = P3 <u>R1</u> P3 P3 P3 P3
"The Boys are Back in Town," verse (Thin Lizzy, '76)
I iii IV iii vi ii V I = R2 R1 R2 R1 P3 P3 P3 P3 P3 P3 P3

Example 4.C.24

"Peace of Mind," intro., chorus, (Boston, '77) | |: vi IV I V :|| P2 <u>R3 R3 P1</u>

Boston's "Peace of Mind" provides yet another repeating four-chord model that traces a path through the harmonic space via a series of motions that are balanced in terms of type of harmonic motion. This section is special because it moves away from and back to a starting point, projecting a typical kind of harmonic path for a rock song; however, the orientation of the path is about vi. The interesting effect of this is realized as the song moves harmonically into the verse or the solo, which most often follow this succession, both of which begin on I.

Example 4.C.25

"Don't Do Me Like That," chorus (Tom Petty, '79) | |: I ♭VII vi IV V :|| = <u>R1 R1</u> P2 P1 P3 This is a fairly unremarkable succession except for the fact that this chorus is only one chord different from the verse, a standard, balanced mixture of motion types:

verse: $| : I > VII IV V : | = \underline{R1 R3} P1 P3$

The addition of vi extends the model form for the chorus and changes the sequence of motions dramatically. The retrogressions still serve to characterize the section, being that two remain that begin the succession, but the extension affects the "turnaround" portion of the model. Instead of merely moving IV–V then back to I, there is now a "transitional" P2 motion from the vi to keep the succession from bouncing so dramatically back to progressive motion of the turnaround. To my hearing the vi–IV move smoothes this transition from retrogressive to progressive motion.

Example 4.C.26

"Against the verse:	Wind," (Bob Seger, '80)	
	line 1: I iii IV I V IV line 2: I iii IV I IV V	-after <u>RSJ</u> moves via <u>R3</u> to line 2 -after SJ moves via P1 to bridge
bridge	2.	
	line 1: vi V I	-ends with P3
	line 2: vi IV I	-ends with <u>R3</u>
	line 3: vi V IV	- <u>retrogressive submediant cycle</u>
	line 4: (IV) V (I)	-SJ; moves via P3 to chorus
choru	s:	
	I iii IV I IV iii ii IV I	-mixture gives way to retrogressions
	<u>R2</u> P1 <u>R3</u> P3 <u>R1 R1 R2 R3</u>	

This somewhat poetic contribution, Bob Seger achieves great effect through the variance of motion type from chord to chord, from line to line, and from section to section. The harmonic vocabulary for this song is quite simple, but the wide variety of ways of passing through these harmonic areas creates an exquisite design.

Example 4.C.27

"Message in a Bottle," introduction, verse (Police '80) | : vi IV V ii : | = P2 P1 <u>R3 (R3)</u>

The opening guitar riff that remains the underpinning of the verse for this song is memorable, with its intense root-fifth-ninth arpeggiation motive serving to outline each of the chords. The turbulent nature of the music is produced also by the two concluding R3 motions that deny a more traditionally conclusive turnaround. On the other hand, perhaps this is a turnaround of a different kind, one that approaches I via two R3 motions, not two P3 motions.

Example 4.C.28

"Any Way You Want It," verse and chorus (Journey, '80) ||: I V vi IV :|| <u>R3</u> P1 P2 <u>R3</u>

Example 4.C.29

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"Don't Stop Believing," verse and chorus (Journey, '82)
||: I V iii IV :|| = || <u>R3</u> P2 P1 <u>R3</u> ||
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The model for each line of the verse and chorus of "Any Way You Want It" compares very similarly with the model Journey used in "Don't Stop Believing," where the balancing of motion types remains the same—only one secondary triad, iii, is substituted for vi. Interesting, but perhaps not surprising, that the successful formula for the harmonization of a song would come to be used almost exactly the same way for another in virtually the same period.

Example 4.C.30

"Refugee" (Tom Petty and the Heartbreakers, '80) intro, verse:

||: vi I V :||

R2 R3 (P1)

bridge:

IV II

R1 P2

chorus:

||: vi I V :||

R3 R2 R3 (P1)

Petty's first popular success came with the hard-hitting rocker "Refugee." This song, which helped to establish him among listeners and critics, draws much of its raw quality from the harmonic patterns composed within and between each of itssections. The R2 motion that opens the tune, driven by the bands power-chord guitars supported with rock organ, sets the stage for a song whose motions between chords is mostly retrogressive. Particularly effective is the R3 motion that precedes the chorus directly. But what makes this all the more striking is that the chord that precedes it, the last chord of the bridge, is out-ofcontext major, altered to become what would act as a secondary dominant in a traditional tonal setting. Instead of moving by P3 motion to its suggested point of harmonic resolution, Petty instead moves by R3 motion, crashing retrogressively into vi, the harmonic center of the piece.

Example 4.C.31

"Radio Free Europe," verse (R.E.M., '81) | |: IV I :| | II IV I II IV V (I) <u>R3 (</u>P3) P1 <u>R2 R3 P1 R2 P1 P3</u>

From the "alternative" rock band R.E.M., who are listed in *The New Rolling Stone Encyclopedia of Rock & Roll* as "the most popular college-rock band of the
Eighties,"⁷⁶ one would expect harmonic innovation. Actually, it was more the sound and attitude that R.E.M. brought off, which for quite some time earned them a leading role on the stage of alternative rock music. There are moments of innovative harmonic approach, however. In "Radio Free Europe," for example, they begin with an R3 motion, moving from IV to I. Because of this on first hearing, one must listen for a while to realize the orientation of the song's tonal functions. Also, the up-by-third move (R2) from II to IV before the cadence into the chorus is novel. In a surprising and interesting twist to the end of the verse, we hear II (presenting the raised $\hat{4}$), which acts as the secondary dominant of V, move instead to IV to begin this turnaround.

Example 4.C.32

"Leader of the Band" (Dan Fogelberg, '81) verse:

||: I iii IV ii vi IV V :|| I
<u>R2</u> P1 P2 <u>R3</u> P2 P1 (P3)

chorus:

||: IV I6 ii I ii vi IV V :|| I
(P3) <u>R3</u> P1 <u>R1</u> P1 <u>R3</u> P2 P1 (<u>R1</u>) P3

Example 4.C.33

"Caught Up In You," chorus (.38 Special, '82) (V) ||: IV I6 ii vi :|| (<u>R1) R3</u> P1 <u>R3</u> P2

⁷⁶ Patricia Romanowski and Holly George-Warren, eds., "R.E.M," in *The New Rolling Stone Encyclopedia of Rock & Roll* (New York: Fireside/Simon & Schuster, 1995) 826.

Example 4.C.34

"Southern Cross," (Stephen Stills, '82)
verse
$$| : I \lor VII IV : | I = \underline{DPM}$$

R1 R3 R3
verse last line & prechorus $| : \circlearrowright VII IV \circlearrowright VII I : | I = mixture P/R$
R1 R3 P3 (P1)
chorus $| : IV \circlearrowright VII I : | I = SJ (transposed)$
(P1) P3 P1 (P3)

The balancing out of each of the lines of the prechorus in Stephen Stills's "Southern Cross" serves as a buffer zone between the patterning of the first seven (of eight) lines of the verse and that of the chorus. The verse is harmonized retrogressively by the <u>DPM</u> model, but the motions of the chorus are only progressive, as they are a part of the SJ model (transposed, as if in the key of IV). The genius of Stephen Stills, in this case, is to "bridge" the contrasting harmonic flow types of these flanking sections with lines harmonized by a succession model that is itself a balanced mixture. This produces an extraordinary effect: over the course of performing the verse, prechorus, and chorus, respectively, one that moves from 1) the doubt of searching for oneself or true love while at sea under the constellations and far from home port (verse = retrogressive motion), to 2) the inner searching and reconsideration of one's love and the gifts of "heaven" (prechorus = even combination of motion types), to 3) the unequivocal confidence in love's timeless and boundary-less endurance (the chorus erupts in joyous, repeating three-part vocal harmonies exclusively in progressive motion).

Example 4.C.35

"Wrapped Around Your Finger," third verse (Police, '83) | |: vi V IV V ii iii IV V :| | <u>R1 R1 P1 R3 P1 P1 P1 ||</u> Whereas the first two verses of Sting's poignant ballad offer a less harmonically diverse submediant cycle as underpinning:

$$|: vi V :|| = \underline{R1}(P1),$$

the third verse receives a wonderful extension, which begins with an R3 motion from V to ii. This is a vivid marker for this important change of direction, one that sets up the progression in the bass line of $\hat{2}$, $\hat{3}$, $\hat{4}$, and eventually $\hat{5}$ that ends each half of this verse, extending it significantly. This makes for a "Da Capo" effect in terms of the harmony of the verses: whereby the final pass through the A-section is augmented.

Example 4.C.36

"Everybody Wants to Rule the World," bridge/refrain (Tears for Fears, '85) ||: IV I V :|| ii iii IV V I <u>R3 R3 (R1) R3</u> P1 P1 P1 P3

This order of motions equates to "retrogressive loading," a term I use when I encounter a passage that concludes with progressive motion or a progressive cadence, the energy of which is enhanced by contrasting preceding retrogressive motion. It is easy to hear this effect created by the reversal of motion type here, as one experiences a loud and forceful atmosphere over the initial retrogressions, then an immediate drop in energy. The force of the progression motion builds up again, supporting the crescendo singing of the refrain "everybody wants to rule the world" to end this passage. It is as though a figurative wheel, representing the direction of the harmonic motion, spins in one direction and slows to a halt before gradually reversing its spin and gaining speed in the other direction.

Example 4.C.37

"Like No Other Night," verse (.38 Special, '86)

||: IV vi V :|| IV V vi IV (III IV) V (VI) <u>R2 R1 (R1) R1 P1 P1 P2 (R1 P1) P1 (P1)</u>

The opening chords of this verse create what I call the submediant cycle, a rotation through IV, vi, and V. This succession makes for a weak retrogression when presented in this order. What I find interesting about this is that after hearing this twice through, the verse continues by reordering the chords of the submediant cycle, this time in progressive motion: IV–V–vi. This provides a smooth transition from one motion type to the other, as the verse ends in progressive motion and moves into the chorus, which is mostly also progressive in terms of its motion type.

Example 4.C.38

"So Far Away From Me," chorus (Dire Straits, '85) (I) IV vi V I IV vi V IV I (to V, = riff) P3 <u>R2 R1</u> P3 P3 <u>R2 R1 R1 R3 (R3)</u>

The chorus of "So Far Away From Me" is the story of two successions that differ dramatically in their mechanisms of harmonic motion. The first four measures, in which Knopfler sings "you're so far away from me, so far I just can't see," is a balanced series of motion types: P3, <u>R2</u>, <u>R1</u>, and P3. The second part consists of six measures, which are similarly four measures (sung), plus two more (instrumental) that transition us back to the central riff, during which Knopfler sings "you're so far away from me, you're so far away from me." This span of music moves exclusively though retrogressive motions, IV–vi–V–IV–I, and then to V, which begins the central riff, a section constructed completely of the <u>RSI</u>.

This example demonstrates an interesting dichotomy that pertains to the entire practice of pop-rock music harmony, be it characterized by progressive or

retrogressive motions: a harmonic journey that starts and returns to the tonic may traverse the tonal space by either shorter or longer successions of harmonies; it may accomplish this by moving through functions that are either proximal or distal to the tonic in terms of function; and also, it may achieve its path through oscillatory patterns of motion type or by completely moving along in only one type of motion. Any of these ways suffices to return the listener to a harmonic starting point, and often the contrast created in utilizing both modes of travel makes for interesting and effective harmony, which may better serve the larger musical goal.

CHAPTER 5

CONCLUSION: IMPLICATIONS OF A POP-ROCK HARMONIC THEORY

An Examination of Current Pop-Rock Harmony Scholarship

Current scholarship in the area of pop-rock music theory is expanding in scope and quality. Benefiting from an array of theoretical slants developed in the arena of art music, many publications and conference presentations have served to develop a diverse dialogue on the subject. Although it would be impossible to extract harmony, considered within the music or in its role as a subject for analysis, from the other elements of popular music, considering its contributions has its benefits. Several important theorists have recently done this. Among these are Allan Moore, Ken Stephenson, and Walter Everett.

Allan F. Moore has participated in the scholarship of popular music for almost two decades, and surveyed a variety of issues including harmony. The Professor of Popular Music at the University of Surrey, England, Moore is quite active in his home country, recently publishing, giving interviews and papers on various items of his research. His subject matter often, but not always, focuses on music by British artists. His contributions to the journal *Popular Music* and his 1993 (revised in 2001) book *Rock: the Primary Text*⁷⁷ were some of the first publications to technically address popular music outside of magazine articles and the occasional, if sometimes vague or inaccurate, allusion to it found in a classroom textbook. Two points that Moore makes are worth noting with regard to this study.

⁷⁷ Allan F. Moore, "Patterns of Harmony," *Popular Music* 11/no. 1 (1992) : 73–106; "The So-called 'Flattened Seventh' in Rock" *Popular Music* 14/no. 2 (1995) : 185–201; *Rock: The Primary Text–Developing a Musicology of Rock*. (Buckingham, England: Open University, 2001).

The first is his rigorous assessment of harmonic motion possibilities in "Patterns of Harmony."⁷⁸ This article is an expansive survey of popular music, where Moore extracts root position versions of the harmonies in various songs and categorizes the resultant patterns according to a unique system. This system is based upon many constraints, some of which include whether the bass line moves or not, whether it moves in an ascending or descending motion, which of the possible diatonic chord-to-tonic relationships are based on and what mode Moore deems the piece to be in. Central to his method is the belief, that there are, harmonically speaking, only four ways to move: by second, third, fourth or not to move.⁷⁹ Although the study of basic harmonic formulae is comprehensive, his system incorporates an elaborate system of taxonomy. The Roman numeral assessment for each pattern is given with each coded classifier, making it possible to compare the two labels.

I had never seen Moore's catalog contained in "Patterns of Harmony" before I compiled my own for this study. I must admit, however, that the two projects bear a distinct similarity—namely with the ordered typing of harmonic motion patterns. To a degree, my study is based more on the principle of root motion itself, considered as a tool of evaluation. I have ordered my catalog in terms of progressive and retrogressive motions in order that a genre-wide view may be appreciated in these perhaps more simple terms.

The second unique feature of Moore's approach is the distinction between patterns Moore bases on modes. After reviewing for the reader the seven jazz (church) modes, Moore goes on to classify much of the repertoire for analysis in terms of Ionian, Dorian, Phrygian, Lydian, Mixolydian, Aeolian, and Locrian

⁷⁸ Moore, "Patterns."

⁷⁹ Ibid., p. 79.

interval patterns. This system solves one of the problems that confronts the theorist in analyzing pop music: what to do with inflected or borrowed chords, such as "borrowed" iv, or \flat VI in major. Although this is convenient, I believe that the musical features Moore speaks of are heard by rock musicians against and in terms of the major-minor system. True, Jazz players learn to hear in modes, but I doubt that the majority of composers in the pop-rock style really do. One other reservation I have is that it lacks the ability to "spring back" when the song is not in a mode for a large span of the music.

Another recent contributor to this area of study is Ken Stephenson, whose *What to Listen for in Rock,* has quickly been received by the popular culture and academic communities as a sturdy and insightful reference for the analysis of rock music.⁸⁰ Written as a new theoretical assessment of some of rock's features but also as a text for classroom use, this book is readable on several levels. Some evidence that Stephenson marks off new territory in the area of harmonic assessment in pop-rock music is visible right from the table of contents: Four of the seven chapters concern some issue of harmony–"2. Key and Mode, 3. Cadences, 4. Chord Type and Harmonic Palette and 5. Harmonic Succession." I believe this supports the case that harmony has been arguably the most innovative musical feature in pop-rock music. Stephenson bemoans what has been a long awaited change in approach to analyzing rock in phrases such as:

⁸⁰ Stephenson, Ken. *What to Listen for in Rock: A Stylistic Analysis*. New Haven, CT: Yale University Press, 2002.

The harmonic practice of rock does not align with [that of] the common practice,

Most music theorists [hold an] unfounded assumption, namely, that rock follows the standards of the common practice with regard to harmonic progression,

and challenging some well-known theory textbook writers on the issue of their claim that common-practice harmony is "valid for popular music":

This belief is false. Alongside vestiges of traditional patterns of progression, a new harmonic practice is found. This new practice, hinted at by the blues pattern common in the early years of rock, gradually expands both in complexity and in pervasiveness during the 1960s. This new style, in fact, becomes so pervasive that it may be called a new standard.⁸¹

And thus is posited a position that many theorists are embracing, especially in terms of some of the specifics Stephenson discusses in his treatment of harmony. The standard to which he refers is largely a set of harmonic motions he symbolizes as " \downarrow 2, \uparrow 3, and \downarrow 4."⁸² This is the set of motions that I have classified as "retrogressive." This is a concept that has not been voiced very loudly up until this time in current theories of tonal music. Although at times Stephenson makes it sound as if a preponderance of harmonic practices have been altered or even reversed, the message is still clear: a considerable revision has begun.

Walter Everett's work in the field of popular music theory stands apart from all others' for a number of reasons. He has contributed a large amount of scholarship and surveyed a wide variety of styles and artists. Even more

⁸¹ Ibid., 30, 100 and 101, respectively.

⁸² Ibid., p. 104.

important are the quality of his insights, which for whatever the subject at hand is, are always many, and they serve to create an overreaching scholarly approach bringing together many theoretical as well as historical aspects. His magnum opus to date is the two-volume *The Beatles as Musicians*, a thorough survey of the complete musical output of this style-defining group.⁸³ Another of his important writings is the essay "Confessions from Blueberry Hell, or, Pitch Can Be a Sticky Substance," contained in a collection he edited titled *Expression in Pop-Rock Music.*⁸⁴ One of the most active researchers in the field, he edits works for publication, gives papers, chairs sessions at conferences, and advises for various groups and organizations devoted to scholarship in pop-rock music. His work on the music of the Beatles is extremely valuable because it is an example of scholarship of the highest level being applied to arguably the most important artists in the history of pop-rock music. Jonathan Bernard, an accomplished theorist of many styles of music, recently reviewing Everett's Beatles work, said that he expects *The Beatles as Musicians* "to serve as the gold standard for Beatles" scholarship for some time to come."⁸⁵ With contributions such as these, Everett can be credited in part for the establishment of a newly acknowledged scholarly climate now present in academia with regard to the study of pop and rock music.

⁸³ Walter Everett, *The Beatles as Musicians* (New York: Oxford University Press, 1999), vol. 2: *Revolver through the Anthology;* Walter Everett, *The Beatles as Musicians* (New York: Oxford University Press, 2001), vol. 1: *The Quarry Men through Rubber Soul.*

⁸⁴ Walter Everett. "Confessions from Blueberry Hell, or, Pitch Can Be a Sticky Substance," in *Expression in Pop-Rock Music*, ed. Walter Everett. New York: Garland Publishing, Inc., 2000, 269–345.

⁸⁵ Jonathan Bernard, review of *The Beatles: Sgt. Pepper's Lonely Hearts Club Band*, by Alan F. Moore, and of *The Beatles as Musicians*, vol. 2: *Revolver through the Anthology*, by Walter Everett, *Music Theory Spectrum*, 25 (2003) : 375–382.

While Moore and Stephenson take on the issue of harmony directly, Everett approaches harmony more in keeping with a Schenkerian approach, where it is subsidiary to the linear activity of the piece. This may create a disparity among the conclusions one might draw from each of their works, at least in terms of their approach. This is not to say that Everett does not isolate harmony in his work; he does. A complete table of "chord functions" is included in the appendix of *The Beatles as Musicians*. From this, and from the way he makes reference to harmony in his writing, one can see that harmony is a concern of some importance in how he perceives pop-rock music.

The sheer depth of analysis that a Schenker-based method affords, especially when utilized by such a theorist as Everett, is impressive. Throughout his theoretical work one finds a well-orchestrated discussion of harmony and its interaction between other musical elements. However, when Everett discusses harmony as an organizing force in the music, it is often according to traditional tonal voice-leading concerns, and his definitions of functions reveal a somewhat traditional tonal approach.

This variety of approaches among pop-rock music theorists informs an ongoing dialog that fundamentally pits a more traditional view of tonality against one that beckons revision.⁸⁶ After hearing this "conversation," an essential question becomes apparent: Is pop-rock music a different kind of traditional tonal music with certain aberrations and accentuations that we should regard as lying outside of true tonality? Or is it a musical style that changes the

⁸⁶ Notable events in this dialog are published comments by Moore about Everett's work, especially regarding the weaknesses brought to the study of popular music by using a Schenkerbased approach (Everett cites "The So-called 'Flattened Seventh' in Rock," *Popular Music* 14 (1995) : 185–7, and 190–91, and *The Beatles: Sgt. Pepper's Lonely Hearts Club Band* (Cambridge, England: Cambridge University Press, 1997), 88, and Everett's response to this in his "Confessions from Blueberry Hell," 303–6. Also, Jonathan Bernard, in the review cited above details distinctions in the approaches used by both Moore and Everett. He also questions the need for a revision to the "traditional hierarchy," which he notes that Everett resists, 380.

definition of tonality itself in order for it to be included? In light of this recent scholarship and some findings of this study, I believe that tonality can be defined two ways: one where it is a general set of parameters that guides a musical expression, and another that is more specific to the mechanisms, often harmonic, with which tonal music is crafted. Definition one will easily accommodate the innovations of the pop-rock musical language into its parameters. The second definition presents potential problems. Unless the forays into retrogressive motion and other style and structure traits of pop-rock are momentary or fleeting, then there may be a need to define the pop-rock musical language as something outside of "tonality."

The set of issues that forms this argument begins with an establishment of the nature of the musical texture commonly found in popular music. With vocals, melody-providing or harmony-providing instruments occupying the middle and upper registers, the lower register is left to a bass part, one that very likely plays a single bass note that is the root of the coincidental chord. There are some notable exceptions in the repertoire where a more traditional compositional method is called upon, one that is replete with subtle linear voice-leading devices involving the bass. However, the more common approach for pop music has become a root-based compositional orientation. Admittedly, this exists in an evolving scenario, where certain artists are more able to accommodate voiceleading intricacies involving the bass part. For many music writers in the popular style, however, this seems not to be the case, or, at least, their choice of how to flesh out the texture is to compose music supported harmonically by root position chords. This is more than just a style trait, too. It can be said that a rootbased method is quite often at the center of pop-rock's musical conception. The

epitome of this could well be the heavy rock power chord style, where even the quality of the triad is subservient to the flow of the successions of chord roots and their fifths. Not only is each chord most often conceived of as a root position construct, the harmony of spans of this music is commonly thought of as a succession of root-position chords.

If the pop-rock style is a tonal form that is the historical successor to more linear-based or contrapuntal music, it is good to remember that even two-voice counterpoint invites an assessment of the relationship between notes harmonically sounding. But make the texture three or more parts, as pop songs normally are, and even if the counterpoint and melody are foremost in a composer's approach, harmonic considerations, at least as a part of tonal perception, begin to amass. One of these considerations is, as I prefer to think of it, "anatomical." That is, what is the make-up of the harmonies, on a local level, or on the level of a section or of a piece? What function can be ascribed to each of a song's harmonies? Conveniently, a long history of functional harmonic theory already paves the way for much anatomical assessment. Spellings, inversions, voicings, and role within a key are basic to both a traditional or contemporary harmonic approach and that apparatus is readily available to the analyst. The consideration that requires a newly fortified and redesigned outlook is that of the motion between chords: the physiological consideration. This I see as the motion that is traversed through "harmonic space" when creating, performing, or experiencing a tonal work.

The stock unit of measure in this parameter of harmony is what is traditionally called a "progression." Somewhere between the scope of a chord as a singular unit of harmony and classical music's overarching umbrella of

potentially expansive tonal harmonic relations lies the harmonic progression as defined by the practice of pop-rock music. So common are the three- or fourchord successions, as they underpin the normally squared-off rhymes that comprise the verses and choruses of pop-rock songs, that a distant view of the repertoire might suggest a series of molds ready to be filled by the songwriter. How these formulae for chord successions, these "models" are used in a piece—how they are combined with others or how they are altered—is often what gives a pop song its unique appeal.

For a moment it is good to consider the importance of a harmonic succession to this style. Although the artistic worth or value that a popular song achieves is debatable, the difference in the scope of the pop-rock song is obvious. The radio-friendly four-minute format constrains the musical parameters in such a way that developmental composition is often not a prominent feature. Extensive harmonic schemes, such as long, winding modulations are often absent, as are large numbers or types of sections within a song. What results is an array of musical possibilities in miniature. Now the importance of these three- or four-chord models is cast into prominence. Where in the classical style they might be analogous to a decorative or otherwise miniscule element of the piece, in pop-rock they take on a structural role. The "core" essence for a sizable portion of typical pop-rock pieces derives from one or more of their successions of a few chords, the nature of which is the focus of this study.

The Issue of the Tonic-Dominant Axis

Central to the concept of functional harmony and motion characterized within a tonal context is the issue of the dominant-tonic axis.⁸⁷ In order to view harmonic motion as a set of possibilities that can be measured side by side, the definition of functionality cannot limit the viability of a motion on the basis of its function or on the basis of whether a chord is a plausible function. At the heart of the dilemma is the consideration of V–I motion (P3) against that of IV–I (R3). In mathematical terms, one would assume these to be equal opposites. But not if IV, acting as a precursor to I, cannot be of the same level of function in a succession as is V. The received dissonance-consonance mechanism at play in the V–I motion, along with the inherent voice-leading element and the fact that V–I has come to be imbued with a central tonal functional relationship, has resulted in a theoretical distinction between the caliber of functional level ascribed to the V and the IV chords.

Like Everett, many "tonal" theorists describe the limitation as such: The IV chord is a primary triad, but it is not a "structural chord."⁸⁸ In doing so, they base the IV's tonal role on how it often prolongs the tonic chord through neighbor-note voice leading or prepares the (hierarchically superior) dominant in a cadence. This theory is also valid in a traditional tonal music context. The general use of IV other than in those contexts is rare, so the IV in that instance does not create a motion to I, which would be a retrogression. If it has a

⁸⁷ Not always used this way, I am adopting this sense of the word from Jonathan Bernard, as he uses it in his review for *Music Theory Spectrum* on the Everett and the Moore Beatles monographs. There he makes this reference to the centering of functionality around Tonic and Dominant as primary structural chords by Everett, 380.

⁸⁸ One prominent theorist to make this distinction is Miguel Roig-Francolí. In his *Harmony in Context* (New York: McGraw-Hill, 2003), he stipulates this and goes on to summarize the most common functions of the diatonic triads (178–80). There, IV is not accorded a function of its own; it is functionally defined in terms of I (prolongation) or V (preparation). This is not a discrepancy of the theory, it is one of the pop-rock style, which unlike traditional common tonal practice, explores an additional sense of function for the subdominant.

functional role at all, it is to prepare the V, in that case moving in up by second motion (progressive; P1) in the service of setting up the cadential progression: V–I.

IV in the pop-rock style, however, has come to assume an expanded role, hierarchically speaking, in the tonal sphere. In addition to the fact that IV-I motion is used often in pop-rock, the subdominant becomes an area of the space that is better "established," simply by the greatly increased number of paths of harmonic travel that may include it in a popular song. In a trend I am compelled to think of as the opposite of the "move" to the dominant area common in traditional tonal music, pop-rock writers just as often will establish IV area. Ken Stephenson goes so far as to say that there is a "predominance" of subdominant harmony use in rock music. In a section of his book What to Listen for in Rock titled "The Predominance of the Subdominant," he asserts that in a typical twelve-bar blues model, the subdominant is the second-to-most frequent chord to occur in the pattern (tonic being the most frequent), and that it "takes up three times as much time as the dominant."⁸⁹ This and many examples of the increased use of IV in the portion of the repertoire that is not blues-based point to a change in the recipe's ingredient list or, at the least, the proportions of these ingredients as they are used tonally.

Everett's analysis of the use of IV in Beatles music is conservative, but allows for the changing modus, if not with regard to function, at least with regard to status and presence:

IV has two important roles, as either a dominant preparation or a plagal ornament to the tonic. The Beatles will usually begin their bridge with IV. . . to set up the retransitional dominant. This IV will often be tonicized . . . to further intensify the form-defining V. In the minor-mode

⁸⁹ Stephenson, 113.

"I'm Only Sleeping," the bridge tonicizes IV but then withholds the dominant. In some similar cases, as in the chorus of "Ask Me Why" or the verse of "And Your Bird Can Sing," V does not appear at all, and IV thus takes on a greater role.⁹⁰

Here we see through Everett's keen sense of traditional function how, if the Beatles are a precursor to pop-rock harmonic practice for the decades that have followed, they created some of the most novel departures from standard practice, ones that when utilized by contemporary and succeeding artists were often meant to directly oppose the status quo.

Everett, however, has reservations about the acceptance of the subdominant as a function, unlike what Stephenson upholds, given the citation above from Stephenson's book regarding the presence of IV in a blues. For a blues context, or in pop-rock songs based on the blues form, Everett calls the IV in that instance "an upper-neighbor embellishment of I, even if directly following a cadential V."⁹¹ Here, as elsewhere, Everett rails against what he describes as a common misunderstanding about the IV chord as it intercedes between V and I, especially in the blues context.

In his analysis of the early McCartney song "You'll be Mine," Everett takes the opportunity to point out what is in his estimation is an error of perception on the part of many analysts of this style of music:

The progression V–IV–I, very common in rock music, is usually considered a backward motion, as IV more normally prepares V, which wishes very strongly to resolve to I. As commonly happens in the ninth and tenth bars of a twelve-bar blues, especially in blues-derived rock, the "IV" merely doubles and intensifies the implied passing seventh of the V7 for which it stands. So what might have served as an upper neighbor to

⁹⁰ Everett, *The Beatles as Musicians: The Quarry Men Through Rubber Soul*, 359. This is an except from the appendix of this book titled "Table of Chord Functions." The end of this entry of this table has been omitted, but it will be discussed shortly.

⁹¹ Ibid.

the [third of the I chord] becomes instead, in a blues convention, a passing tone down to [the third of the I chord] in the bass. All to clarify a commonly misunderstood harmonic function heard in countless thousands of blues tunes!⁹²

Everett is considering this in the context of a blues and is describing an event in a very early McCartney composition. If conventional voice-leading norms are to be found somewhere in the development of pop-rock songs, it is likely to be in a blues-oriented rock-and-roll song early in the Beatles output. In this case, the voice-leading paradigm makes it possible to hear IV as subsidiary, as is shown in Everett's Schenkerian graph of this segment, as dependent upon the V7 as it moves to the other structural chord in the passage, the tonic.

As pop-rock musicians increasingly incorporated retrogressive motions such as V–IV–I into their harmonic vocabulary, the implication of this kind of sophisticated voice-leading abated as the emphasis on IV as a harmonic function, even as it followed V (or as it preceded I), became apparent. One good example of this exists in the vamp and verse of Train's "Drops of Jupiter" ('00), where after the I and the V chords (triads) are presented, each for a measure, IV sounds for 2 measures. This kind of temporal, non-seventh, removed-from-blues emphasis of the IV chord makes a case for it as its own function, especially as numbers of examples like this in the repertoire continue to grow. A meaning precipitates once a subculture uses an expression for long enough, and that expression is then formally added to the lexicon as a component in good standing. If that has not already happened with IV in pop music, then I believe one of two cases must be at play: 1) we, as a culture, are on our way to codifying the IV chord as its own function, on the level of the V chord, or 2) the implication

⁹² Ibid, 61–62.

that IV is its own function is merely a fad based on the novelty of a reversal of traditional practice. This reversal, whether it will become a standard gesture within what we know as tonal practice or fades from view and comes to be understood as temporary, receives its powerful effect from the comparison drawn to traditional practice. The very idea that alternative harmonic areas or that nontraditional motions have an effect or a meaning is based on the existence of a standard against which they rail.

"Flat-side" Diatonicism Through Retrogressive Motion

The expanded role of IV either serves to explain or happens because of an equality of level between progressive and retrogressive classes of harmonic motion, as demonstrated in V–I or IV–I motion. These are what Meeùs called, respectively, "dominant" or "subdominant" progressions.⁹³ As I take in more and more popular music, I view the elevated role of the anatomical function "subdominant" as analogous to the elevation of the physiological motion that Rameau called a "subdominant," or retrogressive harmonic motion.

This analogy is not the end of the issue, however. With the acceptance of "subdominant" or retrogressive motions comes, in the case of the down-byfourth retrogression, not only IV–I motion but the other diatonic possibilities: I–V, V–ii, ii–vi, vi–iii, iii–vii°, and vii°–IV, motions that precede I in a chain of falling fourths—a chain of "applied" subdominants. And what results is not purely a chain of perfect intervals—the "tritonic break" occurs between vii° and IV, and although in traditional tonal music the progressive move between these two functions sometimes occurs, the same cannot be said for the retrogressive

⁹³ Meeùs, 3.

analog. What can replace this root motion by a dissonant interval is that of the adjusted (perfect) fourth, the one originating from the \flat VII harmony.

For more reasons than purely that of providing the origin for the down by fourth motion into IV, *b*VII has become the most often utilized non-diatonic chord in the pop-rock lexicon.⁹⁴ *b*VII is the first "non-diatonic" chord presented in the scheme of moving to the "flat side." Where a small shift to the right on a typical circle of fifths would result in the key that would produce the applied dominant to the dominant, an often called-upon player in the realm of traditional tonal writing, a small move to the left on the same circle of fifths produces the key of the subdominant, capable of providing the harmonic analog to the V of V: the applied subdominant to the subdominant, or, the IV of IV.

This raises the question: Why is it so natural for the writers of popular music to import \flat VII so often in pop-rock harmonic successions? Or, at least, by what mechanism does it somehow seem reasonably appropriate to utilize the \flat VII in what otherwise should be considered diatonic harmonic schemes? For this answer I turn my attention to the geometric relationship I mention above and a continuing theme of this study: contemporary musicians aim to supply a contrast to traditional practice. If one wanted to provide a harmonic substitute for what ii replacing IV accomplishes in the T–S–D–T (progressive) scheme, they would endeavor to do this first by turning the succession into a retrogressive one such as T–D–S–T. (Now, just as with the progressive model, you would replace the "preparatory" chord—strangely, now the dominant, and instead of using the

⁹⁴ In classical harmony, the \flat VII chord is a participant only in minor mode, where the major triad is built on the seventh degree in a natural minor context. Often in this scenario it performs the role of applied dominant to the \flat III chord, the major triad built on scale degree three in minor. I am examining the \flat VII chord here as a participant in major, a role it would not traditionally play. Of course, much of the theory of motions as it pertains to \flat VII in a major mode context in the popular style holds true for the triad as it may participate in minor. The lack of a clear distinction between major and minor mode in some pop music makes this duality somewhat less important to justify. In fact, sometimes it is impossible to clarify the \flat VII's role–as naturally occurring in a minor mode or as a modification of the vii° chord in traditional diatonic major.

secondary triad found down a minor third, one would use the secondary triad found *up* a minor third—the chord built upon the lowered seventh degree.⁹⁵) Now the analog in the contemporary style to I–ii (or II)–V–I becomes the double plagal device: I–bVII–IV–I. See this analogy demonstrated in Figure V.1.

Chronological Comparison	Traditional	Contemporary	
Motion Classification	Progressive	Retrogressive	
Functional Scheme	T-S-D-T	T-D-S-T	
Primary chord scheme Motions	I–IV–V–I ↑4, ↑2, ↑4	I–V–IV–I ↓4, ↓2, ↓4	
Primary chords with substitute for "preparatory" chord Motions	I–ii–V–I ↑2, ↑4, ↑4	I–ÞVII–IV–I ↓2, ↓4, ↓4	

Figure V.1. Table Comparing Features of Progressive and Retrogressive Cadential Patterns

I hear \flat VII in the retrogression \flat VII–IV–I as a dominant substitute for V in V–IV–I (Reverse Simple Journey) just as ii is a substitute for IV when turning the

⁹⁵ IAnother way of conceiving of the functional role for IV could be to consider it a "postdominant" or, perhaps, a tonic preparation. The idea that IV in a retrogressive setting, coming after V and before I, could bear a function that is the opposite of "predominant" is intriguing.

IV–V–I (Simple Journey) into the (cyclical progression) ii–V–I. Several other comparisons help to support this alliance: 1) As already mentioned, ii replaces IV and it is a minor third down from it; analogously, *b*VII replaces V and it is a minor third up from it. 2) In the traditional scheme models the motion is all-progressive, with the motion cadencing customarily with V–I. Both versions of the contemporary scheme conclude with a retrogressive IV–I motion. 3) In the versions where a "secondary" triad substitutes for one that is primary, the order of motion type is maintained between styles: for the traditional model, the substitution results in two consecutive up-by-fourth motions that lead to I; in the pop-rock model, the substitution produces two consecutive retrogressive down-by-fourth motions that lead to I.

In many instances, I hear chords built on chromatically altered roots as bearing the same function as their nearest diatonic counterpart. The raising of the third of the ii chord to create the "V of V" does not change the role of either chord from that of dominant preparation. An example of this also arises with the major chord built on the lowered seventh degree of the scale, the "bVII" chord. It can not necessarily function like a leading-tone chord but it proceeds to other diatonic harmonies by the same class of interval and direction of motion as would vii°. In the instances where this motion type is consistent with motions as they would originate from the dominant, bVII plays a functionally similar role within a succession as might a dominant chord, sometimes emulating vii°, other times standing in for V or, perhaps, the inflected minor triad built on scale degree five. Walter Everett, writing about the major subtonic writes: "the bVII chord is often tied directly to dominant function, even when that chord is absent. The dominant, after all, has a largely contrapuntal role, in that its third, fifth, and—if present—seventh all resolve by step. So the *b*VII–I progression fulfills quite a few roles of V7."⁹⁶

Other contexts for uses of the *b*VII chord in music of the Beatles are provided by Everett in his "Table of Chord Functions" appendix in *The Beatles as Musicians*:

The major subtonic chord may prepare V7 with a telling cross relation on the altered seventh degree, as in cadences in "All My Loving," "I'm a Loser," "Yes It Is," and "I Dig a Pony." In rock music but not in art music, \flat VII is used as a lower-neighbor embellishment to the tonic beginning for the Beatles with "A Hard Day's Night" and "Every Little Thing." This I– \flat VII–I progression will sometimes grind against a tonic pedal, as in "Tomorrow Never Knows" and "Got to Get You into My Life." The Beatles progress from \flat VII through IV to I in the rock-defining "double plagal" cadence, used heavily from "You're Going to Lose that Girl" and "The Night Before" to "Here Comes the Sun" and "Polythene Pam." \flat VII may also be a passing chord between modal \flat VI and I, as in "P.S. I Love You," "With a Little Help from My Friends," and "Lady Madonna," and it appears as V of \flat III in rare major-mode context in "The Word.⁹⁷

These uses mostly parallel the palette from which they might arise in the field of pop-rock songs contemporary and successive to the Beatles' incorporation of them. They leave open the question as to what functional alliance there is for \flat VII. Obviously, it has several uses as a chord of dependence in a voice-leading or ornamental context. When it does function that way, a substitution of the lowered seventh degree for the leading tone is in effect but at cross purposes. When a voice is led from lowered degree seven to the tonic, it does so without the compelling half-step tendency embodied in the dominant. Instead, there exists a tendency for the lowered seven to lead to scale step six, a scale degree only supported by subdominant function harmonies. This, however, contrasts with the traditional function of a dominant chord: to lead to the tonic. I

⁹⁶ Everett. "Confessions," 329.

⁹⁷ Everett, *The Beatles as Musicians: The Quarry Men Through Rubber Soul*, 360.

still believe that for the majority of these instances, the use of the bVII can be construed as a substitute for a dominant, but it is a dominant that is functionally defined differently in the pop-rock style context, it is one that does not necessarily resolve to I. In fact, and this may be the reason that bVII sounds plausible in a diatonic setting, very often the bVII in pop-rock music substitutes for a dominant function chord such as vii° or V when it participates within a series of retrogressive motions. I believe that there is an ongoing development toward a use of these harmonies outside of their traditional voice-leading roles, ones where they vie for functionality, even as substitutes. The functional role these harmonies play when used as 6-4 chord decorations, however, is clearly subsidiary.

After considering the IV and the \flat VII chords, as they provide the leap off points for down by fourth retrogressive motions toward the tonic, it raises the question: what harmonic implications are raised when several of these motions are used to approach the tonic in a rock or a pop song? The double-plagal motion is quite common, but retrogressions extending farther back along the chain of "subdominants" occasionally occur. In Chapter IV.B I examine a few of these instances, and this extension of the chain of subdominants, if it comes to rest on I, results in a tour through the landscape of flat-side harmonies. If Jimi Hendrix's "Hey Joe" is in E, then this succession—a chain of four down by fourth motions—can be analyzed as ||: (I) \flat VI \flat III \flat VII IV I :||.

This challenges the musician to accept or deny the viability of the retrogressive motion in effect and the viability of the chords that involve it. Everett argues that this succession has been misunderstood as being about real harmonic participants or about retrogressive motions. Instead, he considers it to

be a series of dependant voice-leading motions that allow two tones of each chord to fall in neighbor-note fashion to ones of consonant support in the next. As he asserts at the end of a very convincing examination of the issue, "[These chords provide] color and lines, but no harmonic function."⁹⁸ This prompts me to ask, in the service of validating retrogressive motions as viable tonal musical devices: Is it possible to assign these apparently ornamental chords a tonal function, even though they are not contained in the diatonic set of triad spellings? This experiment follows:

Analogous to the way the cycle of dominants was read to bear functional equivalents,

I = T, IV = S, $vii^{\circ} = D$, iii = T (or D), vi = T (or S) and ii = S,

what would happen if we substituted chords of the song "Hey Joe" in the same way as we have \flat VII for vii° (yielding dominant (D) function)? This might entail assigning additionally tonic for \flat III (as if iii) and subdominant for \flat VI (as if vi). See Figure V.2 for an idea of how this "recomposition" would take shape.

⁹⁸ Everett. "Confessions," 326. Everett has provided very compelling examples in this passage, in his support of the functionless bVII and other "flat-side" harmonies used similarly in down-by-fourth harmonic motions.



Figure V.2. Recomposition of the Basic Harmonies and Motions for the Jimi Hendrix Song "Hey Joe"

Although the melody is changed and the chord succession is perhaps not as novel, remarkably what results is harmonic/melodic material that could stand for a popular song with much the same character. The chord palette for the Hendrix arrangement is arguably from outside of the diatonic sphere, these chords can be functionally related to primary triads that are. When the original chords of "Hey Joe" allied with primary chord substitutes that share the same or similar function, the type of motions that result are, identical. This prompts one to ask—could the concept of diatonicism accommodate more chords (chord spellings) if retrogressive motion types were considered an equally viable counterpart to progressive ones? The musical success of the recomposition makes a strong case for the viability of the "altered" chords and also for the viability of the retrogressive harmonic motions between them. If progressive motions approach the tonic in an effective way and at times use extra-diatonic materials (consider VI with its raised scale degree 1 as V/ii and II with its raised scale degree 4 as V/V), then we should consider the possible functional alliances created by the nondiatonic chords used often with retrogressive motions, such as are found in "Hey Joe."

Summary of the Analytical Sections

When Ken Stephenson bemoans the lack of recognition of a rock harmonic "standard," he is commenting on the reluctance of the theory community to not only state for the record its existence, but their reluctance or inability to *develop* ways of perceiving differences in patterns of harmonic motions. This dissertation comments on functional harmonic theory where either progressive or retrogressive motion is concerned. It is a theory of the compositional use of motion types and the patterns in which they are used throughout the tonal period. In general, I have found that progressive harmonic motion, as I have extracted a definition for, represents within tonal music a traditional approach to harmonic practice, and, conversely, retrogressive motion, a contemporary approach for pop-rock. After developing a way of defining

progressive and retrogressive harmonic motion, I have attempted to comment, through harmonic analysis performed on an extensive body of pop-rock music, on how the use of different motion types affects the nature of a piece or a section of a piece. In addition I have attempted to assess ways that we can objectively perceive the advent of contemporary uses of harmonic motion.

In Chapter IV.A my overview of progressive motion used in pop-rock music represents many of the faces of traditional harmony expressed in the repertoire. Not that the (even exclusive) use of progressive motion is passé; although I find that there is a time, generally speaking, before which retrogressive motion is not found as a harmonic organizing force, I find that progressive motion continues to be a staple of underpinning in the realm of pop-rock music, even if this repertoire is evolving into a style defined by both motion types.

In Chapter IV.B I have attempted to make a case for the recently implemented practice of retrogressive motion as an organizing force beyond the occasional harmonic novelty or oscillation back to a more fundamental harmony. Except for a few instances there seems to be, quite an abundant use of this motion type in the popular arena. This is so much the case that I am tempted to say that for every progressive motion model that sees repetition in pop-rock music, there is nearly always an analogous retrogressive model one may find that produces a musical effect whose viability can be supported by the success of that song or group of songs that contain this model.

The mixture of motion types is the subject of the final analysis chapter, IV.C. When contrasting motion types are incorporated in the harmony of a pop-rock song in interesting combinations, a kaleidoscope of musical possibilities results. Retrogressions, which are now commonly used harmonic paths of travel are often used to good effect in combination with progressions. Notable, however, is that retrogressions were not

explored in rock music in a functionally tonal context, even pop or rock, until the early 1960s! Perhaps in some measure this is where some sophisticated subtlety of pop-rock music lies. When viewed objectively the entire repertoire often displays a simplicity of texture, a lack of masterful part-writing or voice-leading, and a limited chord vocabulary. This might lead an experienced musician to assume that this music breaks no boundaries in terms of its compositional achievement. A closer examination of poprock music, with regard to the diversity of its patterns of harmonic motion, makes a strong case for compositional merit within its style. In my estimation, in the terms of the analytical technique I am proposing, certain of the most important writers of influential pop-rock music became adept at creating harmonic patterns whose mixture of motion types created brilliantly innovative and novel schemes. This served to add dimension and purpose to these pieces and, at the same time, to refine a portion of the popular music repertoire.

I have found that allowing bVII as well as vii° to substitute for the dominant within retrogressive patterns expands the set of viable diatonic possibilities. Diatonicism has always had a variety of interpretations, or, at least, senses. If retrogressions are a feature of diatonic tonal music, then perhaps the bVII should be allowed to participate in a tonal capacity. The comparison that drives my thinking in this regard is that of two retrogressions whose similarity in terms of theory and usage are discussed in Chapter IV.B. They are the Reverse Simple Journey and the Double Plagal Motion models, or, I–V–IV–I and I–bVII–IV–I. If this does not provide enough evidence to support an expanded idea of tonal harmonic function, then perhaps a different way of thinking of pitch organization is in order. If tonal diatonicism is more fundamental than key, then perhaps we need to explore a variety of tonality "types", one where bVII, among other possibilities may take part.

The "My Generation" Principle

Regardless of what theoretical support exists for the *b*VII function, its presence in the realm of popular music harmony is undeniable. What amounts to the R1 motion of down by second from the tonic can be heard as a transposition of the same motion as is derives from the third phrase of the blues progression: V–IV. And with a host of Reverse Simple Journey uses in the pop repertoire (V–IV–I), it is easy to see perhaps how the migration to the Double Plagal Motion (I–*b*VII–IV) could evolve. This down by second motion, which possibly derives from the surface harmony of the blues, is the kindling point for retrogressions of most kinds, which become emblematic of rock, and other pop music of the 1960s forward.

This creates what I have come to think of as the "My Generation" effect.⁹⁹ With many artists, beginning en masse in the 1960s, implementing retrogressive harmonic motion as an organizing device, we must endeavor to discover the source of such a fundamental turnabout. Before I offer a theory as to this, it may benefit us to visualize a chronology of the use of both progressive and retrogressive harmonic motion along the timeline of the common practice period (see Figure V.3).

year: motion type:	1600	1700	1800	1900	1960	present
Progressive:						
Retrogressive:						

Figure V.3. Depiction of Basic Chronology of Use of Motion Types Within the Period of Tonal Harmonic Practice

Important to take from this representation: 1) that progressions play a basic role in almost all of tonal music, and 2) retrogressions play a significant role starting with the advent of rock and pop-rock music. Additionally, I believe there is the sense that after an initial period of inception, 3) retrogressive motions by some measure take on the role of counterpart to progressive motions and afford rock composers a benefit in being able to craft harmonic successions using both motion types.

The models I have used to demonstrate the projection of retrogressive motion types amount to functional opposites of their more traditional counterparts. Because of this I am led to believe that the process whereby an artist reacts against or attempts to cast off mentoring influences is in effect. "Rebellious" might be one apt description, except for the fact that this is not a new phenomenon. As long as there have been artists seeking to set themselves apart, no matter in what art form, there has been a revisionist tendency among each generation.¹⁰⁰ I believe this is the case with regard to the harmony of poprock music as it changes in this fundamental way after the middle of the twentieth century. Furthermore, I surmise that the aesthetic of stylistic changes made in the music of and for the "baby boomer" generation, as they became

⁹⁹ The name here taken from the Who's 1965 anthem "My Generation," a cry of independence for the generation now known as the "baby boomers."

¹⁰⁰ Harold Bloom's theory of the "anxiety of influence" may provide precedent, or help to explain a generation's penchant to develop different modes of expression. Often these are ones that are revolutionary compared to those of the previous generation's. Bloom establishes this theory in terms of poetry and literature in his *The Anxiety of Influence: A Theory of Poetry* (Oxford: Oxford University Press, 1973). I take much in my way of interpreting this theory in musical terms from Joseph N. Straus's *Remaking the Past: Musical Modernism and the Influence of the Tonal Tradition* (Cambridge, Mass.: Harvard University Press, 1990). There, Straus interprets this revisionist process for certain composers of the twentieth century who in his estimation exemplify these traits. One of the musical techniques Straus discusses with regard to this greater phenomenon is "neutralization," whereby "traditional musical elements (such as dominantseventh chords) are stripped of their customary function, particularly of their progressional impulse. Forward progress is blocked," 17.

aware of themselves within our (popular) culture, was underscored by many stylistic traits, not the least of which was retrogressive harmonic motion utilized in a prominent way in popular songs.

Further emphasizing this point are several features of the Who's territorymarking "My Generation" ('65). In the opening bars the bass and guitar pound out a repeated motion from the tonic to the bVII chord, making the listener immediately aware of the change of harmonic landscape. The song proceeds from there in I–bVII fashion throughout. When this motion is taken with analogous retrogressive harmonic motions in their (and other prominent rock musicians') repertoire contemporary with that, the sociological implication that might come with the ownership/authorship of such a style trait becomes all the more apparent. Perhaps even more poignant is an excerpt of these lyrics sung in the service of creating a division between the members of this generation and their parents':

People try to put us d-down (Talkin' 'bout my generation) Just because we get around (Talkin' 'bout my generation) Things they do look awful c-c-cold (Talkin' 'bout my generation) I hope I die before I get old (Talkin' 'bout my generation)

This is my generation This is my generation, baby¹⁰¹

If The Who were seeking elements of originality for their music in their time, one could conclude that harmony, including all of its types of motions, were among the elements available to assist in this task. The record indicates that many musicians of their generation and the next chose to explore this feature in their music.

¹⁰¹ Pete Townsend, "My Generation," *The Who Sings My Generation*, The Who (London: MCA records, 1965).

GLOSSSARY

- Bridge. The contrasting section of a song. Historically it occurred once in a 32-bar form. Many (early-mid twentieth-century) "standards" took this form:
 A–A–B–A. This became the "middle eight" spoken about by the Beatles, among others. In pop-rock, the bridge is often repeated.
- Chorus. The section of a song that centralizes the message and musical material. It is most likely to contain a hook, background vocals, affirm the tonic, and declaim something; in narration, musically, or both. Often contains the title of the song, but unlike a refrain, is its own section, likely as long as a verse.
- Cyclical Motion (or Progression). Motion down by fifth (or up by fourth) exclusively. Often used in a chain of this root motion type, as in a series of P3 motions.
- Double Plagal Motion. Two consecutive down-by-fourth root motions. Can start on any chord, but most often is used as bVII–IV–I, making a plagal cadence preceded by "secondary" one.
- "50s Pop" Progression. The sock-hop era standard (much akin to a "doo-wop" succession) whose chord makeup is I–vi–IV–I.
- Instrumental. A section of a song where there is no singing, and either a small ensemble of instruments or a soloist who is featured.
- Introduction. The front matter of any song. Normally instrumental, this serves to prepare the way for the start of the song proper.
- Line (of lyrics). In a pop-rock song, a line is a set of words that fits together well and last sonly as long as a squared-off phrase. An example of a line is as follows: "You ain't nothing but a hound dog, crying all the time."
- Meeùs Notation. System of measuring progressive and retrogressive root motions in terms of V–I or IV–I root movement.
- Oscillation. Alternation between two chords, often for more than two occurrences of each of the two chords.
- Outro. Analogous to the intro, leads the listener "out" of the song. Some outros contain a fade-out.

Pre-chorus. A section, usually not bigger than a chorus that "ramps" the listener "up" to the level of energy or passion for the chorus.

- Principal Cadence. A full three-function set of harmonies in progressive motion ordering: Tonic Subdominant–Dominant–(Tonic).
- Progressive. A quality ascribed to a harmonic root motion similar in effect to the powerful cadence (dissonance-resolving) of a V–I harmonic change. Technically there are three root motions that make for progressive harmonic motion: up-by-fourth, or P3 motion; down-by-third, or P2 motion; and up-by-second, or P1 motion.

P1 motion. An up-by-second progression.

P2 motion. A down-by-third progression.

P3 motion An up-by-fourth progression.

Progressive Loading. A progressive motion or a small group of them that precedes a series of retrogressive motions.

Quadruple Plagal Motion. Four consecutive down-by-fourth root motions.

- Refrain. A line, two lines, and sometimes three or four lines that usually contains the title of the song, or a similar short phrase that is central to the song. Often coming at the end of a section as the last line. Typically found at the ends of verses, but occasionally a chorus will contain a "refrain-line." Usually not found in a song with a chorus as well, a refrain is not usually its own section, or at least not substantial enough to be one." And the times, they are a-changing," is a good example of a song that employs verse-refrain form.
- Retrogressive. The counterpart of progressive both from the standpoint of root motion and of musical effect. A quality ascribed to a harmonic root motion similar in effect to IV–I motion. Technically there are three root motions that make for progressive harmonic root motion: down-byfourth, or R3 motion; up-by-third, or R2 motion; and down-by-second, or R1 motion.
- R1 motion. A down-by-second retrogression.
- R2 motion. An up -by-third retrogression.
- R3 motion. A down-by-fourth retrogression.
- Retrogressive Loading. A retrogressive motion or a small group of them that precedes a series of progressive motions.
- Retrogressive Simple Journey (RSJ). The series of motions produced by a I–V–IV–I succession. The reverse of the Simple Journey.

- Simple Journey (SJ). The series of motions produced by a I–IV–V–I succession. Also known as the principal cadence.
- Space-Plot. A diagram of diatonic chords and orbital shells that, with curved arc spans, allows for the charting of a harmonic path through the pitch space. Stations (functions) of the space are positioned in accordance with functional role (in relationship to other chords) within the harmony, and because of this orientation, arc spans drawn with regard to a gravitational or nuclear tonic curve in such a way as to produce a clockwise (progressive) or counterclockwise (retrogressive) directionality for each motion.
- Submediant Cycle. A chord succession utilizing vi, V and IV in repeating groups of three chords. May be progressive IV–V–vi, or retrogressive vi–V–IV, and my start on any of the three chords but continue in oneafter-another fashion.

Triple Plagal Motion. Three consecutive down-by-fourth root motions.

- Vamp. Instrumental backbeat and rhythm part provider.
- Verse. Section that carries the plot or details of the story within a song. Music is usually the same and words are different with each successive verse.

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