Harmony versus Voicing

Modeling Local-Level Salience and Stability in Jazz after 1960

Rich Pellegrin

This article considers the counterpoint in jazz between the implied, underlying form and what is actually played in a given performance. My observations are framed within a model for jazz listening called "Stable Norms and Salient Deviations" (SNSD). Detailed analysis of an improvisation by jazz/R&B musician Robert Glasper demonstrates how my ideas about voicings are applicable to melodic improvisation. In addition to investigating theoretical and analytical matters, the essay explores the creative potential of my approach.

Dieser Artikel betrachtet den Kontrapunkt im Jazz zwischen der implizierten zugrunde liegenden Form und dem, was tatsächlich in einer bestimmten Aufführung gespielt wird. Meine Beobachtungen sind in ein Modell für das Jazz-Hören mit dem Namen „stabile Normen und markante Abweichungen" eingebettet. Die detaillierte Analyse einer Improvisation des Jazz-/R&B-Musikers Robert Glasper zeigt, wie meine Ideen zu Voicings auf melodische Improvisation anwendbar sind. Neben der Untersuchung theoretischer und analytischer Fragen untersucht der Essay das kreative Potenzial meines Ansatzes.

SCHLAGWORTE/KEYWORDS: counterpoint; Improvisation; Kontrapunkt; Neo-Riemannian Theory; Robert Glasper; salience; Salienz; Stabilität; stability

Introduction

In this article I will examine the interaction of two layers in jazz: (1) a stable, implied layer that recurs as the form of a jazz tune is repeated during performance, and (2) a salient, superimposed layer consisting of what the musicians actually play.[1] The superimposed layer may have its own voice-leading logic that counterpoints that of the underlying harmony. As I define them, "harmonies" correspond to the unrealized chord changes in the stable layer, whereas "voicings" correspond to what is actually played.

Prior neo-Riemannian work on jazz has attended to the stable layer. A common theme among many of these articles is a concern with modeling the extended harmonies of jazz more accurately. In an article on Wayne Shorter's "Yes and No," Steven Strunk argued that seventh and ninth chords should be used in neo-Riemannian work on jazz, since triads, seventh chords, and ninth chords with the same root are used interchangeably by jazz musicians.[2] Later research by Keith Waters (with diagrams created by J. Kent Wil-

1 Portions of this article were presented at the 2017 and 2020 meetings of the Society for Music Theory. I would like to thank Keith Waters, Andrew Aziz, Cosima Linke, Martin Grabow, Matthew Franke, and the anonymous peer reviewers for their suggestions on the manuscript. I would also like to thank students in the University of Florida Undergraduate Research Program, especially Gabe Gekoskie, who assisted me with some of the diagrams and videos.

2 Strunk 2003. Strunk 2016 uses some similar approaches but does not deal with ninth chords. For further discussion of Strunk 2003, see Park 2016. Park agrees with Strunk that theory should be brought more in line with practice by modeling ninth chords. Prior to Strunk's article, the issue of transformations between extended chordal structures was addressed in Callender 1998; Callender 2007 discusses this subject as well.

liams) was also concerned with modeling jazz harmonic practice more accurately and dealt extensively with ninth chords of all types.[3]

In reference to their three-dimensional *Tonnetz* modeling ninth chords,[4] Waters and Williams state that it "provides the playing field on which we may observe the progressions of these harmonies in jazz composition."[5] Note that they refer to "jazz composition." Waters and Williams examine the chord changes of compositions abstractly, idealizing voicings as ninth chords, while recognizing that in performance, "chords are often multiply realized, and the chordal instrument often adds or subtracts harmonic extensions."[6] This article approaches the extended harmonies of jazz practice from a different angle, focusing on how chord changes are realized in performance (the salient layer), and how their realization counterpoints the abstract, unrealized chord changes (the stable layer).

The voicings discussed in this article, while presented with ranges and stem directions appropriate to the piano, are also idiomatic for guitar and for ensemble writing. In addition, chord voicings may be realized melodically on monophonic instruments, which is why horn players study them, and the "upper structures" discussed below (for example) can easily be found in horn lines.

The first two sections of the essay introduce the concepts of salience and stability, which inform my work in several ways, and distinguish between the terms "harmony" and "voicing." This is followed by a section that explores voicings featuring triads, demonstrating how a focus on voicings rather than harmonies can open up new creative and theoretical possibilities. The next section, "Stable Norms and Salient Deviations," integrates the preceding discussion within a model for jazz listening. The article culminates in an examination of the counterpoint between these two layers in an improvisation by jazz/R&B musician Robert Glasper. Glasper's improvisation on "North Portland" (from the 2005 album *Canvas*) is replete with triadic transformations in the right-hand melodic line that interact compellingly with those of the underlying form, exemplifying what I call "transformational counterpoint."

Salience and Stability

Analytical discourse often involves the issue of salience, whether explicitly or implicitly. My use of the word "salience" derives from a rich corpus of studies investigating the relationship between rhythmic analysis and prolongational analysis, including writings of Fred Lerdahl, Ray Jackendoff, Carl Schachter, and William Rothstein.[7] Salience may be

3 Waters/Williams 2010.

4 Ibid., Example 10.

5 Ibid., 9.4.

6 Ibid., 5.1.

7 Lerdahl 1989, 2001, Lerdahl/Jackendoff 1977, 1983, 1983/84, Schachter 1999a, 1999b, 1999c, and Rothstein 1981, 1989, 1990. The work of these scholars developed concurrently, their ideas are generally consistent with one another, and their ideas cross-fertilized. See Pellegrin 2013 for a detailed examination of the relationships among these writings (1–42, 108–125). Of these sources, Lerdahl 2001 uses the specific terms "salience" and "stability" the most extensively. Segall 2020 suggests the term "prolongational analysis" as a replacement for "Schenkerian analysis," but prolongational analysis is deeply intertwined with rhythmic analysis, as this body of work demonstrates.

roughly considered as a measure of how perceptually prominent an event is within a given texture. The concept of salience encompasses a wide range of parameters, which may be broadly categorized as follows: first, those that are commonly studied using hierarchical levels, such as meter and grouping; second, those that are less frequently (or less independently) examined in such fashion, such as register, timbre, and dynamics; and third, parallelism (i. e., repetition).[8] Salience is often affected significantly by changes in a given parameter; as Schachter has observed, "changes of texture, dynamics, and timbre can produce accents and groupings; they can, therefore, exert a significant influence upon the rhythmic design of a piece."[9]

In this literature, salience is distinguished from stability, which is more directly related to pitch space, tonal closure, and prolongation. Lerdahl and Jackendoff write:

> Broadly, the relative stability of a pitch-event can be thought of in terms of its relative consonance or dissonance. For example, a local consonance is more stable than a local dissonance, a triad in root position is more stable than its inversion, the tonic is the most stable harmony, the relative stability of two chords is a factor of the relative closeness to the tonic (or the local tonic) of their roots on the circle of fifths, conjunct linear connections are more stable than disjunct ones, and so forth.[10]

Musical events are not simply categorized as "salient" or "stable"; rather, both of these qualities are ever-present, in varying degrees. In other words, salience and stability are both relative conditions (as opposed to absolute), and form two independent continuums (as opposed to a single continuum with stability at one end and salience at the other end).[11]

In the present essay, the concepts of salience and stability inform my work in five principal ways. Following is a brief overview; more detailed explanations occur later in the article.

1. *Lower versus upper chord tones*
   Within the context of a single harmony, the upper chord tones – seventh and extensions – are relatively unstable, the lower chord tones are more stable, and the chord root is the most stable.[12] Any of these tones may or may not be salient when they are realized in performance as a chord voicing. Some tones may merely be implied. For example, in a rootless voicing the root is implied.
2. *Placement of chord tones in a chord voicing*
   Notes at the top of a voicing are often segmented into a discrete triadic structure. This segmentation and placement in the upper register makes them more salient.[13]

8 A notable exception to this broad classification is Lerdahl 1987, which deals with timbre in hierarchical fashion.

9 Schachter 1976, 40. This idea is expressed in Lerdahl/Jackendoff 1983 as Grouping Preference Rule 3, which allows for changes of register, dynamics, articulation, and duration to influence decisions about grouping boundaries, which themselves then influence the time-span reductional process via the time-span reduction preference rules.

10 Lerdahl/Jackendoff 1983, 117–118.

11 This is not to say that salience and stability do not interact with one another. For examples of such interaction, see Pellegrin 2013, 6–7.

12 My approach to chord tones derives from Larson 1998, which in turn relies upon Strunk 1979, 1985, and 1996. See Pellegrin 2013 (132–142) for discussion. See McGowan 2008 for another perspective.

13 For a summary of how salience and register operate in Lerdahl/Jackendoff 1983, see Lerdahl 2001, 315.

3. *Solo melodic line versus rhythm section accompaniment*
   The solo melodic line, compared with the accompaniment, is salient, but may be unstable. If the soloist is a pianist or guitarist, I consider the chords they play for themselves to be part of the accompaniment. (Sometimes chords are a central feature of an improvisation, but that is a special situation.)
4. *Stable norms versus salient deviations (SNSD)*
   In mainstream jazz, the (hyper)metric, harmonic, and sometimes the melodic structure of the head – i. e., "the form" – is relatively fixed and typically recurs continuously during the improvised solos, creating an additional layer of stability and normativity over which the performance itself is superimposed. Deviations from the form are unstable, but may be salient, creating expressive contrast with the underlying structure. (However, not all deviations are salient, however.)
5. *Chord tones versus non-chord tones within the salient, superimposed layer*
   Within the salient, superimposed layer described in the fourth point above, salience rather than stability is used to distinguish chord tones from non-chord tones. This idea comes into play in the Robert Glasper analysis appearing in the last major section of the article. Further explanation is provided there, and discussion of Joseph Straus's well-known article on post-tonal prolongation is included as well.[14]

The first four points above are summarized in Table 1. (The fifth point requires more detailed explanation.)

	more stable	**less stable**	**more salient**	**less salient**
chord tones	lower chord tones	upper chord tones (7ths & extensions)	upper register, segmented	lower register, unsegmented
textural component			solo melodic line	rhythm section accompaniment
form	the formal repetitions underlying the actual performance	deviations from the underlying form	deviations are often salient	the formal repetitions underlying the actual performance

Table 1: An overview of salience and stability with respect to chord tones, texture, and form.

Harmony versus Voicing

In this article I use the terms "harmony" and "voicing" in a somewhat idiosyncratic way that requires explanation.

By "harmony," I mean the root and quality – including alterations – of the "ideal" chord changes (after Henry Martin): generally, the chord changes performed or implied in the head.[15] The presence or absence of extensions (upper chord tones) does not change

14 Straus 1987.

15 Martin 1996, 5–6. Chord changes are often modified from previous recordings of a tune, altered during the course of a given performance, and interpreted differently by different members of the ensemble (especially during the improvisations). The changes performed or implied during the head provide a baseline against which deviations may be compared and understood. Michaelsen (2018, 137) similarly observed, "musicians' utterances during the head take priority over what they play at other times in order to determine a tune's basic structure."

the harmony unless an extension contains an alteration. Alterations matter because harmonies in jazz are often conceived of as "chord scales."[16] For example, "9" does not change the harmony, but "♭9" does. I prefer not to include extensions when notating harmonies unless they change the chord scale, to avoid unnecessarily complicated and seemingly prescriptive chord symbols (see below). However, others often do indicate extensions that do not change the harmony.

By "voicing," I mean the realization of a given harmony by a performer, composer, or arranger. In this article, I sometimes notate the chord tones present in a voicing as unordered pitch-class sets; e. g., {3, 5, 7, 9}, which indicates that the voicing contains the third, fifth, seventh, and ninth.[17] A given harmony is not necessarily realized with a single simultaneity – it may be realized in multiple ways, it may be realized contrapuntally, or it may not be realized at all. Sometimes I may refer to "left-hand voicings" or "right-hand voicings," meaning the left- or right-hand portion of a larger voicing played on the piano, or a voicing for one hand only. The study of chord voicings is also closely related to the study of melodic improvisation, as melodic lines often feature arpeggiations. (See, for example, Robert Glasper's improvised melodic line in the analysis below.)

I distinguish between harmony and voicing because chord symbols are often intentionally general, leaving musicians to add or remove specific chord tones at will. If a lead sheet indicates Cm, that harmony may be realized with any combination of the root, third, fifth, seventh, ninth, eleventh, or thirteenth; i. e., any of the conventionally available chord tones.[18] Conversely, when the given chord symbols are more specific, they are often interpreted more generally, and indicated extensions are not played.

One reason indicated extensions are not necessarily performed is that they are often more descriptive than prescriptive, serving to inform the player of what is occurring in the rest of the texture or ensemble. For example, if an extension is featured prominently in the melody of a standard, it usually appears in the chord symbol. If one is performing a solo rendition of the standard, then this extension appears "automatically" in the melody and does not need to be added elsewhere in the voicing. Similarly, if one is accompanying another musician, it is often not appropriate to double the tones of the melody; doing so may not only detract from the freshness and expressivity of the tone itself, but may also limit the other musician's choices regarding articulation, intonation, timing, and special effects (slurs, smears, etc.).[19]

16 See Michaelsen's (2018) article on chord-scale networks.

17 The order of pitch-classes in a voicing often does matter in this article, as I will consider the "upper structure" of voicings separately. However, when I use this particular notation, order does not matter.

18 Musicians may also add alterations at will, but typically take greater care in doing so to avoid unwanted dissonances with other players.

19 An analogous situation presents itself in continuo playing when a cadential suspension occurs in the figured bass, but is also featured in the soloist's line. In such cases, continuo players often avoid doubling the suspension in the accompaniment due to questions of timing, ornamentation, and intonation, which is a special consideration when dealing with period instruments and temperaments. As another example, piano parts in big band charts are somewhat notorious for containing rapid successions of similar chord symbols, such as Cm13, Cm9, Cm7, and Cm11. The extensions provided in such chord symbols are more descriptive than prescriptive, informing the player of what is occurring in the rest of the ensemble. In my view, the harmony in such a situation may be regarded as C minor, and the player should add extensions at will (or simply lay out) rather than attempting to match those played by the rest of the ensemble (in which case they would barely be heard anyhow).

I also use the word "chord" in this article. This is a general term that can mean different things in different contexts. It may refer to a harmony, a voicing, or something else. For example, "chord changes" refers to harmonies, whereas "chord voicings" refers to voicings.

Exploring Voicings Featuring Triads

In this section I will explore voicings that feature triads, demonstrating how a focus on voicings can open up new theoretical, analytical, and creative possibilities.

Voicings that feature triads are highly idiomatic in jazz starting around 1960, and three main types are discussed in the pedagogical literature, including Mark Levine's influential treatises on jazz theory and jazz piano: slash chords, "So What" chords, and upper structures.[20] Slash chords consist of "a triad over a bass note" – with the triad usually being major and in second inversion – and Levine gives examples from the recorded canon of mainstream jazz (dating back to the 1950s) of every possible type of slash chord using a major triad.[21] "So What" chords feature a second-inversion triad in the right hand and a fourth played by the left hand. This fourth may itself appear a fourth below the triad, as in the original recording of "So What" by the Miles Davis Sextet, but Levine explains that it may also appear at other intervals.[22] The triad is typically major and the fourth is typically perfect, but the voicing is often planed diatonically, altering the qualities. Upper structures consist of "a triad over a tritone."[23] In piano voicings using upper structures, the left hand plays a tritone – often the third and seventh of a dominant harmony – and the right hand plays a major or minor triad.[24]

As a brief illustration of triadic voicings, Figure 1 provides an adaptation of Levine's chart of the upper structures available for dominant harmonies. (He also discusses the use of upper structures on non-dominant harmonies, but states that they are most commonly heard on dominant harmonies.) The Roman numeral indications given underneath the

20 See Levine 1995 (chapter 5) for discussion of slash chords, Levine 1989 (chapter 12) for discussion of "So What" chords, and Levine 1989 (chapter 14) for discussion of upper structures. For a discussion of upper structures in the context of big band arranging, see Lindsay 2005 (chapter 20). For a comprehensive approach to upper structures, see Sifter 2011. For references to upper structures and slash chords in a more scholarly context, see Waters 2011. Waters 2005 discusses the voicings of "So What" in a section on modal harmony (335–336).

21 Levine 1995, 104.

22 "So What" appears on *Kind of Blue*, Columbia CS 8163 (1959, recorded 1959).

23 Levine 1989, 109.

24 Sifter 2011 is dedicated solely to upper-structure triads. Published around twenty years after Levine's works, it generalizes the concept of upper structures and was published under the aegis of the Berklee School of Music, reflecting the approach taught at Berklee by her and probably others. Sifter applies the concept of upper structures to all types of harmonies, including diminished. Like Levine, she recommends placing the third and seventh in the left hand, but suggests playing fourths in the left hand as an alternative, entailing Levine's "So What" chords in so doing. Her approach to the upper structures themselves is also broader. As she observes, "while some texts require all notes of the triad to be tensions in order to be called a UST [upper-structure triad], the definition used here is that a UST must have *one or more tensions*" (vi, emphasis original). In addition, she considers augmented and diminished triads as part of the repertoire of upper-structure triads. Sifter uses Roman numeral notation for upper structures that is similar to Levine's.

voicings are not functional harmonic labels, but rather are a guide to where to place the triad, which is treated as a somewhat independent structure. Levine explains that "the upper structure number refers to the interval between the root of the triad and the root of the dominant chord."[25] For example, the indication US ♭VI means to start a minor sixth above the root of the harmony and build a major triad from there.[26] This labeling system enables Levine to easily reference different upper structures, and to make memorable pedagogical statements such as the following: "These […] three – II, ♭VI, and VI – are by far the most frequently played upper structures."[27] To express the same idea using chord tones alone would be cumbersome, and probably less effective for a pedagogical work: "These […] three – {9, ♯11, 13}, {♭13, 1, ♯9}, and {13, ♭9, 3} – are by far the most frequently played upper structures."[28]

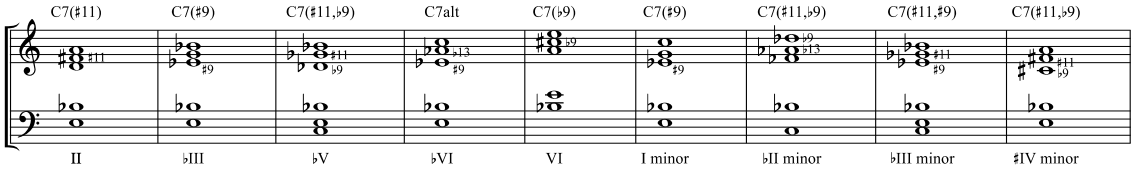


Figure 1: An adaptation of Figure 14–14 from Levine 1989 (119), showing the repertoire of upper structures available for dominant harmonies. Upper structures may also be used with other types of harmonies.

Simply put, it is common in jazz voicings for a major or minor triad to be placed at the top. With all three of these types of voicings, the triads are salient due to their placement, but may be unstable, as they are often comprised mostly or entirely of upper chord tones (sevenths and extensions). In addition, triads may be used similarly in the improvised melodic line, where they are typically more salient than accompanimental voicings, as in the Robert Glasper example discussed below.

Because so many voicings feature triads, a given triad may be used to (partially) realize numerous harmonies idiomatically; several such possibilities are shown in Figure 2. I am especially interested in the fact that triads may be utilized successively, creating a separate layer where the triads themselves relate to one another in intriguing ways. For instance, the salient, superimposed layer could contain parallel/leading-tone (***PL***) and leading-tone/parallel (***LP***) cycles, as in the Glasper analysis.

Figure 3 shows zero-sum ***PL*** and ***LP*** cycles using triads drawn from the Northern hexatonic system. Zero-sum voice leading results when the amount of voice-leading motion in one direction is balanced by the same amount of voice-leading motion in the opposite direction.[29]

Figure 4 uses the first column of harmonies from Figure 2 to illustrate some of the possibilities inherent in the ***PL/LP*** cycles from Figure 3. (The harmonies in the left column of Figure 2 are no more important than those in the right column; the right column simply lists additional

25 Levine 1989, 109.

26 Levine only uses this upper-structure notation (e. g., US ♭VI) for dominant chords.

27 Levine 1989, 110.

28 At the same time, it is important to be aware of chord tones. Levine therefore continues by stating: "You can see why just by looking at their chord symbols: C7(♯11), C7alt, and C7(♭9). The three most common alterations played on V chords are ♯11, alt, and ♭9" (1989, 110). He also includes the chord-tone labels – for the altered tones only – on the original chart, to help connect the different varieties of upper structures with the distinctive alterations entailed by each.

29 See Pellegrin 2020 for a more detailed explanation of zero-sum voice leading and its relevant applications.

possibilities.) Any harmony in any column of Figure 4 may progress to any harmony in any other column using the zero-sum voice leading of ***PL/LP*** cycles in their voicings.

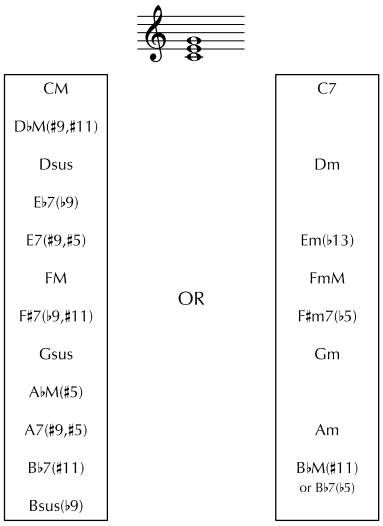


Figure 2: A C major triad may be used as a (partial) voicing for any of the harmonies shown. Triads usually appear at the top of a given voicing.

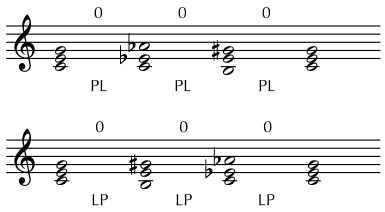


Figure 3: Parallel/leading-tone (*PL*) and leading-tone/parallel (*LP*) cycles drawn from the Northern hexatonic system. Voice leading sums to zero. Accidentals apply only to individual chords.

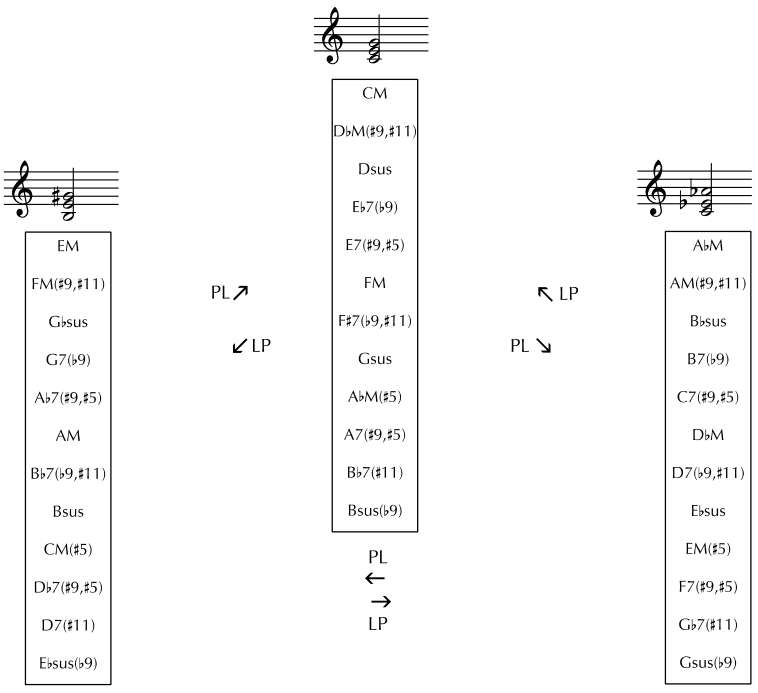


Figure 4: The triads from Figure 3 may be used as (partial) voicings for at least twenty-one different harmonies (Figure 2), twelve of which are shown here in each column. Any chord in any column may progress to any chord in any other column using the zero-sum voice-leading of *PL/LP* cycles.

Conceiving of triads in this abstracted way vastly increases their harmonic possibilities. Figure 4 illustrates that ***PL*** can model not only the progression of the triads themselves, but many other harmonic progressions (or a portion thereof) if the triads are superim-

posed over different roots, as is common in jazz harmonic practice after 1960. For example, when ***PL*** is applied to the C major triad in Figure 4, we move to the A-flat major triad, but each of these triads may be used as a voicing for any of the twelve harmonies shown beneath them. This yields a total of 144 possible progressions (12x12).[30] Moreover, Figure 4 omits the nine additional possibilities shown in the right column of Figure 2. If those are included as well, then a total of 441 possible harmonic progressions are modeled with ***PL*** (21x21).

Figure 5 provides another way of visualizing how neo-Riemannian operations with triads may be leveraged by modeling voicings. The diagram shows a portion of a *Tonnetz* where triads are considered as (partial) voicings, with several different harmonic possibilities indicated for each. One is free to construct harmonic progressions according to whatever criteria is desired – for example, that of functional tonality – but also has the option of superimposing transformations above them, as modeled here.

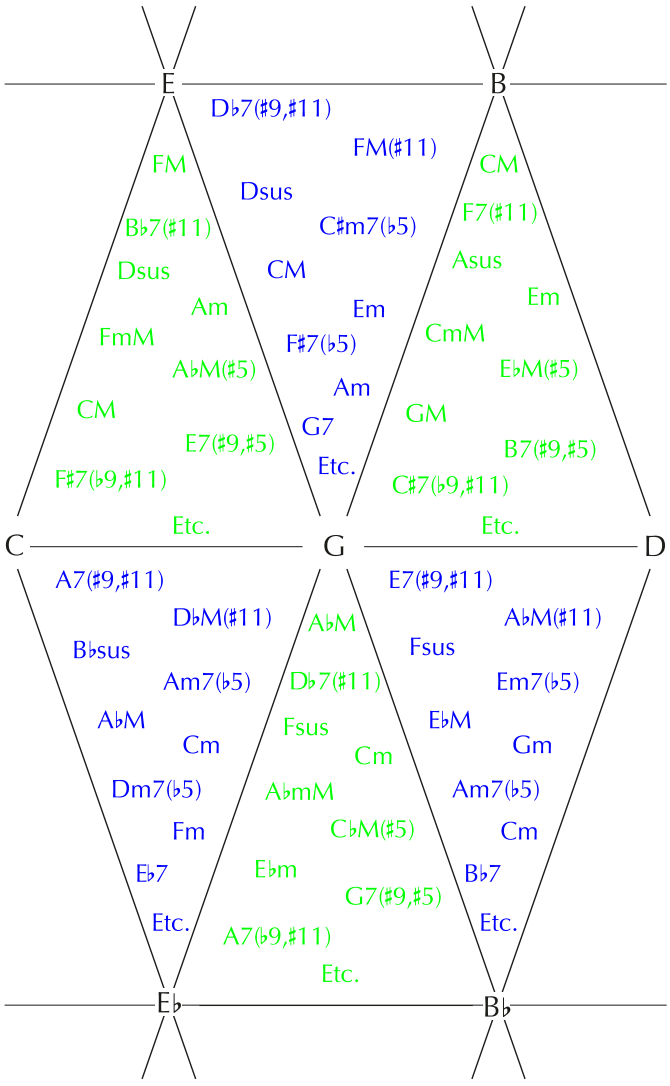


Figure 5: A *Tonnetz* showing several harmonic possibilities for each triad.

30 Some of these permutations would not involve a change of root, and therefore might not be regarded as "progressions" according to some definitions. However, in every case the chord scale does change. In the case of Bsus(♭9) moving to B7(♭9), one might think that it does not change, but Bsus(♭9) typically implies B Phrygian or B Dorian (♭2 (D acoustic), whereas B7(♭9) typically implies B half-whole (Oct $_{(2,3)}$).

Curious about this vast array of possibilities, I imposed various sets of limitations to test whether ***PL*** cycles could be superimposed in different harmonic contexts while still using idiomatic voicings. All the contexts involve functional tonality, because the application of ***PL***/***LP*** cycles within the strict confines of functional tonality presents an inherent challenge. The findings below are presented in a spirit of exploration, and illustrate the flexibility of my approach.

The first harmonic context explored is that of purely functional tonality. The second context is that of ic4 cycles with local-level tonal progressions. Ic4 cycles are common in jazz after 1960, and figure prominently in John Coltrane's composition "Giant Steps" as well as Coltrane's substitution changes for ii-V-I progressions, known as "Coltrane changes."[31] Finally, I will examine Coltrane's "Giant Steps" directly, which consists of local-level tonal progressions, but also illustrates how ***PL***/***LP*** cycles can theoretically occur simultaneously in the salient and stable layers.[32] I do not contend that "Giant Steps" is performed in this way, although the individual voicings used are all highly idiomatic; rather, it is an exploratory, theoretical demonstration. By contrast, the Robert Glasper analysis later in this article demonstrates the actual usage of ***PL*** cycles in both layers by a celebrated jazz artist.

Figure 6 uses the triads of the zero-sum ***PL*** cycle as right-hand voicings for a functionally-tonal harmonic progression – I, V/V, V, ♭VI.[33] This same progression is then realized beneath using the ***LP*** cycle instead. The progression works with both the ***PL*** and ***LP*** cycles (with some minor differences in the extensions/alterations). While the resolution to ♭VI is not particularly common in jazz, the individual triadic voicings employed in the example are idiomatic and contain a wide range of extensions and alterations. Moreover, it should be observed that Levine's US ♭VI or US VI are used for most of the dominant harmonies, and these upper structures are two out of three that he identifies in the passage above as "by far the most frequently played," out of a total of nine dominant upper structures.[34] (Again, Levine only uses this notation for dominant harmonies.)[35]

31 See Waters 2010 for more on ic4 cycles in jazz generally.

32 This article initially grew out of my research on John Coltrane's "Giant Steps," which appears in Pellegrin 2020. As such, several examples in the present essay use "Giant Steps" as a reference point and source of inspiration.

33 The left side of each diagram shows voicings with roots in the lower register. The right side of each diagram shows voicings more appropriate for settings where a bassist is present (though are also used in settings without bassists). Jazz voice leading is seldom discussed in the literature. But parallel or upwardly resolving sevenths seem fairly common, as they occur in left-hand shell voicings ({1, 7} or {1, 3}). I have, in any case, followed my ears in writing these examples, and worked within the strict limitations of the zero-sum cycles appearing in the right hand.

34 I use Levine's notation for upper structures in Figure 6, but sometimes add an additional note to the left-hand voicing.

35 A reasonable question to ask at this point is just what exactly it means to model only the upper layer of a progression, particularly considering the group-theoretic foundations of neo-Riemannian theory. I do not have a complete answer to this question. However, it should be noted that there are many circumstances, such as when triads are used in melodic improvisation (as in the Glasper analysis below), where the separation of the stable and salient layers is more pronounced than in the voicings presented here. Moreover, in the Glasper analysis I will be investigating both the salient and stable layers through the lens of neo-Riemannian theory. For me, the issue is one of audibility and creativity – if these ideas have aural or creative relevance, then they are worthy of study.

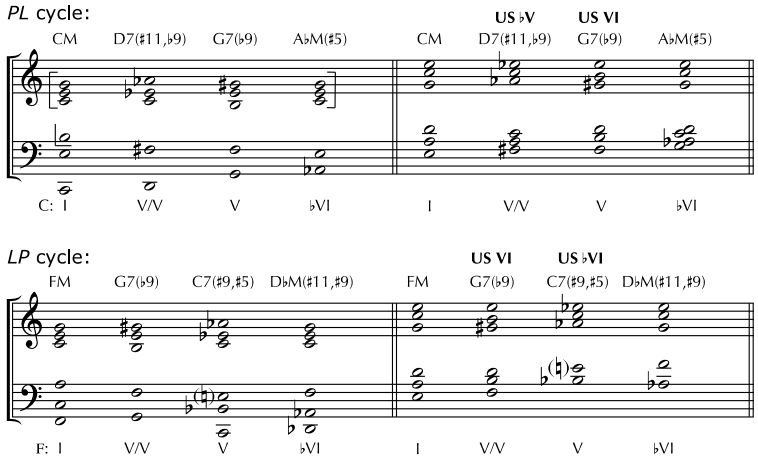


Figure 6: Zero-sum *PL* (above) and *LP* (below) cycles from the Northern hexatonic system used as right-hand voicings for the same functionally tonal progression. Accidentals apply only to individual chords. Spelling of triads retained throughout to show *PL*/*LP* cycles.

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio01a.mp3

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio01b.mp3

Audio Examples 1a and 1b: See Figure 6.

In Figures 7 and 8, ***PL/LP*** cycles in the right-hand are integrated within two tonic-dominant cycles labeled ic4a and ic4b, which I have written about previously.[36] Levine's US ♭VI – again, one of the most common – is used *exclusively* for the dominant voicings in these examples, making them highly idiomatic. Ic4a and ic4b cycles are defined as follows:

ic4a cycle = (M-D, 3), (D-M, 5), […]

ic4b cycle = (M-D, 11), (D-M, 5), […]

Specific major to dominant (M-D) and dominant to major (D-M) motions are indicated with the directed pitch-class interval from the root of the first chord to the root of the second chord. For example, (M-D, 3) indicates a major chord moving to a dominant chord located three semitones "higher" (clockwise), as in the FM to A♭7(♯9, ♯5) shown at the beginning of Figure 7.

In Figure 7, the ***LP/PL*** cycles in the upper stave progress through major thirds twice as quickly as the ic4a cycle itself, which contains two chords per key area. {1, 3, 7} voicings are consistently used in the left hand, in keeping with the sequential nature of the example. As heard in Audio Examples 2a and 2b, the progression may be played forwards or backwards to obtain ***LP*** or ***PL*** cycles, respectively.

36 Pellegrin 2020.

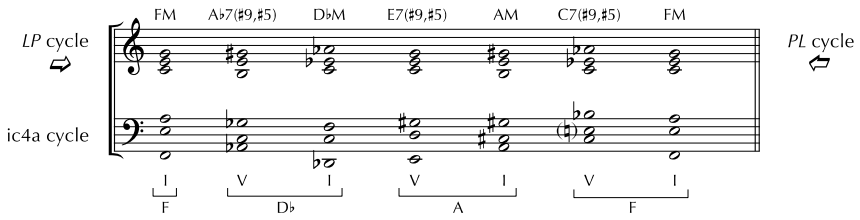


Figure 7: Zero-sum *PL/LP* cycles in the right hand progress through major thirds twice as quickly as the ic4a cycle itself, which contains two chords per key area. {1, 3, 7} voicings are consistently used in the left hand, in keeping with the sequential nature of the example. Accidentals apply only to individual chords. Spelling of triads retained throughout to show PL/LP cycles.

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio02a.mp3

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio02b.mp3

Audio Examples 2a and 2b: See Figure 7.

In Figure 8, ***PL/LP*** cycles are integrated within ic4b cycles in a different way: the cycles here progress through major thirds at the same rate, though out-of-phase with each other, as illustrated by the brackets. {1, 3, 7} voicings are again consistently used in the left hand. As heard in Audio Examples 3a and 3b, the progression may again be played forwards or backwards to obtain ***LP*** or ***PL*** cycles, respectively.

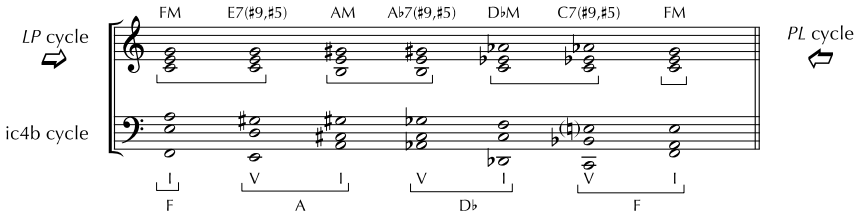


Figure 8: Zero-sum *PL/LP* cycles in the right hand integrated within ic4b cycles. Here, the major-third cycles progress at the same rate, though out of phase with each other, as illustrated by the brackets. {1, 3, 7} voicings are again consistently used in the left hand. Accidentals apply only to individual chords. Spelling of triads retained throughout to show *PL/LP* cycles.

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio03a.mp3

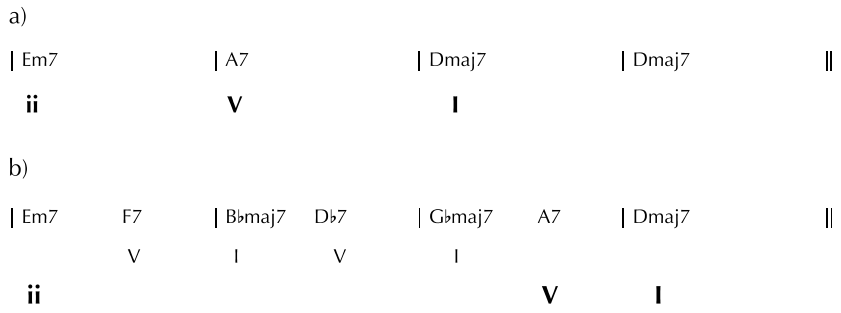
https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio03b.mp3

Audio Examples 3a and 3b: See Figure 8.

"Coltrane changes," which are prominent on "Countdown," serve as a standard reharmonization tool that enables jazz improvisers and composers to embellish ii-V-I progressions occurring in any context with ic4a cycles.[37] Figure 9 applies "Coltrane changes" to a ii-V-

37 "Giant Steps" and "Countdown" appear on *Giant Steps*, Atlantic 1311 (1960, recorded 1959). Coltrane experimented with ic4 substitution changes in improvisations, compositions, and reharmonizations for some years during the late 1950s before bringing them to the broader attention of the jazz world with the album *Giant Steps*. In "Countdown," "Coltrane changes" are applied to the well-known composition "Tune Up," which is mostly comprised of ii-V-I progressions. In "Giant Steps," Coltrane also employs ic4 cycles, but does not use them to elaborate ii-V-I progressions; rather, the concept of ic4 cycles is ab-

I progression in D major. The substitution changes chromatically embellish the underlying progression and do not affect its overall functionality. The superimposed ***PL/LP*** cycles shown in Figures 7 and 8 could be applied to any ii-V-I progression in this way.



Figures 9a and 9b: "Coltrane changes" applied to a ii-V-I progression in D major. The substitutions chromatically embellish the underlying progression and do not affect its overall functionality.

Having seen how ***PL/LP*** cycles may be integrated within both ic4a and ic4b cycles, it is now possible to examine "Giant Steps" in similar fashion. Figure 10 gives a realization of the "Giant Steps" harmonic progression using zero-sum ***LP*** cycles from the Southern hexatonic collection in the right hand (following Richard Cohn), and {1, 3, 7} voicings from the Western nonatonic collection in the left hand (following Matthew Santa).[38] The ***LP*** cycles progress through major thirds twice as fast as the ic4a cycle in the first half, but progress at the same speed as the ic4b cycle used in the second half.[39] The switch from asynchronicity to synchronicity is possible because the ***LP***-cycle voicings (upper staff) operate on a separate level than the ic4 cycles of the underlying harmonic progression (lower staff).[40]

stracted and used as the basis for the composition itself. For more on ic4 cycles in "Giant Steps," see Pellegrin 2020, 31–33.

38 Cohn 1996; Santa 2003. Santa presents nonatonic systems that are an extension of Cohn's hexatonic systems, and that use the same geographic labeling system. The nonatonic collections corresponding to Santa's nonatonic systems are equivalent to the third of Messiaen's modes of limited transposition (1944, 58–63) (also see Demsey 1991, 172–173; and Jaffe 1983, 170). Santa's nonatonic systems use {1, 3, 5} voicings for major harmonies and {1, 3, 7} voicings for dominant harmonies. All pairs of voicings in his original nonatonic systems possess zero-sum voice leading. I have altered his systems here by using {1, 3, 7} voicings for the major harmonies; therefore, zero-sum voice leading does not occur in the lower stave of this example. For more on nonatonic collections and their relationships with hexatonic collections, see Pellegrin 2020, 8–15.

39 I eliminated the supertonic harmonies from this realization mainly because their presence interferes with the perception of these different ***LP***-cycle speeds. Each supertonic harmony may in fact be convincingly realized in the right hand with two different triads from the ***LP*** cycle. (However, some such voicings sound better than others due to the inversion of the triad.) The supertonic harmonies have also been omitted due to their interchangeability with dominant harmonies in this context; see Pellegrin 2020, 23 for more. For several other realizations, some with supertonic harmonies and some without, see ibid., 21–38.

40 While it would be tiresome to do so for very long, the ***LP*** cycles in the right hand could be used for improvisation. For example, adding a ninth to each triad itself produces pentatonic cells which work with the harmony throughout the realization. (This is the same pentatonic cell that Coltrane used frequently on the original recording of "Giant Steps," except that he used it as chord tones 1235 on major harmonies.)

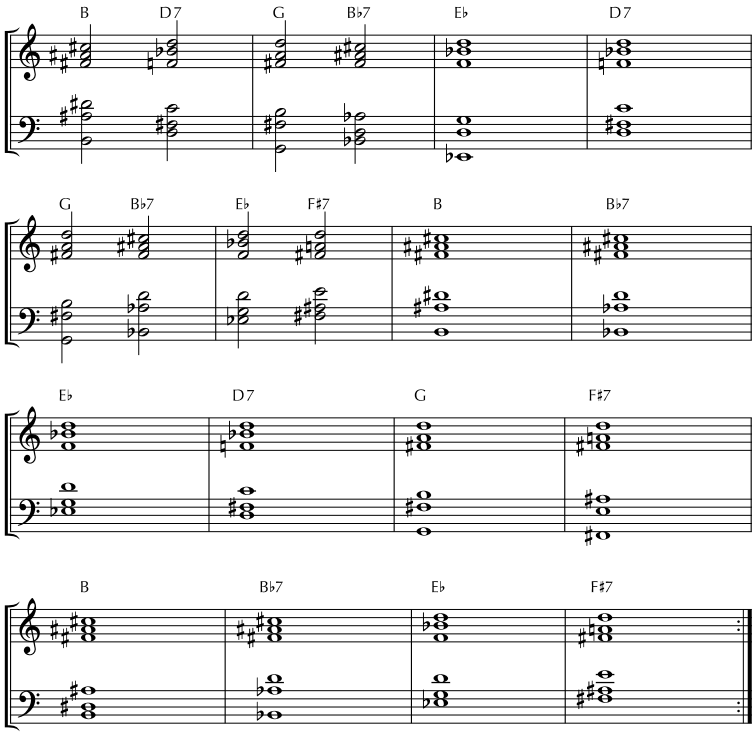


Figure 10: A realization of "Giant Steps" using zero-sum *LP* cycles from the Southern hexatonic collection in the right hand, and {1, 3, 7} voicings from the Western nonatonic collection in the left hand. The *LP* cycles progress through major thirds twice as fast as the ic4a cycle in the first half, but progress at the same speed as the ic4b cycle used in the second half. Accidentals here apply to whole measures, as per usual practice. Spelling of triads retained throughout to show *LP* cycles.

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio04.mp3

Audio Example 4: See Figure 10.

Figure 11 shows the opening of "Giant Steps" (ib4a cycle) realized with two different zero-sum cycles: an ***LP*** cycle from the Southern hexatonic system and a cycle from the Western nonatonic system.[41] The Western nonatonic cycle (lower staff) mostly uses lower chord tones, defining the harmony with stable tones. If one hears this cycle in isolation, it fails to capture the richness of jazz harmonic practice (Audio Example 5a). However, it is not intended to, and instead provides a model of the locally-tonal harmony. The Southern hexatonic ***LP*** cycle (upper staff) uses a combination of lower chord tones, extensions, and alterations. Heard alone, it fails to define the harmonic progression of "Giant Steps" (Audio Example 5b). The cycle is either heard as F♯M-B♭M-DM, which is unrelated to the chord changes here, or, if one is open to the possibilities illustrated in Figure 4, then the cycle represents hundreds of different progressions. The ***LP*** cycle in this harmonic context is thus unstable, but is salient due to its idiomatic placement at the top of the voicing.[42]

41 In this example, the stable layer is part of the complete voicing that is used to realize the harmony. Later in this article, I will present examples where the stable layer corresponds to the abstract, unrealized harmony.

42 The slight overlap between the two layers is not necessary, but is intentional, as discussed below.

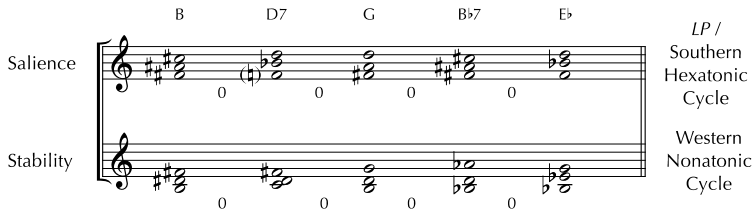


Figure 11: The opening five chords of "Giant Steps" (ib4a cycle) realized with two different zero-sum cycles: a salient *LP* cycle from the Southern hexatonic system and a stable Western nonatonic cycle. Accidentals apply only to individual chords. Spelling of triads retained throughout to show *LP* cycles.

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio05a.mp3

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio05b.mp3

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio05c.mp3

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio05d.mp3

Audio Examples 5a–d: See Figure 11.

The two staves work together. The stable layer provides meaning to the salient layer – partly through tonal syntax in this particular case – while the salient layer enriches the stable layer.[43] This article focuses on local-level relationships, but salience and stability operate the same way in broader contexts, where tonal closure and resolution ultimately give meaning to events of various scale which are salient but unstable. For example, Lerdahl and Jackendoff cite a dissonant climax from the first movement of Beethoven's *Eroica* Symphony which they describe as being "perhaps the most striking moment" in this movement. Although this climax is very salient, its harmonic instability decreases its structural importance: "This event resolves into (i. e., is less stable than, and hence structurally less important than) the dominant. […] Thus the chord […] despite its conspicuousness, would be deeply subordinate within a reduction of the whole movement. […] The tension of this moment is due in part to the disparity between its surface salience and its reductional status."[44] Schachter describes each successively higher structural level as a "horizon that clarifies and gives meaning to the level beneath it." In this case, the dominant provides meaning to the subordinate dissonant climax.[45]

Because the two layers in the diagram overlap, it is necessary to either play the lower stave down an octave to clearly perceive both levels simultaneously, or quickly roll the lower stave followed by the upper stave to make the overlap audible (Audio Examples 5c and 5d). The latter procedure captures the expressivity of the clusters created by the overlap in the middle of the complete voicing.

PL cycles are certainly not the only superimposed progressions worthy of study, but they are relevant to the Glasper analysis below. In a forthcoming work, I explore other superimposed progressions, as well as the possibilities of superimposed seventh chords and ninth chords.[46]

43 Sifter (2011, vi) expresses a similar idea in a pedagogical context: "USTs [upper-structure triads] are played in the RH on top of 'chord sound,' generally the guide tones (3 and 7) plus one other note (9, 5, or 13) in the LH. The guide tones express the chord quality, while the UST adds color."

44 Lerdahl/Jackendoff 1983, 109.

45 Schachter 1999d, 302. In a jazz context Steve Larson has written: "A dissonance derives its meaning from more stable pitches at deeper structural levels" (1998, 213).

46 The forthcoming essay will most likely appear in a volume published by Vernon Press, edited by Bozhidar Chapkanov.

Stable Norms and Salient Deviations

In this section, I will integrate the preceding discussion of harmonies and voicings within a broader model for jazz listening that I call "Stable Norms and Salient Deviations" (SNSD). One might ask why I use this model rather than simply refer to the technique of superimposition. There are three primary reasons for this.[47]

First, as explained below, I consider the model to apply to the performance itself, the composition itself, and to the relationship between the performance and the composition. The SNSD model captures more details of the complex layers of structure in jazz.

Second, when jazz musicians and writers refer to the technique of superimposition, they generally refer to larger or more elaborate musical ideas, such as superimposing ideas or quotations in a different key or meter for several measures. The (salient) deviations to which I refer include these larger ideas, but they also include smaller musical ideas that might be expected in a "syntactical" performance.[48] Therefore, a broader category of events is entailed by the SNSD model. For example, the cymbal hit discussed in the Glasper analysis (Figure 20) is only a single, brief event. I do not believe that other commentators would refer to that as superimposition. However, it is an example of a salient deviation.

I do consider these salient deviations to be superimposed over stability. Therefore, I do use the term "superimposition" in the diagrams presented below. But this usage of the term "superimposition" describes the mechanism through which deviations are heard and understood, rather than a performance technique.

Third, my specific choice to use the terms salience and stability is due to my analytical orientation around the rhythmic work of Lerdahl, Lerdahl and Jackendoff, Schachter, and Rothstein, as referenced above. The methodological framework of structural layer analysis is rigorous and detailed, and is often therefore appropriate when an analysis seeks to account for every note of a composition or performance. For example, in the Glasper analysis below, it is necessary to establish a methodology for the reduction of Glasper's solo melodic line to a triadic structure. One cannot simply "reduce" a florid improvised melodic line to a triadic diagram without a coherent methodology.

Part of the process of understanding jazz is hearing the stability that underlies the salience. This can be challenging, even during the head, but is especially so after the head has been presented.[49] (In the case of standards, liberties may already be taken with the

47 Scholars such as David Morgan (2000), Waters (2011), and Brian Levy (2020) have used the term "superimposition." Levy also uses the term "substructure" to refer to the underlying form. Iyer 2002 refers to rhythmic "deviations" in the same way that I do. Also see Iyer 1998. Other work that is consistent with my observations includes Waters 1996, Love 2013, and Smither 2021.

48 Simpson-Litke/Stover 2019 have discussed salsa clave rhythms – which appear as "syntactical" comping patterns in jazz – and the problem of whether or not they are organized by and syncopate with the meter (creating what I would call "salient deviations") or help form the meter (creating what I would call "stability"). See especially pages 77–78.

49 The "head" refers to the presentation of the theme, which usually occurs at the beginning and end of a performance in mainstream jazz.

head.)[50] In jazz, the (hyper)metric, harmonic, and sometimes the melodic structure of the head – i.e., "the form," as jazz musicians often refer to it – typically recurs continuously during the improvised solos, creating a layer of stability and normativity, over which the solos and accompaniment are then superimposed.[51] Elsewhere I have written:

> In order to follow the form (as listener or performer), one must continually hear beyond a thicket of events that may be salient but which frequently mask, or conflict with, the stable underlying structure. For example, the stability of the harmonic structure may be obscured by extensions and alterations, the stability of cadential closure may be obscured by emphasis on less stable harmonies, the stability of the meter may be obscured by syncopation and metric displacement, and the stability of the phrase structure may be obscured by hypermetric displacement and improvisational phrasing across hypermetric barlines. The constant comparison of two simultaneously occurring layers – stable norms and salient deviations – throws the contrast between the two into relief. (If one is not following the form on some level, then this expressive contrast will not be perceived.)
>
> The more salient a deviation is, the more it challenges our ability to perceive the form […]. The most skillful jazz musicians are capable of creating salience-based illusions so powerful that even very experienced listeners may have difficulty following the stable underlying form.[52]

The SNSD model is illustrated in Figure 12. Note that the heading "harmony" is meant in a general sense. Figure 12, however, is a simplified diagram that collapses the distinction between performance and composition. A fuller picture is presented in Figure 13. Here, the model is partitioned into two larger levels of salience (performance) and stability (composition). The composition as a whole is stable because it is a fixed reference point for listeners and performers. However, the composition is not salient because it is merely implied or referenced during performance. (A jazz composition, even the head, is not realized by playing the lower chord tones on downbeats and executing the melody as written; rather, the composition is interpreted. This is one reason that Garrett Michaelsen

50 Liberties are often taken with originals as well, but it may be more difficult for a listener to know when this is taking place, if the composition is not previously familiar. There is also the question of what specifically constitutes the composition: (1) a lead sheet copyrighted by the composer (problematic because it is often unknown what written music, if any, musicians had in front of them at a given recording session); (2) a note-for-note transcription of a canonical recording (problematic since alternate takes and live recordings generally differ greatly in many respects); or (3) a lead-sheet style transcription of the recording. The last option may seem reasonable, but can also be problematic. For example, in his work with the second classic quintet of Miles Davis, bassist Ron Carter sometimes plays just the seventh in the bass, even during the head, and sometimes even plays the "wrong" seventh, apparently with intention. Miles Davis has stated, "Ron would start playing major sevenths in the bass and he and Herbie [Hancock] would lock that up and Tony [Williams] would dig it and you know Wayne [Shorter] and I dug it, too" (1990, 276). This quotation somewhat implies that Hancock would play major sevenths to match Carter's sevenths, but I have found instances where Hancock's and Carter's sevenths are not consistent (which could still be intentional on the part of one or both players).

51 Michaelsen's (2018) concept of chord scales is again useful as we consider what constitutes the form; he speaks of them as being "abstract potential macroharmonies" (137). In the case of standards, or other well-known jazz tunes, the head is often not presented straightforwardly, and may even be omitted. Before the advent of the long-playing record, this was sometimes done to save time, as the tunes were so well-known by the public that they were recognizable even when the theme was only referenced subtly during improvisation. See note 60 for more.

52 Pellegrin 2016. Similarly, Rothgeb (1997) wrote in a Schenkerian context that "salient features can mislead the ear" (186).

refers to jazz compositions as "tunes," as per jazz parlance.)[53] In addition, the composition has its own interactions of salience and stability, such as metric displacement and syncopation in the theme or hits, or irregular phrase structure occurring within an otherwise normative environment of recursive, powers-of-two units.[54]

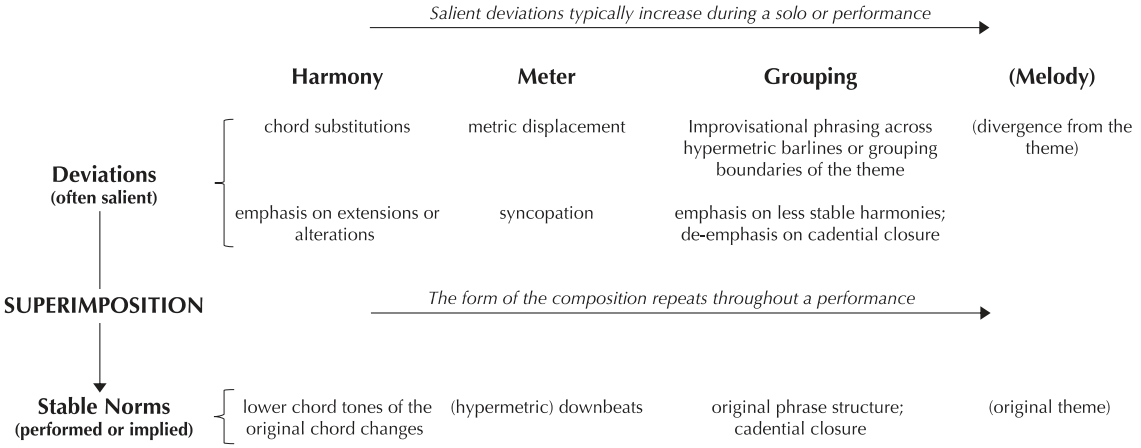


Figure 12: The simplified SNSD model.

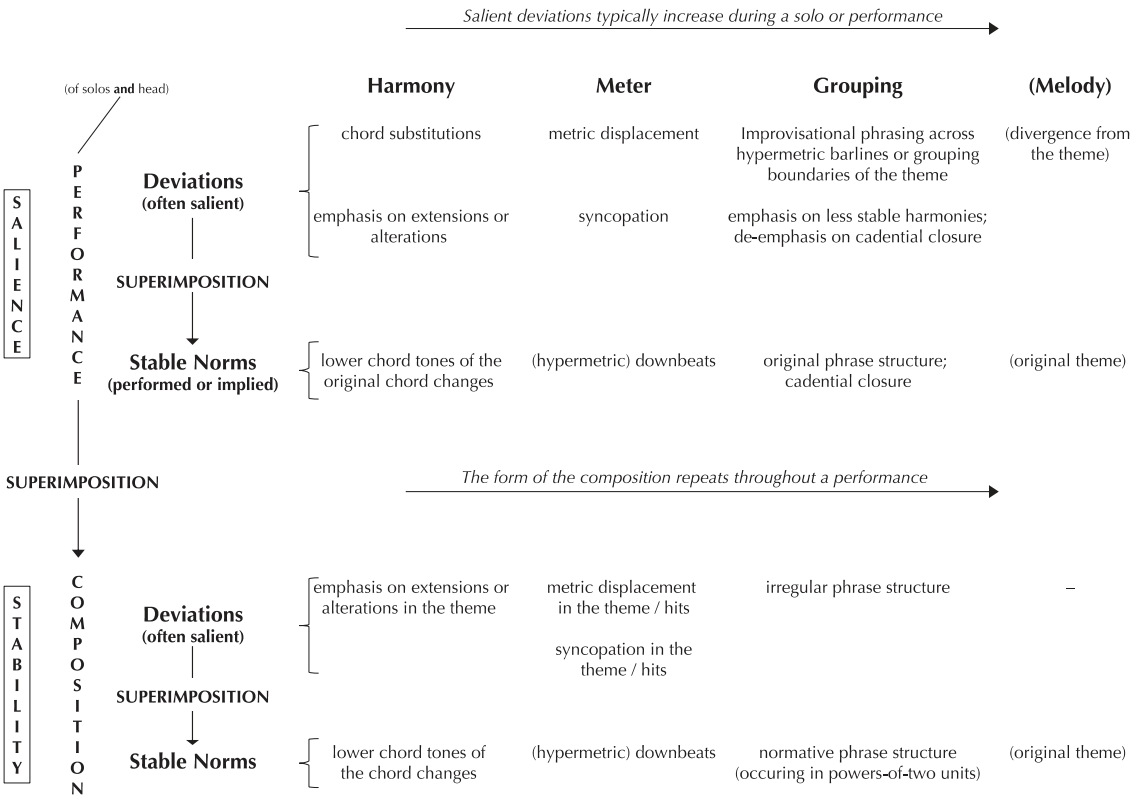


Figure 13: The SNSD model.

53 Michaelsen 2018, 124n1, also see note 51, above.

54 The term "melody" is in parentheses in the diagrams because it was common starting around 1940 for improvisers not to reference the theme, in which case the melody is a moot point with respect to the improvised solos. Nevertheless, many artists do reference the theme, and when they do it is a powerful way of connecting with the stable underlying form. In addition, the SNSD principle still applies to performances of the head, where the theme is performed with varying degrees of strictness.

Not all deviations are salient, or salient to the same degree. An example of a less salient deviation would be the snare drum "chatter" that is a basic component of modern jazz drumming. Snare chatter features many rapid notes, often syncopated, played at a quieter dynamic level. These notes are certainly audible, but they are quieter and more diffuse in effect than a crash cymbal hit at the end of a fill or the technique of "dropping bombs," where the drummer plays loud bass drum hits (sometimes with the snare drum) at unexpected moments.

A more detailed explanation lies outside the scope of this article. But these complexities are part of what makes jazz analysis so challenging, as well as misunderstood. This is particularly true: (1) when improvisations are studied in addition to the composition; and (2) within the context of a comprehensive, structural-layer analysis, where the relative weight of salience and stability must be considered at every structural level.

Transformational Counterpoint in Robert Glasper's Improvisation on "North Portland"

The remainder of the article examines Robert Glasper's composition, "North Portland," and a passage from one of his improvisations on the piece, that appear on *Canvas*, his 2005 debut album for Blue Note Records. In a review appearing in the *New York Times*, Glasper was described as "probably the most prominent jazz musician of his generation."[55] This statement could be misunderstood, as Glasper is still not a household name among traditional, mainstream jazz audiences. He has, however, been followed closely by more progressive jazz listeners and has been influential in the realm of popular music, working extensively in the R&B, neo-soul, and hip-hop idioms and winning the Grammy award for Best R&B Album with his 2012 release, *Black Radio*. This and other albums featured collaborations with numerous popular-music vocalists, disseminating widely Glasper's distinctive sound. The quotation above is clarified by this context, as well as by Parker Hall, who describes Glasper as "the most important musician who doesn't have to hide in public" and as "one of the unsung architects of modern black American music."[56] Hall also states that "the popularity of record labels like Flying Lotus's Brainfeeder, and of artists like Kendrick Lamar and Chance the Rapper, was built on a sound Glasper helped pioneer in the past 20 years."

While Western methods have often claimed analytical authoritativeness, my approach contributes to the destabilization of this dynamic. First, there is the question of the degree to which salience and stability are valued in a given analysis relative to one another, a matter that can be particularly difficult to resolve in music that is neither strictly tonal nor atonal, as is the case here. Second, my analysis overall places significant weight on salience, which itself is a more subjective criterion than stability. We should also bear in

55 Russonello 2018.

56 Hall 2016.

mind that the recording of "North Portland" examined below represents only one performance among countless given by Glasper.[57]

The analytical approaches employed below still only represent one way to consider Glasper's performance, and it must be remembered that Western notions of coherence and unity are not necessarily valued by jazz artists in the same way that classical artists value them. Nevertheless, it would be a mistake to assume that my observations are merely an imposition of ideas developed by Heinrich Schenker and Hugo Riemann. Such thinking would play into long-standing stereotypes about jazz musicians – particularly African-American jazz musicians – that their music is based on natural talent rather than hard work.[58]

Many jazz musicians, myself included, do aim to play intuitively when performing or recording, but also develop techniques and ideas in the practice room. I find it impossible to believe that Glasper is unaware of the ***S*** transformations that are a significant part of the signature style he has developed, however he may personally conceive of them.[59] (It is also possible that he is aware of the term "slide," and it is wrong to simply assume that he is not.) Similarly, I find it impossible to believe that Glasper is unaware of the idea of outlining triads in his right hand, since he frequently uses this technique. And I find it impossible to believe that Glasper could be unaware that these triads are often comprised of upper chord tones, because a triad comprised of lower chord tones would produce a completely different sound. Naturally, Glasper would not wish to always move his right hand in parallel with the lower chord tones; thus, the idea of counterpoint comes into play.

I am not arguing that Glasper consciously calculated neo-Riemannian transformations and counterpoints in real time while recording "North Portland," using the language of Western, academic music theory. But the truth of the matter is surely complex, and if we avoid acknowledging these elements in Glasper's work, simply because academic theory derives these ideas from Schenker and Riemann, we not only perpetuate the myth about talent, but also the myth that jazz is merely a sensuous, "exotic" surface with no deeper-level organization or meaning.

As a brief sidenote, I suggest listening to the examples below through a pair of quality headphones. Due to the prevalence of rootless chord voicings in jazz and other factors, the stable layer, to the extent it is articulated, is most typically projected most clearly by the bass. However, unlike a bowed bass, the sound of a plucked acoustic bass lacks high overtones and therefore is particularly difficult (or impossible) to hear on laptop or smartphone speakers – the salience of the bass is decreased. Contemporary modes of listening therefore make it far less likely that audiences perceive the expressive contrast between the salient surface and the underlying form. This exacerbates the pre-existing issue that

57 These and other related points are discussed in Boyle 2021 (paragraphs 2.1.1–2.1.6), including the preference some jazz musicians have for the term "Black improvisational tradition," the process-mediated nature of improvisation, and issues with transcriptions. See note 69, below, for more on the subjectivity of salience. See Pellegrin 2013, 145–146, for more on salience and transcriptions. See Pellegrin 2013, 145ff. for a Thelonious Monk analysis based on salience, which features multiple interpretations and discusses salience and transcriptions. (A revised version of this analysis will likely appear in *Jazz Perspectives* in 2023.)

58 See Chevan 2001, 225. I discuss this more extensively in a forthcoming work on segregation in college music curricula.

59 See Baker 2019 for more on slides in Glasper's music.

today's listeners are not familiar with the tunes from the Great American Songbook that are used as the stable form in many canonical jazz recordings (where the tune itself is sometimes omitted to save time).[60]

The A section of "North Portland" is typical for Glasper in its lack of a clear tonal center, its avoidance of dominant harmonies, its tertian melodic structures, and its emphasis on ***S*** and ***LP/PL*** transformations.[61] Figure 14 describes the harmonic motion of the stable chord tones (root, third, and fifth) using neo-Riemannian operations. (The chord symbols may appear to indicate these stable triads but they do not; rather, the chord symbols indicate the harmonies, which may be realized with upper or lower chord tones.) Major and minor harmonies are used exclusively, as is often the case in Glasper's music.

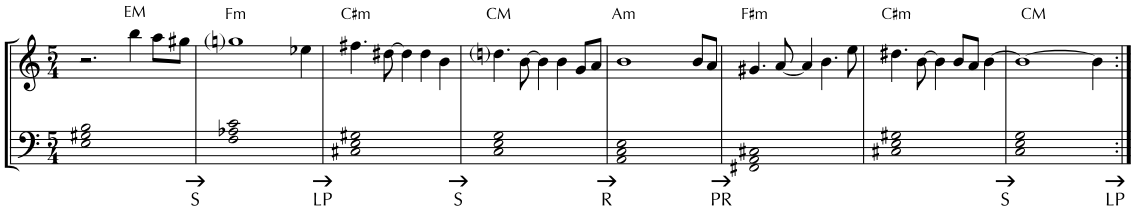


Figure 14: Neo-Riemannian operations in the stable chord tones (root, third, and fifth) of the A section of Robert Glasper's "North Portland," *Canvas*, Blue Note Records 7243 4 77130 2 6, ℗&© 2005 (see Audio Example 6 and Video Example 1).

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio06.mp3

Audio Example 6: Robert Glasper, "North Portland," *Canvas*, Blue Note Records 7243 4 77130 2 6, ℗&© 2005, 0'00"–0'26" (see Figures 14–16).

Plotting these triads on a *Tonnetz*, as in Video Example 1, illustrates how the A section is structured around interval-class four (ic4). (This can be seen in the center and right "columns" that emerge in the video.) As we will later see, ic4 triadic motion plays a significant role in Glasper's improvisation as well, not only in the underlying harmonies, but also in the melodic lines he superimposes over them.

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Video01.mp4

Video Example 1: Robert Glasper, "North Portland," *Canvas*, Blue Note Records 7243 4 77130 2 6, ℗&© 2005, 0'00"–0'26" (see Figure 14).

60 For example, Coleman Hawkins's 1939 performance of Johnny Green's "Body and Soul" was made before the advent of the long-playing record, when a given song was limited to three or four minutes (or had to be split between sides). "Body and Soul" is a ballad, so there was only time to play through the form twice. Hawkins chose to improvise from the start, although he referenced the melody in his improvisation. (The theme may also have been omitted because the recording was impromptu (Chilton 1990, 162–63).) The recording was widely noted, and in some cases criticized, for its absence of a clear melodic statement. Nevertheless, Hawkins's complex improvisation was not only influential among jazz musicians, but also "adored […] by the general public" (Chilton 1990, 162), "a commercial […] success" (Brown 2004, 69), and "became an instant hit with […] the general public" (Gioia 2016, 162). This mass appeal can be accounted for by recognizing that the "missing" theme to Hawkins's variations was effectively supplied by contemporaneous popular culture, existing prior to Hawkins's interpretation in the form of live performances and other recorded renditions of the song.

61 The Slide transformation (***S***), occurs when the third of a major triad is held constant while the root and fifth "slide" against it by half step to create a minor triad, or vice versa from minor to major. ***PR***, which appears in Figure 14, denotes the successive application of the Parallel (***P***) and Relative (***R***) transformations.

The opening melodic gesture (mm. 1–2) is an excellent illustration of why salience must be taken into account in conjunction with stability. The ***S*** transformation occurs when the third of a major or minor triad is kept as a common tone and the root and fifth slide chromatically, as shown in the stable, implied layer of Figure 14. Here, however, the third of EM and fm, G♯, *itself* slides chromatically down to G in the theme, counterpointing the bass slide from E to F with contrary motion. G♯ is still a common tone between EM and fm, but this common tone is buried in Glasper's quiet, left-hand chord voicings (if it is played at all). The common tone is implied by the progression, in any case.

In mm. 3–4, a sequence occurs in the melody, each iteration of which articulates a descending major triad (Figure 15). These major triads are salient due to their placement in the melody, but are comprised almost entirely of unstable chord tones. The triads are ic4-related – moving from B major to G major – effecting a ***PL*** transformation that complements the ***LP*** transformations found in the stable chord tones during the A section. However, at this specific moment in the A section, the stable layer features the ***S*** transformation rather than an ***LP*** transformation. The ***PL*** transformation among the salient, but unstable, chord tones of the theme is therefore counterpointed by the underlying ***S*** motion. Moreover, this particular juxtaposition is one that Glasper develops with precision during his improvisation.[62]

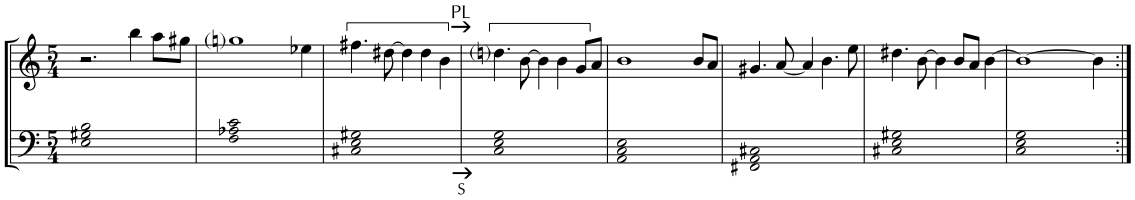


Figure 15: *PL* in the melody counterpointing *S* in the stable chord tones of "North Portland" (A section), *Canvas*, Blue Note Records 7243 4 77130 2 6, ℗&© 2005 (see Audio Example 6).

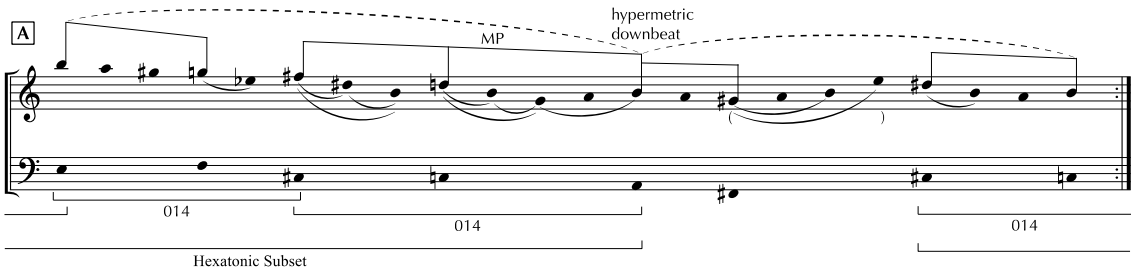
https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio06.mp3

Audio Example 6: Robert Glasper, "North Portland," *Canvas*, Blue Note Records 7243 4 77130 2 6, ℗&© 2005, 0'00"–0'26" (see Figures 14–16).

Before turning to the improvisation, it will be helpful to get a more detailed picture of how this melody is structured, and the types of motives Glasper is working with. The methodology employed is only discussed briefly here, but will be clarified later. Figure 16 provides a salience-based analysis of the A section of "North Portland," highlighting its largely tertian organization. The notational symbols used are assigned a meaning specific to this analysis: (1) *slurs* are used only to show tertian structures occurring within each individual measure; (2) one *stem* has been assigned per measure, based on local-level salience conditions; (3) each stem is then connected to another stem with a *beam*, indicating tertian structures occurring between measures; and (4) the *dashed slur* is used to indicate pitches associated with one another on a broader scale.[63]

62 Baker 2019 analyzes the head of "North Portland" with $ic_{3/4}$ cyclic slides that are essentially equivalent to Callender's (2007) *Slide* transformation. Baker considers all the chord tones in Glasper's major and minor harmonies as part of $ic_{3/4}$ cycles. My approach differs in that I separate the chord tones into salient and stable layers.

63 One slur is shown in parentheses because it is a somewhat ambiguous situation.



Stems = one per measure, based on salience
Slurs = tertian structures occurring within measures
Low beams = tertian structures occurring between measures
Dashed slur = pitches associated with one another on a broader scale
MP = motivic parallelism

Figure 16: Tertian structure in the A section of "North Portland," *Canvas*, Blue Note Records 7243 4 77130 2 6, ℗&© 2005 (see Audio Example 6).

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio06.mp3

Audio Example 6: Robert Glasper, "North Portland," *Canvas*, Blue Note Records 7243 4 77130 2 6, ℗&© 2005, 0′00″–0′26″ (see Figures 14–16).

The cyclical tonal nature of the A section is reinforced with a melody that begins and ends with the same pitch class, B. B is also present melodically in every measure except m. 2, as it is common to all the harmonies (including extensions) other than Fm. In addition, a whole-note B occurs on the hypermetric downbeat in m. 5, delineating the midpoint of the melody. In the first half of the A section, the octave-space between these B's is traversed with descending thirds; in the second half, descending thirds form a sort of "double neighbor" around B. These descending thirds occur both within and between individual measures. The abovementioned melodic sequence in mm. 3–4 is part of a motivic parallelism (marked MP), the descending-triad motive itself outlining a larger-scale descending B minor triad that terminates at the hypermetric downbeat at the end of the phrase.

The descending thirds described above are complemented by Glasper's propensity for tertian melodic lines in the improvisation, as discussed below. However, they are also complemented here by descending-thirds harmonic motion. Such motion is frequently coupled with the ***S*** transformation, creating interlocking 014 trichords and a hexatonic subset that are replete with thirds (interval-classes three and four).

My transcription of a passage from Glasper's three-chorus improvisation on "North Portland" is given in Figure 17.[64] The transcription begins during the second A section of the first chorus, where Glasper's proclivity for outlining triads comes into focus. Chord symbols reflect the changes generally played by the trio. The underlying eighth-note subdivision of the 5/4 meter is 3+3+2+2, frequently articulated by the bass. Sometimes Glasper projects 3+3 in his eighth-note subdivision and sometimes he projects 6. I have beamed the 5/4 meter as 6+4 for ease of visually perceiving the meter. In order to preserve the four-bar phrase structure of the stable, underlying layer (the form) in the layout of the transcription, only two measures appear in the first system.

64 A quality transcription of the full improvisation by Lef Germenlis can be found on YouTube. My transcription differs in some matters of notation, as well as in more substantive ways.

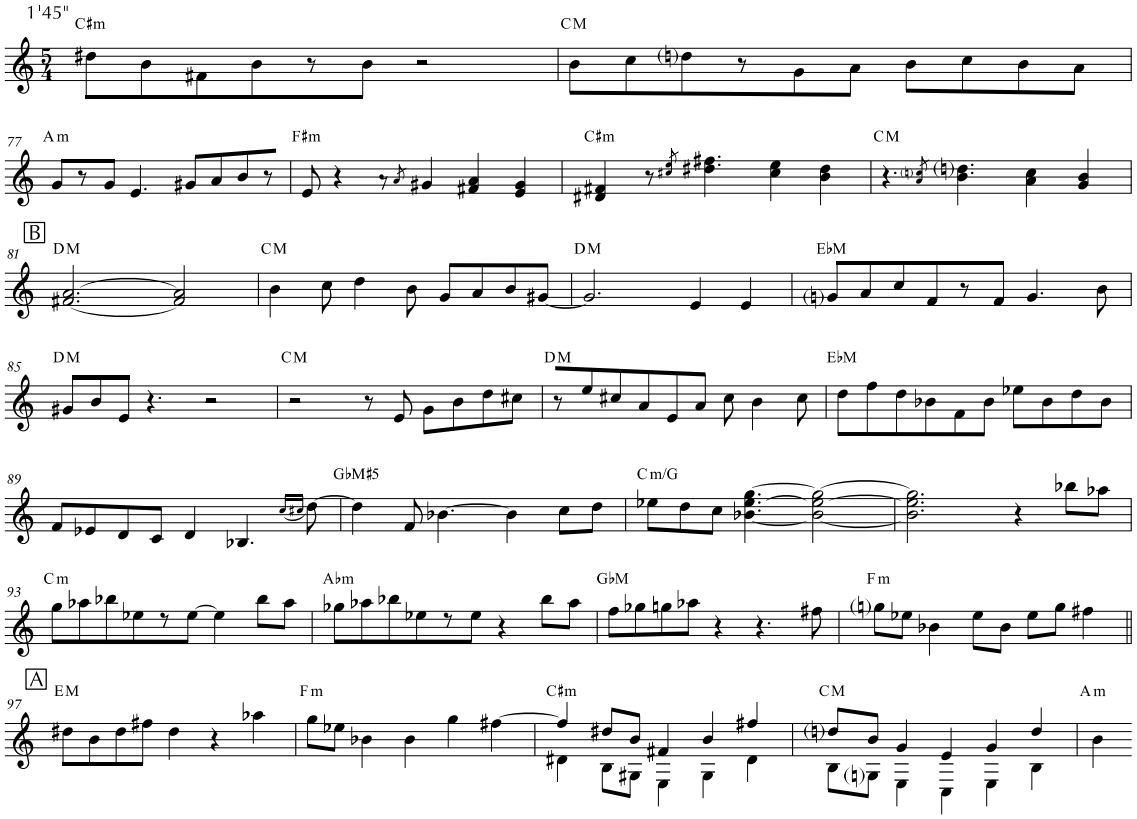


Figure 17: A portion of Robert Glasper's improvisation on "North Portland," *Canvas*, Blue Note Records 7243 4 77130 2 6, ℗&© 2005 (see Audio Example 7).

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio07.mp3

Audio Example 7: Robert Glasper, "North Portland," *Canvas*, Blue Note Records 7243 4 77130 2 6, ℗&© 2005, 1'42"–2'22" (see Figure 17).

During this passage, Glasper's lines are audibly structured around triads, mostly major ones, as is common in his work. This is not always as visually apparent because Glasper frequently anticipates the harmony of the following measure by a value of one to four eighth-notes.[65] (See m. 77 for an example of an anticipation by four eighth-notes.) Figure 18 gives a triadic analysis of the excerpt. Each chord represents one measure, the many displacements being normalized. Accidentals apply only to individual chords. The bottom stave shows the stable chord tones of the form.[66] (The octave in which these tones are represented is insignificant.) The upper stave shows the triadic structures projected by Glasper's right-hand line. The constituent chord tones of these triads may or may not be stable. However, they are salient overall because they are drawn from the solo melodic line, rather than from the bass accompaniment or from Glasper's left-hand accompaniment.

65 Because of the many anticipations, some unusual enharmonic spellings occur at the ends of measures; e. g., m. 95 and m. 97.

66 In m. 90, the fifth of the chord G♭M(♯5) is unstable.

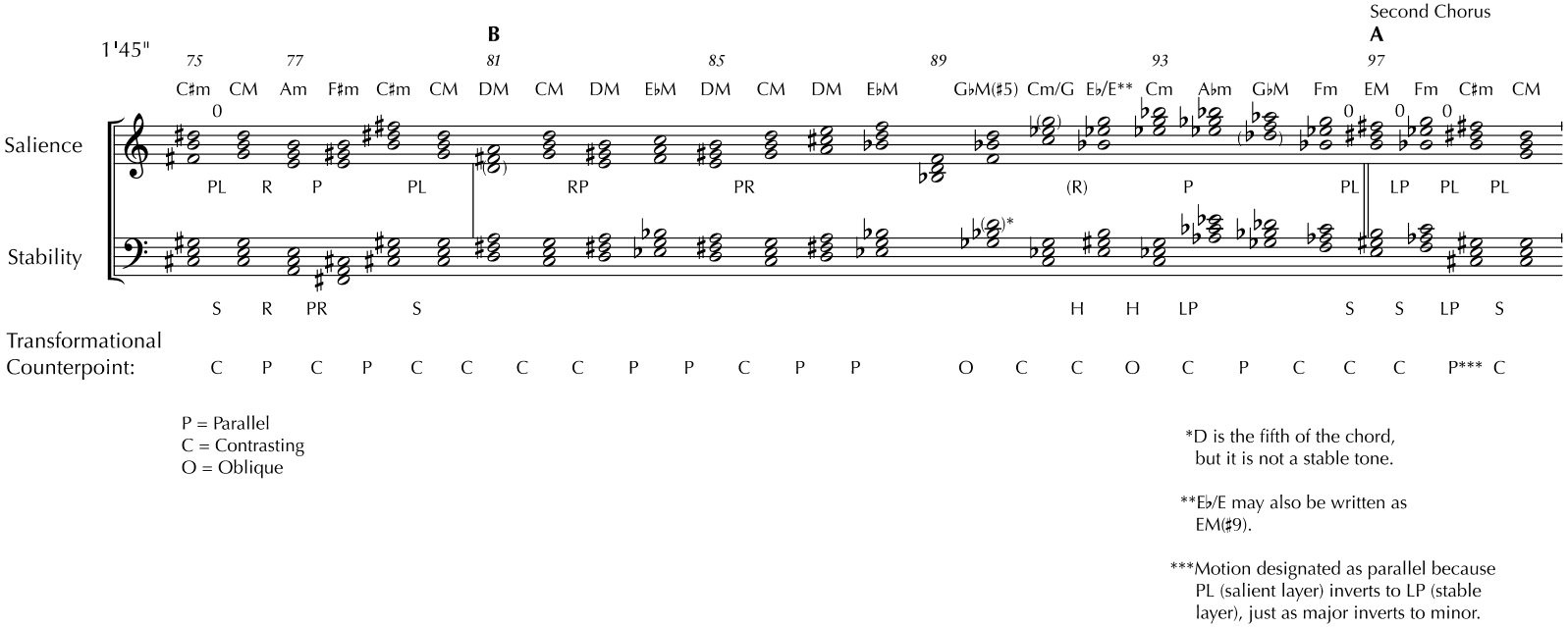


Figure 18: A triadic analysis of Glasper's performance of "North Portland," right hand, mm. 75–100. Each chord represents one measure, except for mm. 91–92. Accidentals apply only to individual chords.

Within this overall salience of Glasper's right-hand improvised line, individual tones and triadic structures vary in their degree of salience. Some of the triads I have indicated are less convincing if only considered visually, as transcriptions do not capture the nuances of performance. In the analysis that follows, I do not enumerate every consideration that went into my decisions, but explanatory footnotes are provided in certain cases. Furthermore, in-depth analyses of selected measures are provided below to demonstrate my process.

One general point is that some triads visually appear to be less salient if they are considered only in their local context. The broader context is important due to the regional-level frequency of triads. Triadic structures are motivic in general in this passage, as well as in Glasper's style overall, and motivic repetition is a form of parallelism, which is a salience condition figuring significantly in Lerdahl and Jackendoff's system of preference rules.[67] The salience of an individual triad is thus increased due to its proximity to other triads. Additionally, the specific triads presented in the head (discussed above) influence the way in which we hear the improvisation, especially at analogous moments in the form.

The G major triad in the salient layer of m. 76 is a good example of triadic analysis that requires explanation, and will serve as a methodological illustration. C is the more stable chord tone; however, its stability is outweighed by the salience of the B. Lerdahl has written that "stability far outweighs salience in making reductional choices in diatonic tonal contexts."[68] However, he later demonstrates how salience becomes increasingly significant structurally as one moves into contexts where strictly tonal grammar is not present, as is the case here.[69] (Similarly, the Schenkerian approach usually prioritizes stability and works best when applied to strictly tonal music, whereas Felix Salzer's approach often accords increased weight to salience and is appropriate for music that is not strictly tonal.)

In the second half of m. 76, the B is *contraindicated* by the following salience conditions: (1) the C is emphasized by its placement at the apex of the line; and (2) there is a slight phenomenal accent on the A, rather than the B. However, the B is *indicated* by the following salience conditions: (1) the metric placement of all three B's in the measure; (2) parallelism with the abovementioned G major triad presented during the head at the same location in the form; (3) the B's occurring in the previous measure; (4) the motivic repetition of triads throughout the solo (parallelism); and (5) to some extent, the motivic use of triads in Glasper's improvisational style in general (parallelism). These factors outweigh the contraindications mentioned first, but the presence of those contraindications adds complexity and depth to the rhythmic profile of the passage.

Some readers may be disturbed by the fact that my analysis of m. 76 seems to regard the C as a neighbor tone to the B, even though C is the root. But salience often overrides stabili-

67 See Lerdahl/Jackendoff 1983 and Lerdahl 2001.

68 Lerdahl 2001, 315.

69 Readers who are troubled by the subjectivity of decisions based upon salience should refer to the section entitled "Salience and Subjectivity" in Pellegrin 2013 (32–43), as well as to pages 108–125, which discuss Lerdahl 2001. Lerdahl, a theorist of great rigor whose work is in part motivated by a desire to clarify the subjectivities of the Schenkerian approach, ultimately finds that salience is not quantifiable, in contrast with his earlier efforts to demonstrate that it is (as in Lerdahl 1989).

ty in such fashion, even in strictly tonal contexts, such as when $\hat{5}$ occurs as an échappée in a melodic line $\hat{4}$ - $\hat{5}$ - $\hat{3}$ over V7-I (particularly when it occurs as a dotted rhythm).

Salience similarly overrides stability in circumstances involving ninth chords, when the root functions as a passing tone between the ninth and seventh. This occurs in mm. 79–80, which also includes an eleventh chord functioning similarly. Here, the repetition of the progression C♯m-CM is again realized in Glasper's right-hand melodic line with B major and G major triads. Although this is no longer the same location in the form as when these triads were presented in the head, there is still a parallelism (and thus an increase in salience), especially since the contours here are similar to the presentation in the head and since we just heard these same triads in mm. 75–76.

The stable chord tones in this case are metrically accented (in both measures) somewhat more than the other tones are. There is also a slight phenomenal accent on the stable tones. However, these stable chord tones occur in the middle of each event, passing between the upper chord tones that begin and end the descending gesture in each measure. These descending motions create contours, with the gestural beginnings occurring as apices. Furthermore, these gestural beginnings are strongly emphasized by the grace notes that embellish them. For these reasons, the tones that are stable in terms of the underlying harmony may be regarded as accented passing tones within the superimposed B and G triads, which are defined by salience.

Again, it is entirely possible within the bounds of traditional theory to have a stable chord tone function as a non-chord tone, due to salience, and there is an example from the strictly tonal repertoire to support this interpretation – the V7♭9 harmony. In this situation the seventh, root, and ninth form an 013 trichord, similar to the 012 trichord Joseph Straus employs to illustrate the impossibility of distinguishing between chord tones and non-chord tones in a post-tonal environment.[70] However, this issue is resolved in both situations when we consider the role of salience, the conditions of which can be established by examining context. (Straus's 012 example does not contain any context.) I discuss this extensively in other writing, and examine the V7♭9 chord from Straus's Stravinsky example.[71]

In Video Example 2, the reader is invited to follow the red boxes and listen for the triads and transformations I have identified in the salient layer. I then suggest watching the video again, this time listening for the triads and transformations in the stable layer.

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Video02.mp4

Video Example 2: The analysis from Figure 18, with animation added to help perceive the triads. Recording from Robert Glasper, "North Portland," *Canvas*, Blue Note Records 7243 4 77130 2 6, ℗&© 2005, 1′42″–2′22″.

The stable layer may be more difficult to hear. In Video Example 3, I play roots on the piano where each chord change occurs, clarifying the harmonic and rhythmic underpinnings of the salient surface, and making more obvious the expressive contrast between the salient and stable layers.

70 Straus 1987.

71 See Pellegrin 2013, 83–100; Stravinsky's V7♯9 chord is discussed on pages 94–98. M. 6 of the head of "North Portland" presents a similar situation: G♯-A-B forms an 013 trichord, A is the third of the harmony, and I analyze G♯ and B as chord tones of the superimposed triad. The polychordal aspect of the Stravinsky example also has relevance to my triadic analysis of the Glasper excerpt.

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Video03.mp4

Video Example 3: The analysis from Figure 18, with animation added and roots reinforced with piano to make the contrast between the salient and stable layers more obvious. Recording from Robert Glasper, "North Portland," *Canvas*, Blue Note Records 7243 4 77130 2 6, ℗&© 2005, 1′42″–2′22″.

Beneath the staves I have indicated the transformational counterpoint between the salient and stable layers, with three types being identified: parallel, contrasting, and oblique (abbreviated P, C, and O). These types are only defined informally in the present article, for which purpose they are sufficient, due to the nature of Glasper's harmonic and melodic language.[72] In parallel counterpoint, the salient and stable layers feature the same transformation.[73] These transformations need not be specifically neo-Riemannian. In oblique counterpoint, one layer is stationary while the other moves against it. In contrasting counterpoint, the layers feature different transformations.

There are a few exceptions and problems with formally defining these contrapuntal motions, as discussed in the notes. However, the informal concept of counterpoint captures nicely the idea that each voice-leading layer lives its own relatively independent life, yet must also interact compellingly with the other layer. In most mainstream jazz practice, the composition itself is written and published separately, and contains its own inner relationships. This composition then becomes the stable layer of a performance, acting as a cantus firmus, due to the formal repetitions that undergird the improvised solos. The challenge faced by the soloist is to improvise cogently and creatively, but to do so while maintaining a disciplined awareness of how the improvised line counterpoints the cantus firmus. Just as a composer writing strict counterpoint must create a convincing melodic thread while working out the counterpoint against the other parts, so must the improviser create that thread while evaluating the real-time effect against the underlying form.[74]

This accords with common sense, in that the composition is written in advance, with the soloist then "blowing over the changes," in jazz parlance. But the relationship between the composition and the improvised melodic line is fluid and flexible. At times the improvisation will move in tandem with the underlying form, depending directly upon

72 In theory, many strange counterpoints could occur that fit the definition given for parallel counterpoint, but they are unlikely to occur in Glasper's music. For example, (GM-G♯m) / (CM-C♯m) = ***S*** / ***S***, and fits the intuition of "parallel"; however, (em-E♭M) / (CM-C♯m) = ***S*** / ***S*** as well, but this counterpoint is not aptly described as "parallel."

73 An important exception, as found in mm. 98–99, occurs when ***PL*** is superimposed over ***LP*** (or vice versa) and major is superimposed over minor (or vice versa). I regard this as parallel transformational counterpoint because ***PL*** inverts to ***LP*** and major inverts to minor, the two inversions canceling each other out.

74 There are other counterpoints, besides the transformational counterpoint discussed here, that occur during a jazz performance. The typical walking quarter-note bassline and eighth-note melodic line of the soloist is improvised second-species counterpoint. (Many jazz method books might be regarded as treatises in contemporary counterpoint.) However, this 2:1 contrapuntal texture occurs within the salient, performance layer itself. The bassist does not simply play chord roots on downbeats. Rather, their walking bassline itself has a contrapuntal relationship with the stable, composition layer. They may choose to emphasize roots, to play other tones from the chord scale, to play tones outside of the chord scale but as passing tones, to freely play tones outside of the chord scale, to play "outside" entirely, and so forth. Such decisions by the bassist are made in relation to the other musicians, but also in relation to the composition itself. These are the sorts of complexities that I have tried to capture in the SNSD diagram above (Figure 13).

the composition for its direction, and creating a simpler overall harmonic effect (parallel counterpoint). At other times the soloist may choose to create interest by keeping common chords and allowing the form to move against them, or vice versa (oblique motion). Lastly, they may choose to create harmonic transformations that move against those of the composition (contrasting counterpoint).

At the beginning of the Glasper excerpt, the salient layer mostly counterpoints this cantus firmus in the stable layer with contrasting transformations. During the first half of the B section, more simple, parallel transformational counterpoint is employed, complementing the harmonic simplicity created by double-neighbor bass formations and exclusively major harmonies.[75]

Later in the B section, oblique transformational counterpoint is introduced. This first occurs during mm. 88–90, where a repeated B-flat major triad in the salient layer is used to counterpoint the underlying harmonic motion from E♭M to G♭M(♯5).

Shortly thereafter, in mm. 91–93, an ***H*** relation in the stable layer (E major to C minor) is counterpointed with a repeated E-flat major triad in the melodic line. The drama of the ***H*** transformation – fully traversing a hexatonic system to its opposite pole – is heightened by the fact that the E major harmony (spelled as E♭/E) contains striking alterations: ♯11 and ♯9. This is not unlike the situation encountered when a voicing used for an unaltered dominant is then used for a fully-altered dominant as the bass moves by tritone to the polar opposite of the circle of fifths (i. e., tritone substitution).

In m. 96, ***PL*** and ***LP*** transformations begin alternating, and are realized in pitch space with zero-sum voice leading (marked "0"). The passage culminates in mm. 99–100, with a ***PL*** transformation in the salient layer that counterpoints an ***S*** transformation in the stable layer. This occurred previously in mm. 75–76 and 79–80, as well as in mm. 3–4 of the composition itself, using the same harmonies and voicings – BM-GM over C♯m-CM. However, Glasper here develops the motive further.

He begins the phrase in m. 96 with ***PL*** over ***S***, using different harmonies than in previous occurrences of this transformational counterpoint. The ***PL***/***LP*** vacillation then commences. The parallel transformational counterpoint ***PL*** over ***LP***, occurring in mm. 98–99 (see note 73), relieves the continual contrasting counterpoint, enlivening the repetitive pattern of triads occurring in the melodic line. As the triadic alternation concludes in the salient layer, Glasper continues with an additional ***PL*** transformation, nearly completing a full ***PL*** cycle with the superimposed progression E♭M-BM-GM. This final ***PL*** transformation in the melodic line gracefully concludes the passage of dense transformational counterpoint, while simultaneously expanding the role of the now-familiar (and pitch-class specific) ***PL*** over ***S*** motive. In addition, as shown in Figure 19, Glasper's superimposed progression of ic4-related triads parallels the ic4 organization of the underlying form at this point, saturating the space with ic4's yet avoiding obvious vertical alignments of them. Lastly, all of this is interwoven with a paraphrase of the original theme that Glasper employs during mm. 98–101.

75 The roots here seem to be interpreted by the ensemble more as passing tones (with D's passing between C's and E♭'s) than as double-neighbors centered on D, as they are presented in the head. This has to do with the metric shift at this point in the performance, described below.

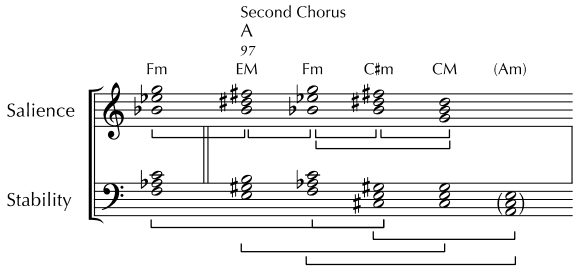


Figure 19: Ic4 density in mm. 96–101.

The alternation of ***PL*** and ***LP*** transformations is also significant because it sets up a pattern of strong and weak hypermetric beats that conflicts with those of the underlying form. Glasper also launches a new phrase with this alternation, in m. 96, the last measure of the chorus. This metrically strong phrase beginning obscures the chorus-level hypermetric downbeat of the underlying form. (Chorus-level hypermetric downbeats are significant in jazz because they coincide with the most significant formal event in the stable layer; their status as marked or unmarked in the salient layer indicates the degree to which the performers choose to clarify or obscure the form to listeners as well as to their bandmates.)

Figure 20 provides an analysis of the grouping structure of the improvised melodic line, the metric structure of the improvised melodic line, and the metric structure of the underlying form.[76] (The audio starts a few measures early, for context.) Glasper reverses the strong and weak hypermetric beats at some point before the example starts, but the metric shift is confirmed by Damion Reid's drum accompaniment at the beginning of the B section. His snare fill in mm. 80–81 culminates with a cymbal crash, accented phenomenally, on the second beat grouping of m. 82. This particularly salient deviation is metrically unstable on the level of the underlying form, occurring one measure and one beat-group after the hypermetric downbeat of the B section. However, it is more stable in terms of the metric structure projected by the melodic improvised line, coinciding with Glasper's first phrase in the B section (although still occurring mid-measure).[77] At the hits in m. 91, Glasper quotes the theme, realigning the salient and stable layers for a few measures. The ***PL***/***LP*** alternation then begins in m. 96, *anticipating* the start of the new chorus by one measure, in contrast to the start of the B section, which was *delayed* by one measure.[78]

76 I prefer Lerdahl/Jackendoff's approach to meter, which incorporates multiple levels of structure. However, for practical reasons, I have elected to frame the meter in this diagram in terms of strong and weak beats.

77 It could be argued that in m. 88 the strong/weak metric pattern of the stable layer itself reverses for a couple of measures, due to the repetition of the E-flat major harmony, which creates a metric accent in terms of the harmonic rhythm. This would mean that the period of alignment between the salient and stable layers (mm. 93–95) begins earlier, in m. 88. However, the effect of harmonic rhythm must be weighed against the phenomenal accents in these measures of the head. In addition, the E-flat major harmony in m. 88 fits neatly into the double-neighbor bass pattern of the B section up until that point. The resulting weak-beat interpretation would only be overwritten retrospectively upon hearing the repetition of the E-flat major harmony in m. 89.

78 For similar examples of metrical shifts causing conflict between the surface-level hypermeter and that of the form, see Love 2013, Waters 1996, and Waters 2011, 64–69.

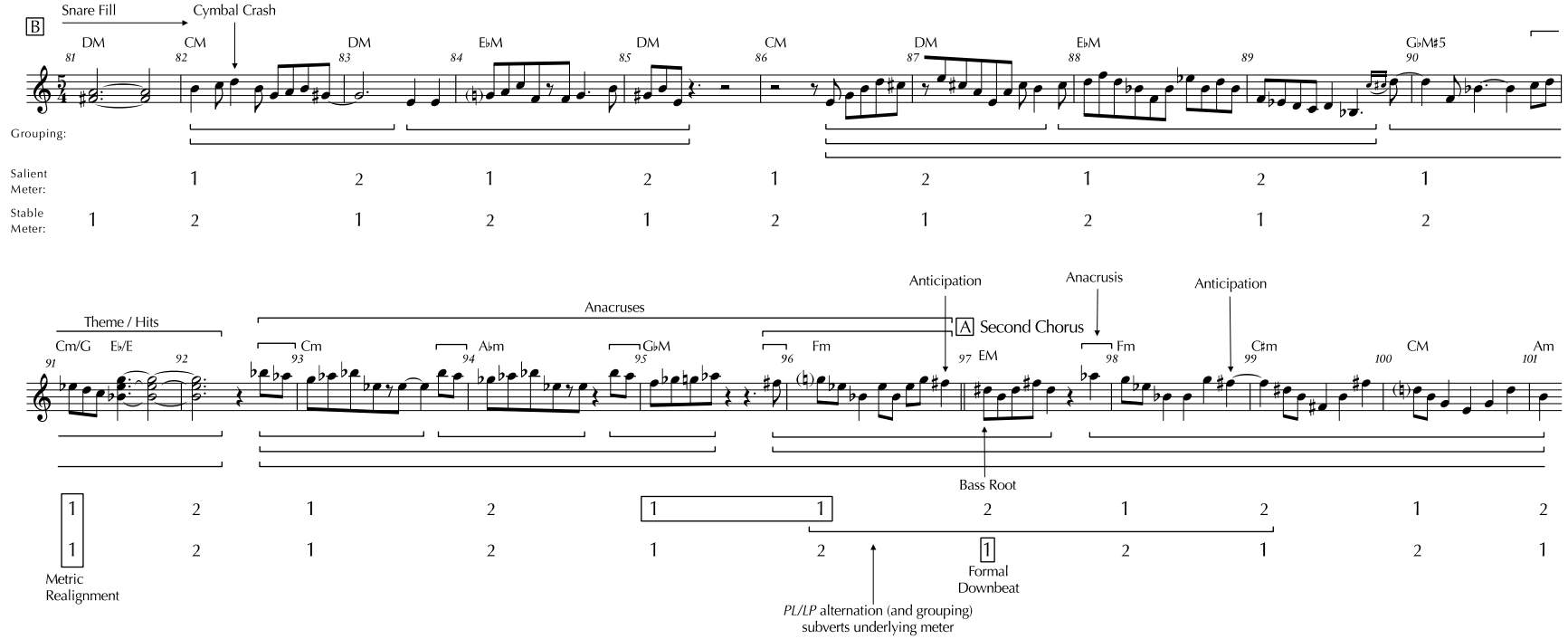


Figure 20: Grouping and metric structure in “North Portland,” *Canvas*, Blue Note Records 7243 4 77130 2 6, ℗&© 2005 (see Audio Example 8).

https://storage.gmth.de/zgmth/media/1162/Pellegrin_Jazz_Audio08.mp3

Audio Example 8: Robert Glasper, “North Portland,” *Canvas*, Blue Note Records 7243 4 77130 2 6, ℗&© 2005, 1’48”–2’22” (see Figure 20).

However, the full rhythmic picture here is more complex. Several anacruses occur motivically during these measures, each scaled to the duration of the event which it anticipates. These nested levels of anacruses play out across all three analytical layers. There are the one-measure grouping units that begin in m. 93, each of which begins with a one-beat anacrusis expressed as two eighth notes (B♭-A♭). On the next larger level of grouping structure, there is the aforementioned one-measure anacrusis, occurring right before the chorus-level hypermetric downbeat of the underlying form (m. 96). On this level of structure, m. 96 is an anacrusis in terms of the stable underlying form, but is metrically strong on the superimposed, salient level, partly because of the ***PL***/***LP*** alternation that begins here. (M. 96 also itself begins with an anacrusis of one eighth note.) On the largest level of grouping structure, Glasper's improvisational phrasing contains a four-measure anacrusis to the chorus-level downbeat.

In addition, the anticipations that occur frequently in the improvisation are present in these measures as well; for example, the quarter-note F♯'s occurring at the end of m. 96 and m. 98. While these anticipations are distinct from the anacruses, they contribute to the rhythmic density of the passage.[79] Lastly, in contrast to Glasper's anacruses and anticipations, bassist Vicente Archer clearly marks the onset of the new chorus with a root, E2, that is accented metrically, dynamically, and durationally – a stable norm that, significantly, is also relatively salient.

Conclusion

In this article, I have discussed factors regarding the balance of stability and salience that are directly relevant to my argument. However, there are a number of other factors that should be mentioned.

First, there is the degree to which the form of the composition is maintained during the solos, and thus the degree to which the form operates as a stable norm. The SNSD model is predicated on the repetition of the form, such that it creates a stable norm. Many deviations from the form fit into the SNSD model. However, the form may be abandoned to the extent that it no longer could be considered a stable norm. For example, many of the studio recordings of Miles Davis's second classic quintet adopt an approach known as "time, no changes," or other shades of gray existing between the poles of traditional chorus structure and free jazz.[80]

Second, assuming the form is maintained during the performance, an additional consideration is the number of times it is repeated during the performance. More repetitions provide the listener with greater opportunity to learn the harmonic progressions of the composition, and thus to more clearly perceive the form as a stable norm. Repeated hearings of a recording provide additional opportunity to learn the form.[81] This is one of the reasons why salient deviations in both the solo line and the rhythm section accompaniment tend to increase as the performance progresses.

79 For example, the A♭ at the end of m. 97 is an anacrusis in the grouping structure (not an anticipation), functioning as the third of both the preceding harmony (EM) and the following harmony (Fm).

80 See Figure 2.2 in Waters 2011, 80.

81 See Margulis 2014, chapter 5, for more on "relistenings."

A third consideration is the presence or absence of piano or guitar accompaniment during solos. Comping chords often reinforce the structure of the underlying form, potentially limiting the freedom of the other musicians. In many of the Davis quintet's "time, no changes" pieces, pianist Herbie Hancock lays out during the solos and avoids playing chords during his own solos, facilitating greater harmonic freedom. Ornette Coleman's 1959 album *The Shape of Jazz to Come* was unusual at the time in that it featured a quartet with no pianist or guitarist, and was a seminal recording in establishing the direction of the '60s avant-garde movement.[82]

The balance of stability and salience in jazz constantly shifts according to numerous factors. Because of the dynamicity created by this shifting, it is advantageous to be able to model both stability and salience, which function in tandem, as doing so enables us to render a more detailed and accurate picture of this repertoire, one that more closely models practice. Put another way, both underlying and actual voice leading (and meter) can be significant; the harmonic progressions of jazz are worthy of study, as are the ways in which improvisers weave their way through them. Ultimately, it is the counterpoint of these two strata that makes jazz improvisation compelling.

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82 *The Shape of Jazz to Come*, Atlantic SD-1317 (1959, recorded 1959).

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