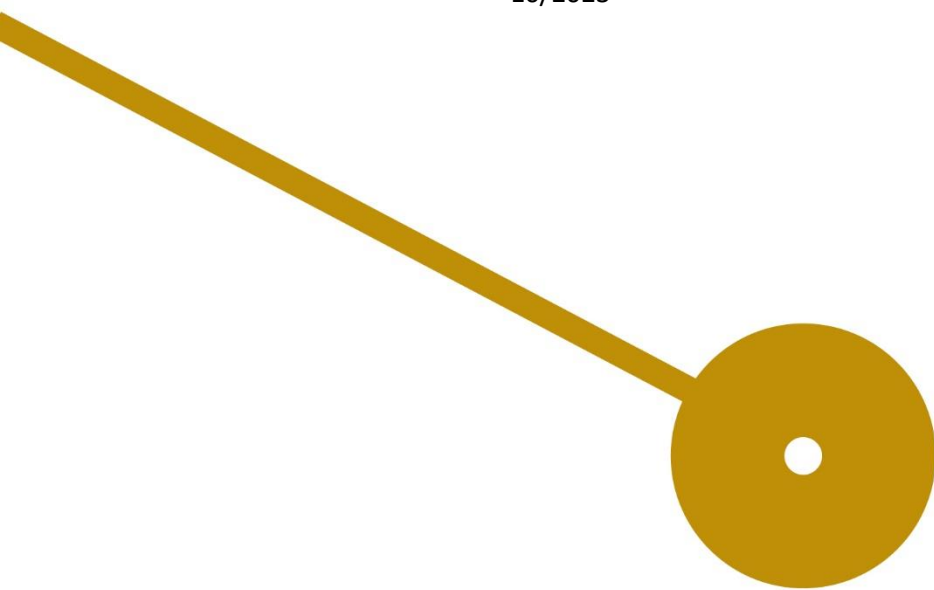




Upper Structures and their Locus within Extended Harmony

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Upper Structures and their Locus within Extended Harmony

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Index:

Introduction	- 7 -
PART I - Theoretical Framework of Upper Structures	- 8 -
1. The Meaning of Upper Structure	- 9 -
2. The Locus of Upper Structures	- 16 -
2.1. The Blurred Lines of Polytonality	- 16 -
2.2. The Reach of Extended Tonality:	- 20 -
2.3. Proposal of a Theoretical Framework for Upper Structures:	- 21 -
3. The Syntax of Upper Structures:	- 24 -
3.1. Relative Consonance & Relative Dissonance	- 24 -
3.2. Internal Dissonance:	- 25 -
3.3. Horizontal Implications of Dissonant Amplified Chords:	- 28 -
3.3.1. Leading-Tones (LT):	- 28 -
3.3.2. Common Notes (CN):	- 29 -
3.4. Synthesis:	- 39 -
PART II - Analytical and Performative Applications of Upper Structures	- 41 -
4. Application of Upper Structures in Jazz	- 42 -
4.1. Bill Evans: Come Rain or Come Shine: Role Reversal of BCs & USs	- 42 -
4.2. Michel Petrucciani’s Take the A train: USs as an Onomatopoeia	- 45 -
5. Ravel and the Heterogenous Utility of USs:	- 50 -
5.1. Ravel’s Piano Concerto in G major:	- 50 -
5.2. Ondine, Gaspard de la Nuit – Ravel	- 56 -
5.3. Oiseaux Tristes, Miroirs – Ravel	- 65 -
6. Brahms: USs as a means of Cadential Evasion	- 75 -
6.1. Intermezzo ops. 119, n°1, Brahms:	- 75 -
Conclusion:	- 78 -
Bibliography:	- 79 -

Table of Figures:

Figure 1 - Conflation of USs and Extensions in Jazz Common Practice.....	10 -
Figure 2 - Hypernym–Hyponym Relationship between Extensions and USs.....	11 -
Figure 3 - Example of Seventh Chord US in Ondine.....	12 -
Figure 4 - Example of Seventh Chord US in Oiseaux Tristes	12 -
Figure 5 - Ondine (Gaspard de la Nuit): M.1	13 -
Figure 6 - Ondine (Gaspard de la Nuit): M. 2 & 3	13 -
Figure 7 - Harmonic Reduction of M. 2 & 3 of Ondine.....	14 -
Figure 8 - Brahms' Intermezzo op. 119, n°1: M. 1	14 -
Figure 9 - (Hojnacki & Mulholland, 2013, p. 215).....	17 -
Figure 10 - (Harrison, 2016, p.114)	20 -
Figure 11 - (Martins, 2019, p.56).....	22 -
Figure 12 - Proposal of a Theoretical Framework for Upper Structures.....	23 -
Figure 13 - Darius Milhaud's chart from "Polytonalité et Atonalité" (1923)	25 -
Figure 14 - Four Modal Chord Combinations (Milhaud, 1923).....	26 -
Figure 15 - Harmonic Tension between a BC & potential USs in all Modal Variations -	27 -
Figure 16 - Excerpt of Mark Turner's solo (2014) in Firm Roots.....	29 -
Figure 17 - Oiseaux Tristes (Miroirs): M. 20–22.....	29 -
Figure 18 - Introduction of Benny Golson's Killer Joe	30 -
Figure 19 - Timeless Rhapsody n°1, Ema Lecomte: M.1–19.....	31 -
Figure 20 - Timeless Rhapsody n°1: M. 53–56 and Harmonic Reduction.....	32 -
Figure 21 - Timeless Rhapsody n°1: M. 56–58 and Harmonic Reduction.....	33 -
Figure 22 - Melodic Contour of M. 56–58.....	34 -
Figure 23 - Harmonic Imprint on D–C–B motifs	34 -
Figure 24 - Harmonic Pillars of M. 53–58	35 -
Figure 25 - Harmonic Distance between BCs and USs with different Functions	35 -
Figure 26 - Timeless Rhapsody n°1: M. 58–62 with Harmonic Reduction.....	36 -
Figure 27 - Harmonic Pillars of M. 57–62	36 -
Figure 28 - Timeless Rhapsody n°1: M. 71–73 with Harmonic Reduction.....	37 -
Figure 29 - Harmonic Pillars of M. 70–73	37 -
Figure 30 - Harmonic Pillars of M. 53–73	38 -

Figure 31 - Hypothetical Sequence modulating the same Harmonic Paradigm.....	- 38 -
Figure 32 - Trajectory of the Harmonic Sequence along the Circle of Fifths	- 39 -
Figure 33 - Graph detailing the possible Characteristics of USs.....	- 40 -
Figure 34 - McGowan's Transcription of Bill Evan's Solo (February 3 rd , 1965) of Come Rain or Come Shine: M. 13–20	- 43 -
Figure 35 - Harmonic Analysis of M. 15–16.....	- 44 -
Figure 36 - Crossing Harmonic Trajectories of M. 15–16	- 44 -
Figure 37 - Ostinato Bass of Michel Petrucciani's Interpretation of Take the Train..	- 45 -
Figure 38 - Onomatopoeic Musical Portrait	- 46 -
Figure 39 - Harmonic Reduction of Figure 38	- 46 -
Figure 40 - "Choo-choo" Interjection over new Harmonic Suggestion	- 47 -
Figure 41 - Original Take the A Train Standard from REALBOOK 1	- 48 -
Figure 42 - Tripartite Harmonic Perception	- 49 -
Figure 43 - Kaminsky's Harmonic Analysis of R. 14 in the 1st Mov. of Ravel's Piano Concerto in G Major	- 50 -
Figure 44 - R. 14 of the 1st Mov. of Ravel's Concerto for Piano in G Major	- 51 -
Figure 45 - Harmonic Reduction of Rehearsal 14–15	- 52 -
Figure 46 - Harmonic Reduction of Rehearsal 15–16	- 53 -
Figure 47 - R. 15–16 of the 1st Mov. of Ravel's Concert for Piano in G Major.....	- 54 -
Figure 48 - Harmonic Trajectories of the BCs and USs.....	- 55 -
Figure 49 - Phrasing of C# as an Outside Note	- 57 -
Figure 50 - Phrasing of C# as a Resolution.....	- 57 -
Figure 51 - Ondine (Gaspard de la Nuit): M. 8–9 & Harmonic Reduction.....	- 58 -
Figure 52 - Dual Meaning of B7.....	- 59 -
Figure 53 - Ondine (Gaspard de la Nuit): M. 14–15.....	- 59 -
Figure 54 - Ondine (Gaspard de la Nuit): M. 42–43 & Harmonic Reduction.....	- 60 -
Figure 55 - Ondine (Gaspard de la Nuit): M. 47–48.....	- 61 -
Figure 56 - Alternation of Dominant Sonorities in M. 47–48	- 61 -
Figure 57 - Ondine (Gaspard de la Nuit): M. 45–46.....	- 61 -
Figure 58 - Nature of the “Two-Faced” Note throughout Ondine	- 62 -
Figure 59 - Ondine (Gaspard de la Nuit): M. 90–91.....	- 63 -
Figure 60 - Dual Harmonic Trajectories of M. 90–91	- 63 -
Figure 61 - Harmonic Skeleton of Ondine	- 63 -

Figure 62 - Spectrum illustrating the Relative Integrality / Autonomy of Polychords in Ondine	- 64 -
Figure 63 - Oiseaux Tristes (Miroirs): M. 1–5 with Harmonic Reduction.....	- 66 -
Figure 64 - 1st Stage of Lines of Force in Oiseaux Tristes	- 66 -
Figure 65 - Oiseaux Tristes (Miroirs): M. 7–9 with Harmonic Reduction.....	- 67 -
Figure 66 - 2nd Stage of Lines of Force in Oiseaux Tristes	- 67 -
Figure 67 - Oiseaux Tristes (Miroirs): M. 24 with Harmonic Reduction	- 68 -
Figure 68 - 3rd Stage of Lines of Force in Oiseaux Tristes.....	- 68 -
Figure 69 - Oiseaux Tristes (Miroirs): M. 25 with Harmonic Reduction	- 69 -
Figure 70 - 4th Stage of Lines of Force in Oiseaux Tristes.....	- 69 -
Figure 71 - Inverse Directionality of Inner Pendulums.....	- 69 -
Figure 72 - Compilation of Inner Pendulums prefiguring M. 25.....	- 71 -
Figure 73 - Oiseaux Tristes (Miroirs): M. 29–32 with Harmonic Reduction.....	- 71 -
Figure 74 - Interchange of BC & US Positions between Ebm & Ab in Oiseaux Tristes-	72 -
Figure 75 - Comparative Exercise for a Performer.....	- 72 -
Figure 76 - Coalescence & Severance of Ebm & Bb7 in Oiseaux Tristes	- 73 -
Figure 77 - Juxtaposition of the Two Lines of Force in Oiseaux Tristes	- 74 -
Figure 78 - Symmetrical Lines of Force in Oiseaux Tristes.....	- 74 -
Figure 79 - Brahms' Intermezzo op. 119, n°1: M. 1	- 75 -
Figure 80 - Harmonic Reduction of M. 1	- 75 -
Figure 81 - Brahms' Intermezzo op. 119, n°1: M. 8–9	- 76 -
Figure 82 - Brahms' Intermezzo op. 119, n°1: M. 46–47	- 76 -
Figure 83 - Brahms' Intermezzo op. 119, n°1: M. 67	- 77 -

Introduction

The inner workings of harmony have always tickled my fancy. Especially the mechanisms that broaden the notions of common practice tonality. Given my somewhat eclectic background, spanning jazz, rock, and classical music, paired with a proclivity for music analysis and composition, my attention was inevitably drawn to the notion of Upper Structures (USs). This term was originally coined within the jazz sphere, however, the phenomenon it describes pertains to a wide variety of music genres.

I've been ruminating on the topic of USs since I first learned about them in my first year of high school. In my mind, I had stumbled upon a gold mine. The breadth of harmonic possibilities afforded to a tonal framework suddenly multiplied exponentially, and not exclusively in jazz practice. Harmonic artifacts pertaining to modernist pieces that once boggled my mind suddenly clicked into place. This knowledge also prompted me to experiment with the concept of USs in original compositions, one of which will be picked apart in this thesis. Most of all, I speculated that, for the right repertoire, USs could be of great assistance as an analytical instrument, which could then be transferred into one's performance. This proved to be especially true whenever I encountered Ravel's body of work.

As a performer, I've always had a strong penchant for musical analysis because I believe that, ideally, analysis done properly should steer one's interpretation. That is not to say intuition has no place in a performer's arsenal. On the contrary, it should be one's starting point. Miguel Ribeiro Pereira, an old teacher of mine, once proffered: "Análise é a objetivação da arte" [Analysis is but the objectivization of art]. Indeed, analysis refines intuition. Hence, when I intuited harmonic elements in Ravel's *oeuvre* had meanings that could not readily be described with my former knowledge on extended tonality, the notion of USs facilitated the vinculum between my musical instinct and my analytical rationale.

All in all, my interest lies in understanding where and how upper structures fit within the hierarchy of perceived harmonic relations, attractions, stability, and directionality; and how it navigates the borders of later concepts such as expanded tonality and polytonality. In other words, where, in extended harmony, do upper structures thrive?

PART I

Theoretical Framework of Upper Structures

1. The Meaning of Upper Structure

According to Ellenburg, “in jazz, the term upper structure or ‘upper structure triad’ refers to a voicing approach developed by jazz pianists and arrangers defined by the sounding of a major or minor triad in the uppermost pitches of a more complex harmony” (2005, p. 20).

This definition captures the general notion of upper structure (US) employed in everyday jazz practice and theory, thereby being a suitable starting point for our conceptual journey. On one hand, it is rigid enough to set the groundwork for my objections with this concept, as it currently stands. On the other, it is loose enough to incite a debate on the evermore elusive border between extended tonality and polytonality. I have four main gripes with this characterization, which I shall elaborate hereafter: firstly, the immurement of USs within the Jazz genre, secondly, the possibility of USs without structural implications, thirdly, the potential morphology of USs, and lastly, the reference of the word “upper” in USs.

My first point of contention is born from the fact that the phenomenological occurrence of USs, despite de origin of the term (“in jazz”), encompasses a wide variety of musical genres, namely modernism and impressionism. The analysis of some of Ravel’s pieces in chapter 5 will demonstrate the usefulness of USs when apprehending music that still operates within a tonal framework but doesn’t fully subscribe to the principles of common-practice tonality. For this reason, imprisoning the analytical application of USs to jazz strips them of their eclectic potential.

To properly articulate this cross-cutting musical prism, a brief disclaimer is in order: chord key labels as well as traditional classical terms and symbols will be applied concurrently in my musical analysis. Admittedly, this juxtaposition might be jarring at first glance, yet necessary to export the notion of USs to other genres. I believe this stylistic coadunation doesn’t have to be dissonant with the current *status quo*. Instead, it has the capacity to parallel and extend the pre-existing groundwork.

My second issue, as stated beforehand, lies in the propensity for USs to have no structural implications. To discern what I mean by that, one must be familiar with the fact that, within jazz practice, the run-of-the-mill usage of USs is mostly regarded as a

practical strategy that generates and assimilates more complex harmonies. In this sense, USs can serve as a sort of mnemonic of *voicings*, providing ready-made superimpositions containing at least one tension for any chord, especially a dominant one. Ellenburg recognizes this reality and denominates USs a “voicing approach”¹. Following this line of thought, one could surmise this “voicing approach” amounts to a structure, as in, “the arrangement of and relations between the parts or elements” (Oxford Languages) of a complex harmony. Be that as it may, is it thereby structural, as in, “relating to and affecting the structure” (Collins Dictionary) of the music itself? Although I recognize that aggregating extensions into a triad for convenience’s sake is undoubtedly a useful tool, especially in the midst of the unforgiving flow of improvisation, I also maintain that this practice ensures little more than a spice of harmonic color. Thusly, the convenience of USs in jazz tendentially conflates the notion of USs with an array of extensions (see Figure 1).

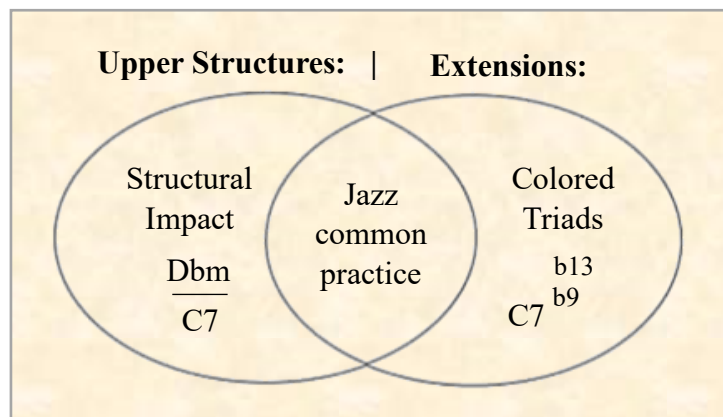


Figure 1 - Conflation of USs and Extensions in Jazz Common Practice

However, the pieces I will dissect in the second part of this thesis will make the structural impact of USs an incontrovertible matter. As such, I’d argue that in order to unlock their musical and structural potential, USs not only could but should go beyond the jazz common-practice approach. Paradoxically, this conceptual expansion also entails

¹ The term voicing refers to the “simultaneous vertical placement of notes in relation to each other” (Corozine & Vince, 2002, p.7), involving concepts of spacing and doubling. In the jazz sphere, it is associated with a series of pragmatic formulas which add harmonic color and facilitate smooth-sailing voice-leading.

the demarcation USs and a mere set of extensions as a hyponym and a hypernym², respectively. The same way green is a color but not all colors are green, USs are composed of a batch of extensions, but not all extensions comprise an US. In other words, “extensions” is an umbrella term that encompasses USs, but the two designations aren’t necessarily synonymous (See Figure 2).

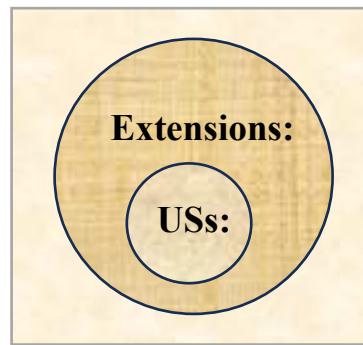


Figure 2 – Hypernym–Hyponym Relationship between Extensions and USs

Their distinction boils down to one question: to what extent is it musically and structurally relevant to perceive more than one harmonic nucleus? The answer to this query can only be provided by contextual factors, such as pitch organization, rhythm, register and contour.

My third point of dissent concerns the anatomy of USs themselves. As future examples will demonstrate, confining the constitution of USs to “a major or minor triad” fails to convey their morphological potential. The fact triads have been thoroughly engraved in our musical *zeitgeist* as choate syntactical objects, allows them to retain a sense of togetherness even when they are remitted to superimpositions. If the criteria that bars a collection of extensions from becoming an US is whether or not they can be perceived as a unified harmonic object, what is stopping seventh chords from embodying USs? Even in more traditional contexts, it is not uncommon for the seventh of a chord to no longer be considered or treated as a supplement, especially in subdominant and dominant functions. Thus, the admittance of seventh chords as glomerate harmonic entities in and of themselves, much like triads, is not that far-fetched. It truly is a “give

² In linguistics, hypernymy and hyponymy refer to the semantic relationship between a generic or blanket term (hypernym) and a specific instance of it (hyponym).

an inch, take a mile” kind of deal: once the possibility for a perfect chord to retain its identity within a bigger, denser harmony, is open (even if only to some degree), the prospect of extending that chord is almost inevitable.

When the movements *Ondine* (*Gaspard de la nuit*) and *Oiseaux Tristes* (*Miroirs*) by Ravel come under scrutiny in chapter 5, we shall examine the conditions that spurred seventh chord USs, such as E7/G#7 (see Figure 3) and Ebm^Δ7/AbM (see Figure 4), to blossom.

Figure 3 - Example of Seventh Chord US in *Ondine*

Figure 4 - Example of Seventh Chord US in *Oiseaux Tristes*

My fourth and last point of divergence is the frame of reference for the word “upper” in USs, which can be rather misleading. Presumably, “upper” would mean situated above a base chord (BC), register-wise. If that were the case, Ellenburg’s allocation of USs to the “uppermost pitches” of a more complex harmony, in the outset definition, would be only logical. Howbeit, I reckon the true reference of “upper” is actually the structural import of USs in regard to BCs. From a harmonic point of view, an US, no matter how autonomous, is always in thrall to the BC. The way that thralldom is set in stone may be, and usually is, the consignment of an US to a higher register. Nonetheless, that method is not a prerequisite for the existence of an US. To paraphrase, although these two parameters—register and structural import—tend to converge, they aren’t always one and the same. If handled appropriately, a BC does not have to underline an US pitch-wise, provided it retains its characteristics as a harmonic root. Vice-versa, an US doesn’t need to hang over a BC, both physically and audibly, given it preserves its submissive qualities as an extension of the BC. One can accomplish this effect by

manipulating musical resources such as rhythm, texture, contour, amongst others, in a way that subverts the rudimentary correlation between harmonic extensions and a higher pitch.

Ravel's *Ondine* epitomizes this severance. It begins by establishing a C# Major block chord, blurred by the ever-present, inquisitive A (see Figure 5).



Figure 5 - *Ondine* (Gaspard de la Nuit): M.1

Once this harmonic basis reverberates in our ears, we are slowly greeted with a G# minor US. However, its harmonic status as an US isn't crudely cemented by vertically stacking it over the C# Major BC. Instead, the G# minor chord is eloquently stretched into a graceful melody underneath the BC (see Figure 6).

Figure 6 - *Ondine* (Gaspard de la Nuit): M. 2 & 3

There are three essential factors that motivate the acknowledgement of G#m as an US: first, temporality, second, antithetical textures, and third, harmonic conceivability. The first appertains to the fact C#M is categorically established before the entrance of the theme (see Figure 5), ensuring that we have already accepted it as a BC before apperceiving the US. The second factor thwarts the harmonic extension–higher pitch association by strengthening an age-old opposition: melody and accompaniment. The

melody's significance is beholden to its harmonic accompaniment and is therefore harmonically submissive towards the BC (see Figure 7).

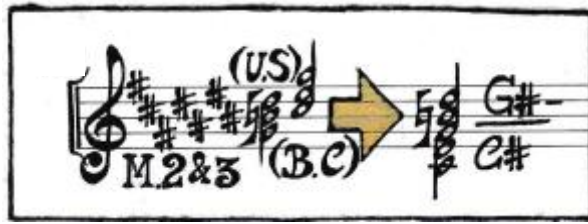


Figure 7 - Harmonic Reduction of M. 2 & 3 of Ondine

The third factor describes how it is a lot more organic to conceive the G#m layer as a harmonic extension of C#M, yielding a C#9 of sorts, than to hear G# as the overall root, in which case C# and E# would be rather dissonant.

Taking these four criticisms of Ellenburg's characterization into account, I would propose a revision of the starting definition. This proposal seeks to 1) expand the concept of USs from its originating jazz genre, 2) recognize USs retain their own self-contained identity with structural ramifications, 3) not constrain their composition to a major or minor triad, and 4) tie the word "upper" in US to its submissive structural import in comparison to the BC rather than a pitch reference. The suggestion is as follows: The term upper structure (US) refers to a triad or seventh chord that serves as a distinguishable harmonic extension to a base chord (BC), originating a more complex harmony.

To address my first critique (1), I extricated the definition from any stylistic categories. Although the concept of USs was born from jazz practice, and is also typically found in post-1900 music, I'd prefer to leave their applicability open to other genres if it proves to be musically germane. To substantiate this possibility, I put Brahms' Intermezzo op. 119, n°1 to the test in chapter 6 (see Figure 8), where I unveiled a subtle US infused in a mellifluous arpeggio.

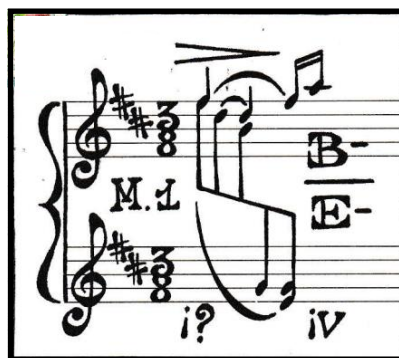


Figure 8 - Brahms' Intermezzo op. 119, n°1: M. 1

This piece inheres in late-romanticism and yet the notion of USs proved to be very apropos. Perhaps, in later investigations, more such cases could be dug up.

To tackle my second objection (2), the word “distinguishable” is admittedly doing a lot of heavy lifting. For a glomerate harmonic extension to be recognized as a secondary harmonic core with a self-contained identity, it must, to a certain extent, set itself apart from the BC. The manner in which this partial disjunction is accomplished, however, varies greatly. Chapters 4 to 6 will showcase that USs can be perceptible as a morphological object, a syntactical entity, or even as a musical figure of speech, such as an onomatopoeia. Since the criteria that renders an US detectable is quite fickle, I chose the word “distinguishable” as a characteristic that overarches all these variants.

The adjustments that resolve my last two grievances are self-evident. For my third problem (3), I simply admitted seventh chords into their possible constitution (“a triad or seventh chord”), and for my fourth objection (4), I clarify the submissive structural import of USs regarding BCs by classifying them as a harmonic extension. An extension *per se* is bound to a BC, not to a specific register.

Ultimately, the very nature of USs is an oxymoron. As an extension, USs bear upon extended tonality, but as a second harmonic nucleus, USs seem to befit polytonal conventions. These murky waters unavoidably ensnare us in the enduring conceptual problem of polytonality.

2. The Locus of Upper Structures

2.1. The Blurred Lines of Polytonality

The term polytonality is commonly used to refer to methods of tonal layering, both from a constructionist viewpoint—as a compositional procedure—and from an interpretative outlook—assessing its analytical and perceptual impact. After all, the gradual infiltration of passing-notes, suspensions, appoggiaturas, suppressions, amongst others, into the harmonic sphere, primed our mind’s eye to perceive distinct tonal layers. To cite Casella, “Polytonality signifies, to be sure, the interpenetration of diverse scales; but it likewise assumes—in the very nature of things, the survival of the original scales” (1924, p. 160). For that reason, the very essence of polytonality is confrontational in nature: “*Langage qui confronte plusieurs tonalités, avec chacune leur centre tonal et leurs lois d’attractions, la polytonalité porte en elle-même les notions de tension et de conflit*” (Rossi, 2001) [As a language that confronts multiple tonalities, each with their own tonal center and laws of attraction, polytonality carries within itself the notions of tension and conflict].

While exclusive understandings of this label assume the literal or tacit manifestation of two or more simultaneous, complete functional keys, most academic discourse adopts an inclusive view. This looser stance acknowledges the fact layers can preserve their tonal character without necessarily being interpreted as fully activated functional keys. Quoting Tymoczko: “we can perceive polytonality without being able to perceive multiple keys” (2003, p. 3). For all intents and purposes, the term polytonality encompasses “a range of layered tonal entities, including functional keys, modes and scales, segments and sets, tertian and other interval chordal sonorities and pitch centers, depending upon the principles considered to regulate their combination.” (Martins, 2019, p. 50). Multilayered harmony such as polychords, could potentially fall within these parameters.

Circling back to the matter at hand, in jazz, USs are often classified as members of a polychord. *The Berklee Book of Jazz Harmony* (Hojnacki, Mulholland, 2013), for instance, only considers USs in a chapter covering polychords (See Figure 9).

POLYCHORD VOICINGS

Polychord voicings consist of a lower structure that contains only chord tones of the basic function and an upper-structure triad or seventh chord drawn from its chord scale.




FIG. 11.14. C7(alt), Polychord Voicing

The upper structure contains at least one tension. (Harmonic avoid notes are not included in either structure, for obvious reasons.) Polychord construction offers the conceptual advantage of combining two easily understood objects to create something richer and more resonant.

Polychord symbols are usually written as an upper-structure chord symbol separated from the lower-structure chord symbol by a horizontal line as in figure 11.14.

Figure 9 - (Hojnacki & Mulholland, 2013, p. 215)

Nevertheless, the use of this term in this context warrants a few caveats. First, I would be remiss if I did not point out the fact that, much like the concept of USs itself, the term polychords can be used quite indiscriminately in the jazz sphere. Customarily, it refers to an architectural strategy that expedites the construction of more scrumptious-sounding extended chords, not to layered tonal entities³. The book referenced earlier recognizes this purely practical facet, stating that “*polychord construction offers the*

³ This distinction makes it so that when the text in Figure 9 describes USs as a “triad or a seventh chord”, it is not classifying it as its own harmonic entity, but as a tool to dexterously conceptualize intricate extended chords in the throes of improvisation. Therefore, this depiction of USs does not equate to my third amendment of its original definition in chapter 1 (the admittance of seventh chords into its composition), where I regard it as a perceivable, secondary harmonic core. Figure 1 in chapter 1, already hinted at the conflation of extensions and USs in jazz common practice, but this example pinpoints how it came to be. Generally, within a jazz domain, the major difference between the Ebm7/C7 chord illustrates in Figure 9 and a C7 (b9, 9+, 11+) is compositional adroitness, not musical perceptibility nor structural impact.

conceptual advantage of combining two easily understood objects to create something richer and more resonant.” (Hojnacki, Mulholland, 2013, p.215).

If one were to insert USs within a more prudent definition of polychords, such as “verticalit[ies] made up of distinct chords and partitioned to project this construction” (McFarland, 2009, p. 154), would they still be apposite? I gather it depends on the nature of the polychord itself. If a polychord projects multiple tonalities originating a tonal deadlock, “the denial of priority to a single pitch” (Berger, 1963, p. 25) is incompatible with the subordinate nature of USs. If it projects one dominant tonality overlaid with a submissive chord key, as in the beginning of *Ondine* (see Figure 6), USs dovetail. Even then, there are cases where a given harmony isn’t texturally “partitioned” as a polychord but still generate two harmonic poles, such as the onset of Brahms’ *Intermezzo* op. 119, n1 (see Figure 8). How should the overall harmony be classified then?



Figure 6 - *Ondine* (Gaspard de la Nuit): M. 2 & 3

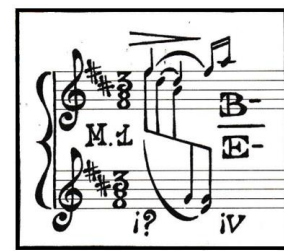


Figure 8 - Brahms' *Intermezzo* op. 119, n°1: M. 1

Evidently, the schismatic demands of polytonal conventions seem to be somewhat ill-suited to the submissive nature of USs, since they don’t fully consider the penchant of the bass to assimilate dissonating overlaid chords as extensions of an essentially consonant sonority. In his work, “Ravel’s Late Music and the Problem of Polytonality” (2004), Peter Kaminsky offers a possible circumvention to this issue, abandoning polytonality in favor of a dual priority—a primary and a secondary tonal focus: “I henceforth assume the structural priority of the bass as a normative tendency. At the same time, in some contexts, the upper voice(s) may resist that priority and establish a degree of autonomy as a secondary priority.” (Kaminsky, 2004, 240). Alas, as we will later explore in chapter 5, Kaminsky fetters these priorities to a *bass chord* and a *treble chord*, respectively, restricting their harmonic significance to their registers. This circumscription cuts at face value the overt similarities between their dyadic designation (bass & treble), and the BC and US pairing we shall delve into in chapter 5. Additionally, in several instances, he classified secondary *treble chords* as unresolved appoggiaturas,

insinuating they incite the desire to resolve somewhere, even if that resolution does not come into fruition. If a treble chord's harmonic status is contingent on its centrifugal nature, does it not defeat the purpose of conceding it any amount of vertical legitimacy? Strictly speaking, if a multilayered chord is not vertically cohesive to some degree, depending almost entirely on hypothetical resolutions, does that not render its very existence obsolete?

This is where my theoretical proposition comes into play. Much like Kaminsky, it suggests a middle ground between the total rejection and complete acceptance of polytonal structures. He states, "*the above assertions of bass priority on the one hand and the possibility of dual priority on the other are not mutually exclusive and are to some degree reconcilable*". Indeed, I agree that despite the gravitational pull of the BC, USs manage to resist that predisposition and establish a degree of vertical autonomy, i.e., a secondary harmonic nucleus. Our main divergence lies in how we gauge the amount of independence afforded to the upper layer.

2.2. The Reach of Extended Tonality:

USs do establish a secondary harmonic nucleus, but they are first and foremost an extension. As such, the frontier of extended tonality is a condign home for them. Nonetheless, even within this delimited harmonic space, their essence can still vary. Harrison’s book, *Pieces of Tradition* (2016) will aid in ascertaining those differences.

In his fourth chapter—“Harmony”—Harrison distinguishes “articulated overtone tonics” from “integrated overtone tonics”. “Articulated overtone tonics” all take a “dichotomous form of element + supplement” (Harrison, 2016, p. 113) that branch out into three possible subcategories specifying the relationship between structure and ornament (see Figure 10):

- 1) **Colored Triads:** major/minor triads to which extra-triadic coloring agents, pertaining to neither structure nor function, are applied.
- 2) **Polychords:** extra-triadic elements are affiliated into triads of their own.
- 3) **Chord with root representative:** Triad becomes the ornament whereas the root representative assumes a structural role.

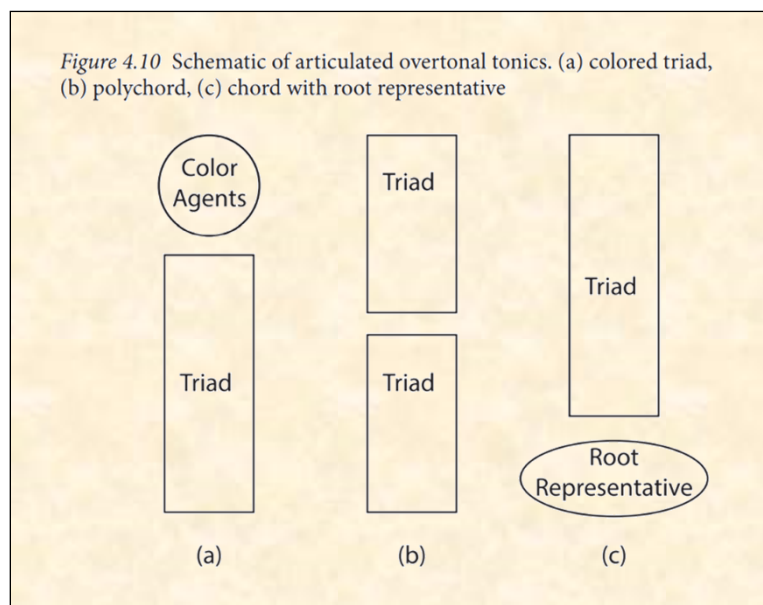


Figure 10 - (Harrison, 2016, p.114)

His notion of polychords, if slightly adjusted, can encompass USs. My only issue lies in regarding US as supplemental. They might be structurally submissive, but they are not a mere complement. Hence, I would redefine polychords as a texturally dichotomous harmonic formation constituting a BC and submissive elements affiliated into a triad of their own.

On the other hand, in “*integrated overtone tonics*”, no harmonic elements are superfluous to the structure, generating amplified chords. These chords have an inherent static stability where notes are “*close enough to existing ones to fuse with them, but far away enough to avoid proximity dissonance*” – (Harrison, 2016, p. 115).

I’d argue this perspective could potentially be widened to envelop any chord, regardless of its tonal function. As we will later discuss, the same way harmonic extensions may reassure or subvert the relative consonance of a tonic, they could just as much bolster or undermine the relative dissonance of a dominant. Hence, I would adopt the term integrated chord, meaning, an amplified chord where no harmonic elements are superfluous to the structure.

Now that we’ve established the taxonomy of USs, we are set to unearth their whereabouts within extended tonality.

2.3. Proposal of a Theoretical Framework for Upper Structures:

In his article, “Scalar dissonance and the Analysis of Polytonal/Modal Mismatch in Twentieth-Century Music” (2019), Martins lists three listening strategies of harmonic layer emancipation (see Figure 11):

- 1) **Tonal Resolution or Integration:** Chromatic dissonances are conceived as *centrifugal appoggiaturas* that inevitably succumb back onto a diatonic framework.
- 2) **Polytonal Coexistence:** Vertical dissonances are relatively stable, requiring no resolution, engaging primarily with *audition vertical* (Koechlin, 1924).

3) Polytonal Autonomy: Dissonances behave linearly, articulated in distinct harmonic layers. Stability is achieved through the contrapuntal autonomy of different stratum, promoting an *audition horizontale* (Koechlin, 1924).

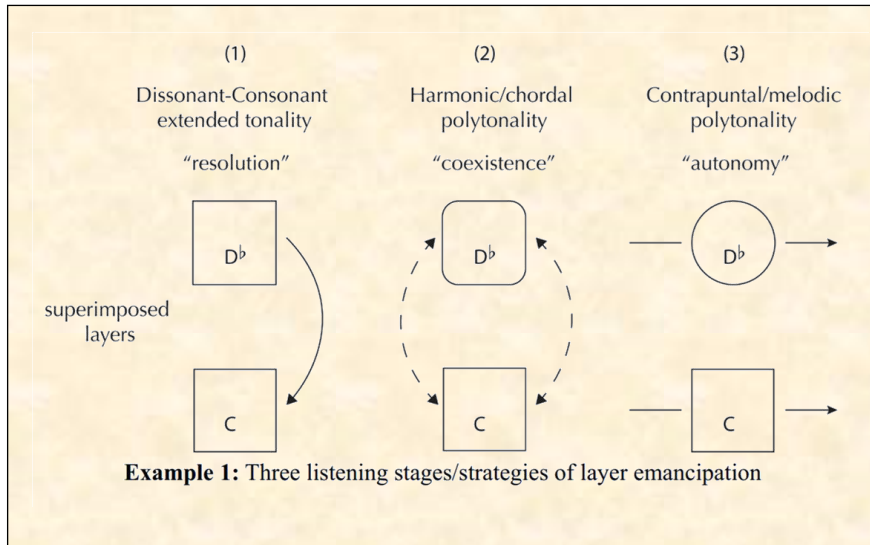


Figure 11 - (Martins, 2019, p.56)

The conjunction of the integrated chord and polychord concepts I extracted from Harrison's "articulated VS integrated tonics" with Martins' "listening strategies of harmonic layer emancipation" enables the creation of a comprehensive spectrum of the varying harmonic significance of Upper Structures.

My theoretical model (see Figure 12) illustrates that Upper Structures lie somewhere between the first (tonal resolution) and the second (polytonal coexistence) strategy, since they don't necessarily yield to a resolution, being thereby stable, but also don't establish a sufficiently independent harmonic stratum that would imply polytonality. In that gap, USs can be perceived as members of integrated chords or polychords, depending on their musical distinction. To quote Kaminsky: "*The support for such a weighting process by a listener will hinge on contextual factors, including the manner of presentation of the conflicting parts, and the extent of separability of their respective pitch organization, rhythm, register and contour*".

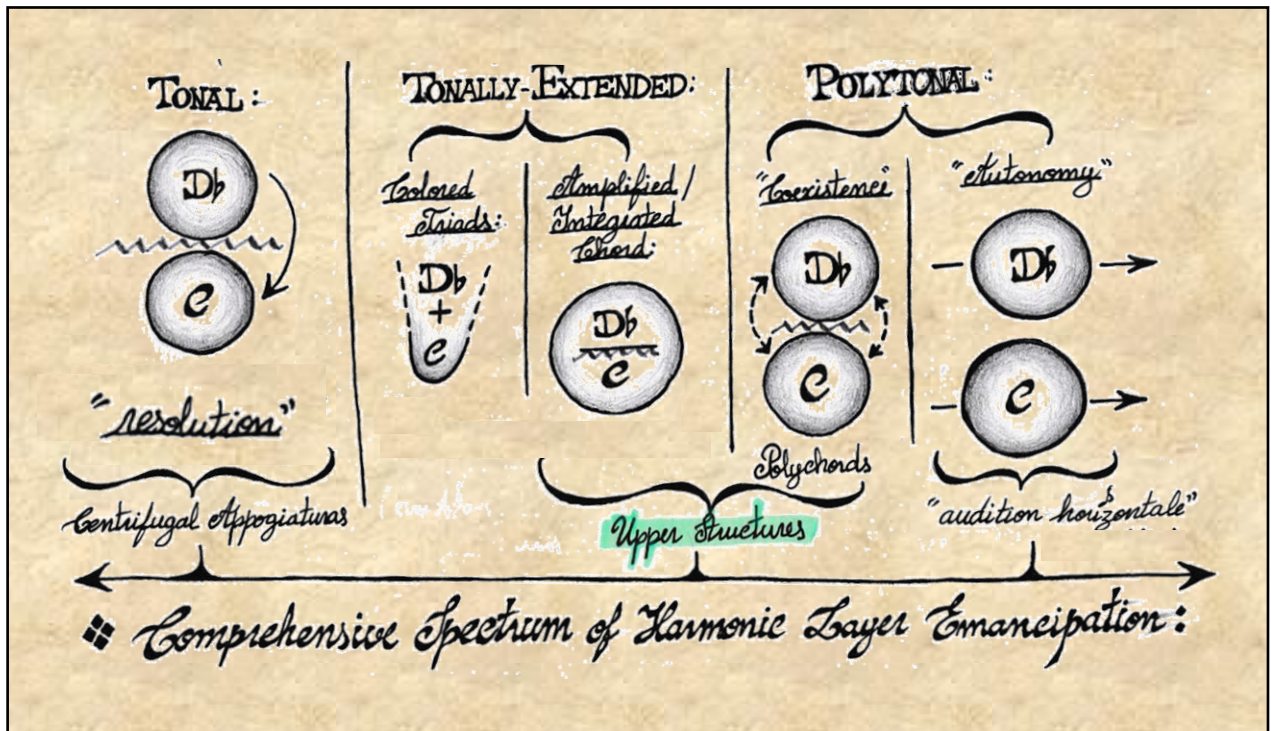


Figure 12 - Proposal of a Theoretical Framework for Upper Structures

With these new considerations in mind, the previously amended definition would benefit from a small addendum:

The term **upper structure (US)** refers to a triad or seventh chord that serves as a distinguishable harmonic extension to a base chord (BC), originating a more complex harmony in the form of an integrated chord or a polychord.

3. The Syntax of Upper Structures:

The nature and jazz origin of USs inescapably challenges our conception of consonance. The normative, schenkerian understanding of the term dictates that major and minor triads and their constituent intervals are the only consonances. Indeed, for most common-practice tonal music up to the late 19th century, this view yields fruitful analytic results. However, when applying the same definition to the analysis of other entirely tonal music that consistently and idiomatically features chords with four or more notes as syntactic resolutions, the result is problematic, as some pieces may not be comprised of any consonant chords whatsoever. Many of the analytical samples we shall later review betoken consonant tonic chords that include USs beyond the triad. In some cases, the arrival on the tonic is implicated by a dominant chord, and the resolution provides a sense of repose. From the perspective of traditional theory, such harmonies would still be regarded as dissonant structures. This is extremely counter-intuitive, not only from a tonal jazz⁴ standpoint, but also from a modernist and impressionist angle, that usually considers them to be both idiomatic and contextually stable—consonances in their own right. Therefore, the recognition of dissonance and consonance as relative states is of paramount importance.

3.1. Relative Consonance & Relative Dissonance

Whereas dissonance embodies relative tension and desire for motion, consonance incarnates relative stability and rest. Different levels of desirability in dissonance generate the necessity for a spectrum of stability in consonance. In his book, “Dynamic Consonance in Selected Piano Performances of Tonal Jazz” (2005), McGowan states: “The variety of options for consonance is comparable to the variety of vocabulary that

⁴ “Tonal jazz clearly conforms to the main aspects of common-practice tonality, particularly manifest in tonally hierarchic progressions, and the use of consonant harmonies constructed above major and minor triads (not “sus4,” augmented, or diminished). One very common and fundamental difference, however, is the use of consonant sonorities greater than a triad” (McGowan, 2005, p. 6).

dialects use to refer to a similar meaning of a word. In this analogy, the term dialect of consonance can be adopted to account for harmonic variants (i.e., including extensions) of the triad that can still function as a consonance” (p.19). To support this stance, Steven Schenkel explains, “when [upper structures are] added to triads they strengthen the non-resolving quality of the chords – i.e., the ability of the chord to stand alone as a complete and interesting musical sound” (The Tools of Jazz, 1983, p. 40). Furthermore, Daniel Ricigliano argues “these [tonic] chords may be extended with additional color tones without destroying the function of the original chord” (Popular and Jazz Harmony, 1967, p.145). I would further expand upon that claim with the inclusion of extensions that trespass the realm of “color tones”, such as USs.

Generally, USs tend to osmose the BC’s tonal function. For example, if a BC were to land in the tonic, the addition of an US typically would not disrupt its position within conventional tonal hierarchy. In fact, it might even strengthen said standing. In parallel, if a BC were to arrive at the dominant, the US would most likely emulate its intrinsic tension. This phenomenon affords the existence of relatively consonant or dissonant integrated chords or polychords.

3.2. Internal Dissonance:

Within a well-tempered tuning system, every BC triad affords eleven possible US triads. Darius Milhaud lists all combinations (see Figure 13), although in a polytonal frame. in “Polytonalité et Atonalité” (1923):

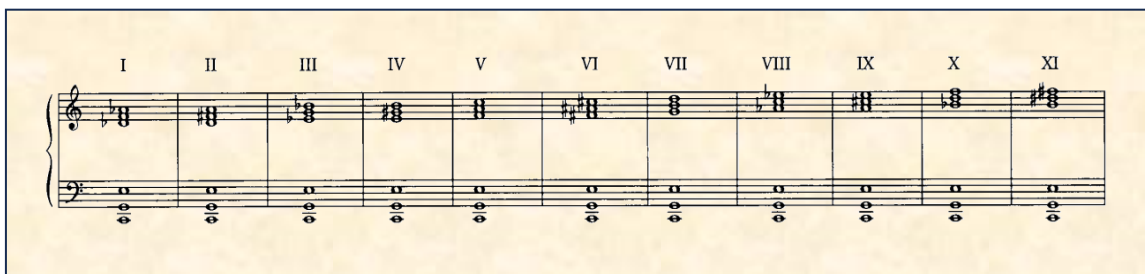


Figure 13 - Darius Milhaud's chart from "Polytonalité et Atonalité" (1923)

Additionally, for each pairing, he recognizes four possible modal variations (see Figure 14). Translated to my theoretical proposal, it would subsume a Major BC with a Major US (A), a minor BC with a minor US (B), a Major BC with a minor US (C), and a minor BC with a Major US (D).

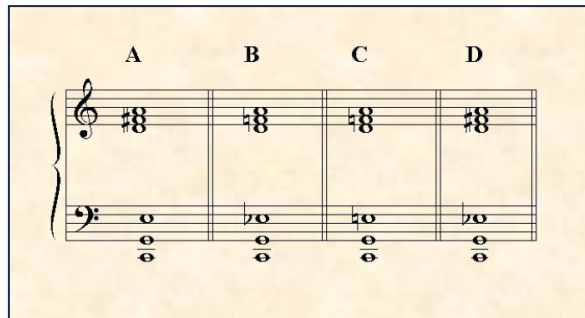


Figure 14 - Four Modal Chord Combinations (Milhaud, 1923)

The coalescence of each combo generates different levels of internal dissonance. A useful criterion to measure said dissonance is the number of half-step clashes (HSCs) between the BC and the US. If these same chords were to be displayed in a cycle of fifths (see Figure 15), one could easily verify there is a strong proclivity for HSCs to increase proportionally according to the distance between the BC and the US. For instance, if we were to weigh the pairing of G/C against Gb/C, dissonance-wise, the latter is decidedly more heavy-handed since it is comprised of two HSCs instead of one. On the same note, I'd invite the comparison of all modal variations in Figure 15: D/C, Dm/Cm, Dm/C, D/Cm. All are relatively tame in terms of harmonic tension, except for D/Cm, once again consisting of two HSCs instead of one.

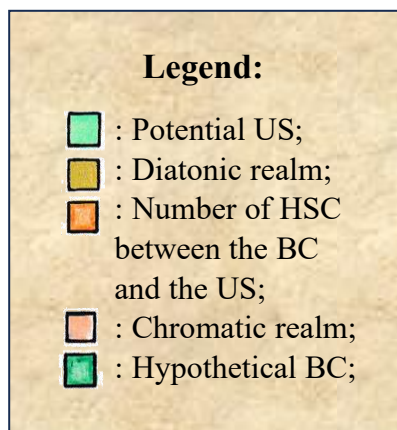
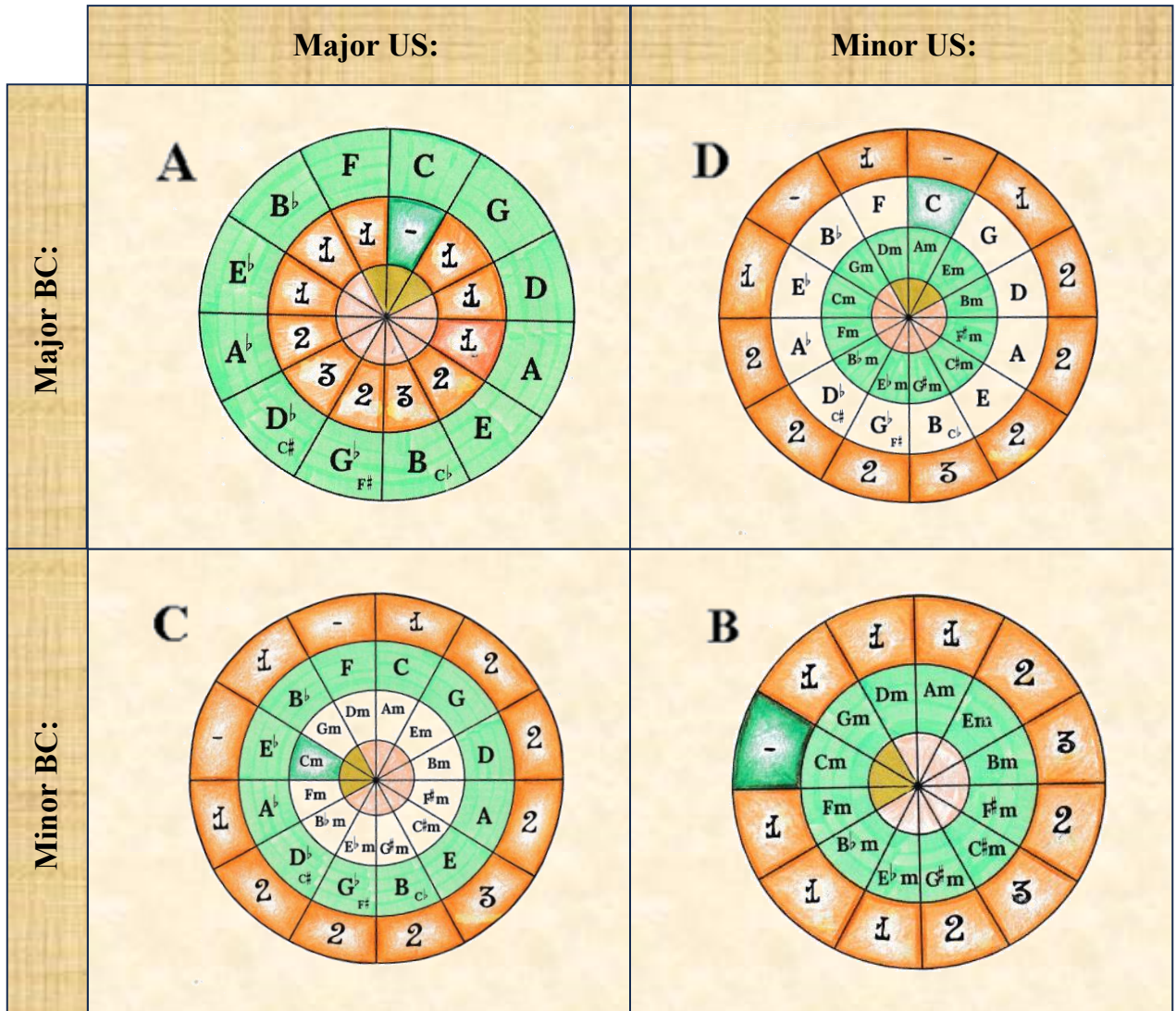


Figure 15 - Harmonic Tension between a BC and potential USs in all Modal Variations

Customarily, consonant amplified chords possess USs that don't stray too far from the BC, since their proximity binds them to the same diatonic collection, reinforcing their comprehensive stability. Dissonant amplified chords, on other hand, have USs endowed with the freedom to roam further away from their respective BCs, as their distance escalates the internal tension between the two, thereby intensifying the urgency for a resolution. For this reason, USs of dissonant amplified chords can and should be perceived both vertically, as an internal, self-contained dissonance (with HSC), and horizontally, as new leading-tones or common notes.

3.3. Horizontal Implications of Dissonant Amplified Chords:

3.3.1. Leading-Tones (LT):

When USs contain leading-tones, they can either recoil back to a BC, with or without extensions, or resolve to another US, venturing into the borders of polytonality.

1) US resolves to a BC:

A straightforward example of an US conduced to a BC can be heard in Mark Turner's solo of Cedar Walton's time-honored classic, Firm Roots, transcribed from Johnathan Blake's 2014 album entitled, "Gone, But Not Forgotten". The phrase (see Figure 16) illustrates a sequence of arpeggiated chords over a run-of-the-mill ii-V-I progression. The dominant is coated with a EM US, introducing a new leading-tone to the mix: G#, enharmonically equivalent to Ab (b9). The fact this note is slotted at the apex of the melodic fragment is no coincidence, since it accentuates the chromatic continuity of the excerpt: A-G#-G. Under the E/G7 umbrella, G# craves the motion to G with the same fervor the guide-tones, B and F, call for release in C and E respectively.

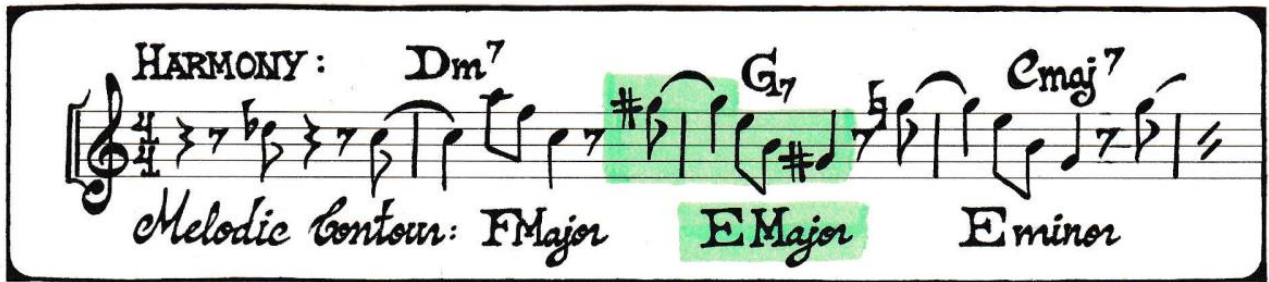


Figure 16 - Excerpt of Mark Turner's solo (2014) in Firm Roots

2) US resolves to another US:

The second path, where an US resolves to another US, can be seen in *Oiseaux Tristes* (see Figure 17), for instance, where an AM US is layered over a C7 BC. C7 resolves to Gm, in a plagal cadence. The superimposed AM, however, caves in to a Dm US, in what can only be described as a supplementary dominant–tonic motion. Despite the constant, inherent submission of the upper echelon, both strata coexist harmoniously, combining a plagal and authentic resolution.

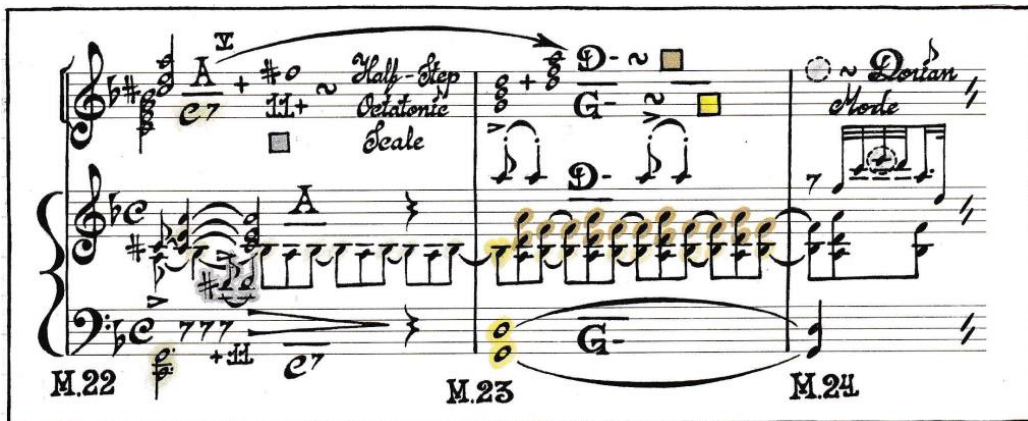


Figure 17 - *Oiseaux Tristes (Miroirs)*: M. 20–22

3.3.2. Common Notes:

Likewise, when USs consist of common notes relating to the previous or subsequent chord, they can suspend and/or anticipate adjacent BCs, be they extended or not; or delay and/or prepare neighboring USs.

1) US relates to a BC:

The first *modus operandi* can be observed in the introduction of Benny Golson's "Killer Joe" (see Figure 18).

Figure 18 - Introduction of Benny Golson's Killer Joe

The US CM over Bb7, in the second measure, is born from the pedal harmony of the upper stratum established in the C7 voicing, in the first measure. Similarly, the transition back to C7 in the third measure is all but seamless since it is merely a prolongation of said pedal. In other words, the overhead CM chord starts by being synonymous with the base harmony (C7), only to morph into a dissonant extension as an US to Bb7. This way, the same chord fluctuates from a consonant state to a dissonant one.

2) US relates to another US:

The second tactic, delaying or preparing adjoining USs, calls for a more elaborate deliberation. It exploits the notion of modulation, but not in a traditional sense. With prior examples, we've confirmed that USs containing leading-tones merely aid in the process of steering a chordal progression towards an established or newfangled key. The flip side of the coin is to modulate the US in and of itself. This approach calls forth Miguel Ribeiro Pereira's theory of harmonic modulation: "*Modulation is the harmonic reinterpretation (or shift in tonal meaning) of a single note, tonal pattern – be it a harmonic interval, a chordal entity or melodic segment – or a diatonic collection within a piece*" – (2005). In this context, this concept concerns the shift in tonal meaning of a chordal entity (US) by veering the harmonic substance that supports it (BC). In other words, whereas the US's configuration is positively congealed, its tonal meaning is vertically (internal consonance/dissonance) and horizontally (relative consonance/dissonance) tethered to

varying BCs. I have yet to find a clear-cut excerpt of this process in written musical repertoire, so I shall use an original composition from 2020—Timeless Rhapsody n1—to demonstrate this procedure, which ostends the architectural and expressive potential of this paradigm.

The piece begins with the viola chanting a wistful melody in d minor, weaving its way through the fourth (Gm) and fifth (A) degree (see Figure 19). Once it succumbs to the tonic, it rapidly modulates a whole-step downward and repeats the same pattern (see Figure 19). This harmonic framework (iv–V–I–key-change) will serve as a basis for the segment concerning modulating USs.

Figure 19 - Timeless Rhapsody n^o1, Ema Lecomte: M.1–19

When the Waltz-like texture of the prologue leaves us on a dominant E7 in M. 53 (see Figure 20), an arpeggio ascends to the new tonic: an extended A minor chord (M. 56). Ironically, this chord compounds inverse versions of the fourth (Gm) and fifth (A) degree of the introduction: G/Am.

Figure 20 - *Timeless Rhapsody n°1*: M. 53–56 and Harmonic Reduction

After a brief passage through ornamental harmonies (B_{sus}4 & B_{sus}4/F[#]m7), the chord of B7 rips through the continuum with accrued extensions (see Figure 21). The subsequent E_m resolution is all but expected. In hindsight, one comes to realize that the A minor chord was recontextualized as a fourth degree, preparing the arrival of the dominant fifth, B7, which in turn, yields to the new tonic, E_m (see Figure 21).

The image shows a musical score for Viola and Piano, with a Harmonic Reduction and Function analysis below. The score is in 5/8 time and features a complex harmonic structure. The Harmonic Reduction section shows the following chords and functions:

Measure	Chords	Function
56	A ⁻¹³ , B _{sus} ⁴	iv TRAGAL
57	F ^{#-7} , G	ii ⁶ / ₅
58	B ⁷ , B ⁹	V ⁷ D.
59	E ⁻⁹	i TONIC ?

Figure 21 - Timeless Rhapsody n°1: M. 56–58 and Harmonic Reduction

All three harmonic pillars contain a superimposed GM triad. When we're stationed at Am13, the GM US persists for almost the entirety of the bar, stubbornly clashing with F#(13) and C(3), grasping for its own identity. When that same US returns in full force, it is warring against the BC of B7b9, antagonizing F#(5), C(b9), and D#(3). The unsustainability of this internal tension prompts the ensuing BC, Em7, to assimilate GM into its ranks, releasing it from its points of contention and US status.

Interestingly enough, the complementary melodies of the Viola and the piano also play into this equation (see Figure 22).

Figure 22 shows a musical score for Viola and Piano. The Viola part is in the upper staff, and the Piano part is in the lower staff. Both are in 3/8 time. The key signature has one flat (B-flat). The Viola part starts with a forte dynamic (f) and features a melodic line with a D-C-B motif. The Piano part starts with a piano dynamic (p) and features a rhythmic accompaniment with a similar motif. The measures are numbered 56, 57, and 58.

Figure 22 - Melodic Contour of M. 56–58

The first appearance of the overlaid GM triad is bound to the viola’s melodic fragment: D–C–B, which protracts the fifth and the third of the US. When it recurs after a few ornate chords, it’s tied to an abridged version of that line on the piano (see Figure 23). This correlation sets the precedent for the systematic association of the aforesaid motif to the presence of an US.

Figure 23 shows a musical score for Viola and Piano, measures 56 and 57. The Viola part is in the upper staff, and the Piano part is in the lower staff. Both are in 3/8 time. The key signature has one flat (B-flat). The Viola part starts with a forte dynamic (f) and features a melodic line with a D-C-B motif. The Piano part starts with a piano dynamic (p) and features a rhythmic accompaniment with a similar motif. Annotations include '8ve Transposition' (an arrow pointing from measure 56 to 57), 'Rhythmic Diminution' (a box around the piano part), and 'Functional Modulation of the US' (an arrow pointing from measure 56 to 57). Below the Viola part, the chord is labeled 'G' over 'A-13' and 'PLAGAL'. Below the Piano part, the chord is labeled 'G' over 'B7b9' and 'DOMINANT'.

Figure 23 - Harmonic Imprint on D–C–B motifs

From a vertical point of view, the amount of half-step clashes (HSC), and hence, internal dissonance, between the US and the BC mirrors the relative functional demands of the BC: G/Am13, as a plagal entity, is given 2 HSC, G/B7(b9), as a dominant entity, 3 HSC, and G/Em9, as the tonic, 1 HSC. In turn, this correspondence ensures that the relative dissonance of these integrated chords preserves a functional character akin to that of common-practice tonal hierarchy, from a horizontal perspective. To synthesize, the superimposed GM triad absorbed the functionality of the BC, thereby modulating its tonal meaning without compromising its structure (see Figure 24).

HSC between US & B.C	G:	2	3	1
HARMONIC PILLARS (53-58)				
CHORDS:	$E_7 \flat 9$	$\frac{G}{A-13}$	$\frac{G}{B_7 \flat 9}$	E_7^9
DEGREE:	E: V	iv	V	i?

Figure 24 - Harmonic Pillars of M. 53-58

As mentioned before, notice that, within the cycle of fifths, the BC (■) and the US (■) never wander too far from each other in more stable functions, such as the plagal and tonic function. Yet when it comes to the dominant function, inherently charged with direction, the US is free to digress (see Figure 25).

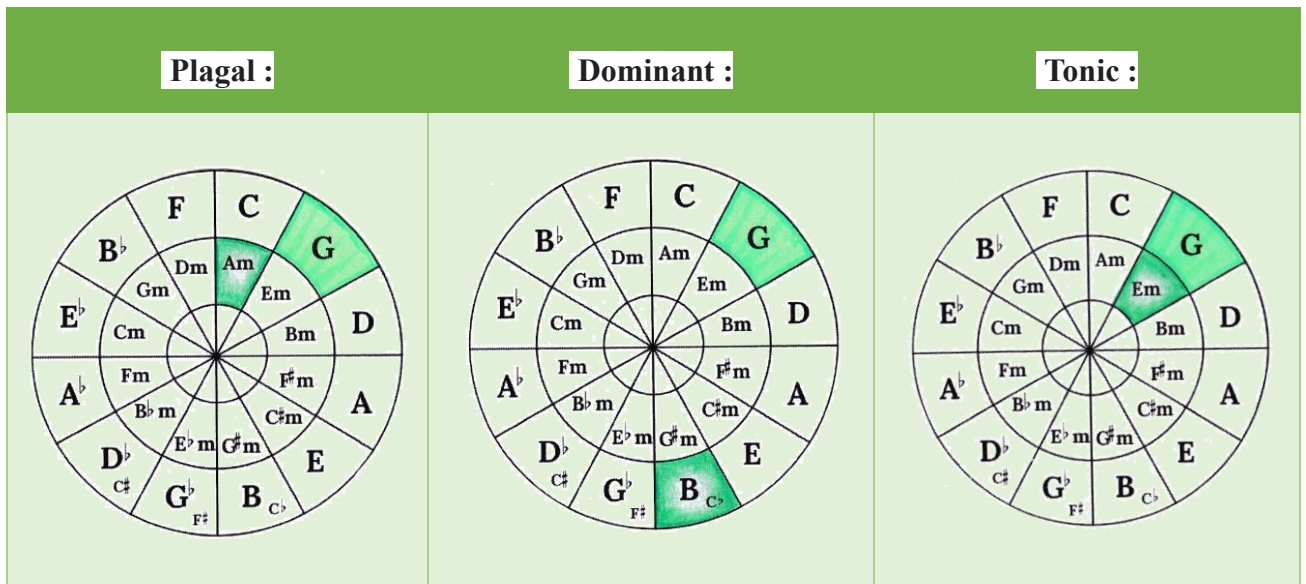


Figure 25 - Harmonic Distance between BCs and USs with different Functions

This formula, iv-V-i with an overarching US, is then arranged into a sequence. The tonic chord of Em (M. 58) is swiftly reinterpreted as the fourth degree of B minor with the introduction of C#(13), setting a modulated version of the harmonic framework

discussed above into motion: D/Em13–D/F#7(b9)–Bm7(9) (see Figure 27). This time, however, the absorption of the US into the tonic chord is playfully delayed and deviated towards the relative major (RM): D (M. 62). This way, the US becomes the BC itself (see Figure 28).

The image shows a musical score for Viola and Piano. The Viola part is in treble clef with a key signature of one sharp (F#) and a time signature of 5/8. The Piano part is in bass clef with a key signature of one sharp (F#) and a time signature of 7/8. The score is divided into measures 58 through 62. Below the piano part, there is a 'Harmonic Reduction (Chord Key)' section showing chords and their functions. The functions are labeled as PLAGAL, DOM., TONIC, DOM., TONIC, DOM., and R.M. (Relative Major).

MEASURE	58	59	60	61	62
Chord	D	G ^{II+} _{A7}	F# ⁹ _{B7}	B ⁹	F# ⁹ _{B7}
Function	PLAGAL	DOM.	TONIC	DOM.	TONIC
RM					D _{A7}

Figure 26 - Timeless Rhapsody n°1: M. 58–62 with Harmonic Reduction

The image shows a diagram titled 'HSC between US & BC:'. It displays the Harmonic Pillars (57-62) and the corresponding Chords and Degrees for measures 57 through 62. The diagram is organized into a grid with four rows: HSC between US & BC, HARMONIC PILLARS (57-62), CHORDS, and DEGREE.

MEASURE	57	58	59	60	61	62
HSC between US & BC	A:	2	3	-	3	1
HARMONIC PILLARS (57-62)						
CHORDS:	G / B ⁷ _{F#}	D / E ⁻¹³	D / F# ⁹ _{B7}	B ⁹	D / F# ⁹ _{B7}	D _{A7}
DEGREE:	B: V	IV	V	i?	V	III

Figure 27 - Harmonic Pillars of M. 57–62

Be that as it may, this abrupt detour proves to be a mere diversion since we are forthwith redirected to the intended resolution: B minor (M. 71). Bm undergoes a reminiscent

transformation to the fourth degree, echoing the harmonic pillars of the previous measures: A/ Bm13 (iv)–A/C#7b9 (V)–F#m7(9) (i) (see Figures 28 & 29).

The figure shows a musical score for Viola and Piano. The Viola part is in 3/8 time and features a melodic line with a fermata over measures 71-73. The Piano part provides harmonic accompaniment with chords and arpeggios. Below the piano part is a 'Harmonic Reduction (Chord Key)' section showing the chord symbols and their degrees: A (IV), B-13 (V), C#7b9 (I?), F#m7(9) (V), and F#m7(9) (i?). A 'FUNCTION' row at the bottom labels these as PLAGAL, DOM., TONIC?, DOM., and TONIC? respectively. A green highlight is present under the first two measures of the harmonic reduction.

Figure 28 - Timeless Rhapsody n°1: M. 71–73 with Harmonic Reduction

This diagram illustrates the 'Harmonic Pillars' for measures 70-72. It is organized into four rows: 'HSC Between US & BC', 'HARMONIC PILLARS (70-72)', 'CHORDS', and 'DEGREE:'. The first row shows a sequence of numbers 2, 3, 1. The second row shows the corresponding chords: F#m7(9), A/B-13, A/C#7b9, and F#m7(9). The third row shows the degrees: F#m7(9):V, IV, V, and i?. A green highlight is under the first two measures of the diagram.

Figure 29 - Harmonic Pillars of M. 70–73

In total, despite slight variations, we are left with a recognizable harmonic pattern (see Figure 30):

HSC between US & BC	-	-	-	D: 2	3	-	3	1	1	-	E: 2
HARMONIC PILLARS (53-73)	-	G: 2	3	1	-	-	-	-	A: 2	3	1
CHORDS	E ⁷ ₇	G ⁷ _{A-13}	G ⁷ _{B^b7}	D ⁷ _{E-13}	D ⁷ _{F[#]7}	B ⁹	D ⁷ _{F[#]7}	D ⁷	A ⁷ _{B-13}	A ⁷ _{C[#]7}	E ⁷ _{F[#]-13}
DEGREE	A: V	i?E:IV	V	i?B:IV	V	i?	V	III	i?F [#] IV	V	i?C [#] :iv

Figure 30 - Harmonic Pillars of M. 53-73

These segments hint at the feasibility of a perennial harmonic sequence that simultaneously modulates the key, in a traditional manner, and the US, according to Ribeiro's Pereira conception of the term. In this scenario, each US amplifies a typical iv-V-i progression, where the tonic serves as a pivot chord (\Leftrightarrow) to the following iv-V-I sequel (see Figure 31).

US _s :	G	D	A	E	B						
BC _s :	A ¹³	B ⁹ ₇	E- \Leftrightarrow E ¹³	F [#] ₇ ⁹	B- \Leftrightarrow B ¹³	C [#] ₇ ⁹	F [#] \Leftrightarrow F [#] ¹³	G [#] ₇ ⁹	C [#] \Leftrightarrow C [#] ¹³	D ⁹ ₇ ¹³	G [#] \Leftrightarrow
DEGREES:	iv	V	i \Leftrightarrow iv	V	i \Leftrightarrow iv	V	i \Leftrightarrow iv	V	i \Leftrightarrow iv	V	i \Leftrightarrow

Figure 31 - Hypothetical Sequence modulating the same Harmonic Paradigm

Noticably, the modulated key and the modulated US walk side by side along the cycle of fifths (see Figure 32). In relation to the concurrent tonic, the US is always the relative major, facilitating its projected ingestion into the base harmony. This metamorphic process allows for a new US to step in.

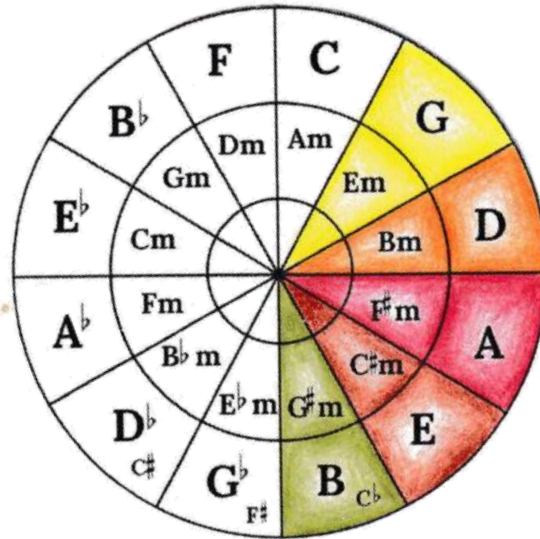


Figure 32 - Trajectory of the Harmonic Sequence along the Circle of Fifths

3.4. Synthesis:

To summarize, the harmonic strain triggered by an US boils down to two main gamuts, internal consonance–dissonance and relative consonance–dissonance, appraising vertical and horizontal harmonic relationships. Naturally, USs from relatively dissonant amplified chords are laden with horizontal implications, manifested through leading-tones or common notes. Each of these techniques flesh out an US–BC motion or an US–US motion (see Figure 33).

To avoid unwanted conflations, a vital distinction is due: these horizontal connotations are by no means synonymous with Martin’s first listening strategy (tonal resolution or integration). By its very nature, an US’s harmonic legitimacy is not contingent on a resolution. An implication is not tantamount to a necessity. While a dissonant US does inspire motion, it is still vertically self-sufficient.

Despite the restricted sliver afforded to USs at the border of extended tonality, Figure 33 demonstrates their extensive syntactic range. Herewith, we are adequately equipped to tackle the analytical and interpretative consequences of this theory.

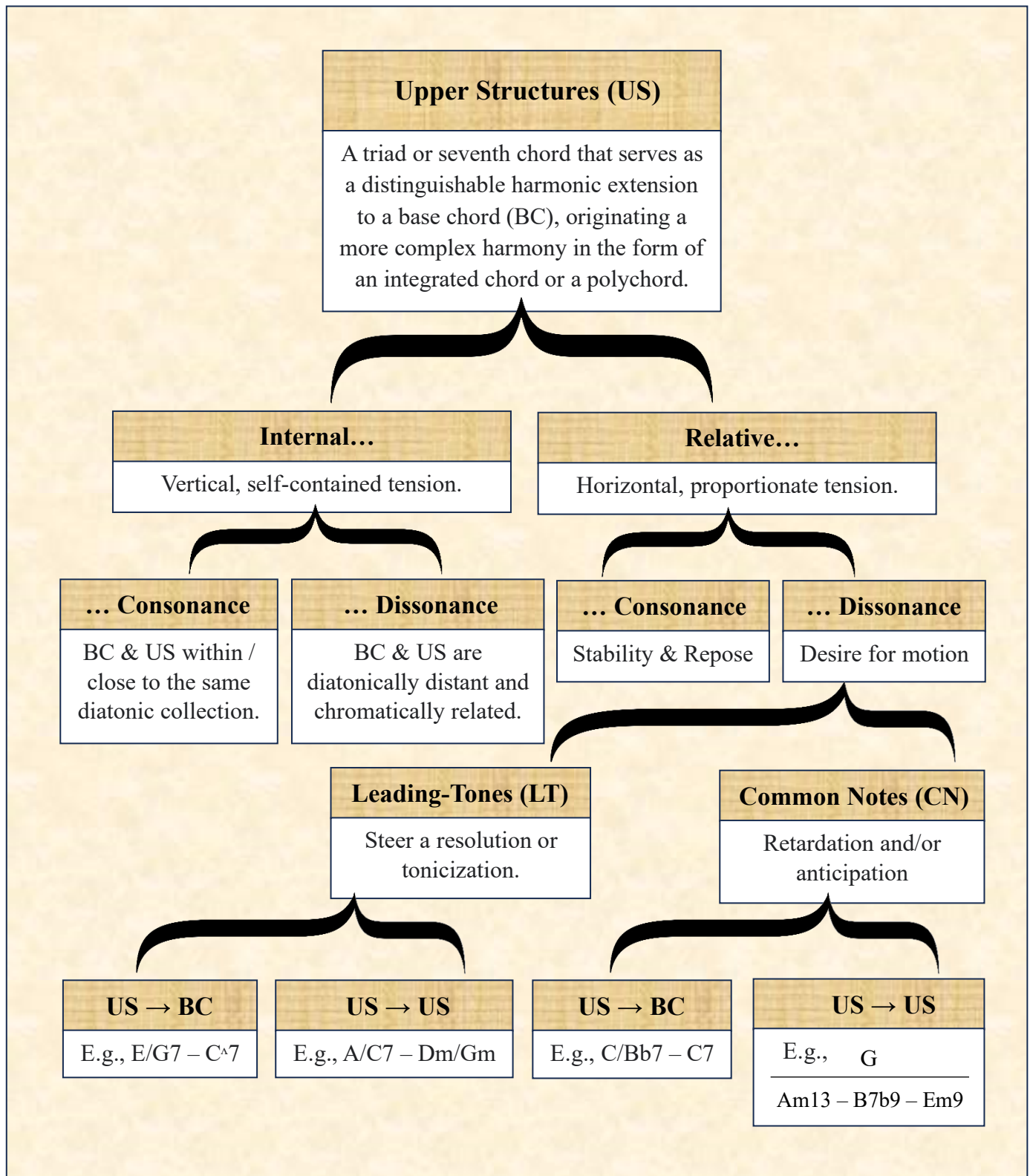


Figure 33 - Graph detailing the possible Characteristics of USs

PART II

Analytical and Performative Applications of Upper Structures

As this portion of the thesis seeks to delve into two deeply interconnected yet distinct applications of USs, the text will unfold in two registers. The analytical narrative will proceed in the main body of the text and the performative ramifications will be allotted to the footnote section. My intention with this division is by no means to relegate the interpretative aspect to a secondary status, but to allow for two parallel perspectives to progress without interrupting each other's logical reasoning. When the two outlooks are consentient to the point performative consequences become self-explanatory, this dual account be suspended. In my opinion, these two viewpoints are mostly coterminous, but when the translation from one field to another is slightly more circuitous, I shall resume the binary line of reasoning.

Our analytical journey will commence in the Jazz genre, where the concept of USs was coined, proceed to an impressionist repertoire with Ravel's pieces, where USs are all too common, and finish in Brahms' Intermezzo op. 119, n1, an unexpected source of USs.

4. Application of Upper Structures in Jazz

4.1. Bill Evans: Come Rain or Come Shine: Role Reversal of BCs & USs

In an excerpt of his February 3rd, 1965, solo of Come Rain or Come Shine from the Broadway musical *St Louis Woman*, Bill Evans expertly maneuvers the US–US leading-tone paradigm discussed in the previous chapter, to create a tightly drawn sequence of dissonant integrated chords. As a lead-in to the next chorus, Evans builds expectation with a paroxysm of secondary dominant sevenths. In the appendix of *Dynamic Consonance in Selected Piano Performances of Tonal Jazz* (2005), McGowan provides a transcription of this passage (Measure 15–16) where he labels the overhead structures as extensions, alternating between b13 and 11+ (see Figure 34).

Figure 34 - McGowan's Transcription of Bill Evan's Solo (February 3rd, 1965) of *Come Rain or Come Shine*: M. 13–20

I do not agree with that assessment since there are clearly two harmonic motions in question. The contrabass and the piano's left hand assure a series of modest shell voicings⁵—shell BCs, if you will. The right hand, *au contraire*, offers a streak of extensions in the form of shell USs (see Figure 35).

⁵ [Not a performative indication] *In jazz, a shell voicing consists of a chord stripped-down to the notes that define its nature: the root and the guide-tones (3rd and 7th). This divestment does not compromise the comprehensive collation of these tones. In a more classical context, a BC triad survives with no more than a root and a third. Following the same logic, one could deem it a shell BC. In a like manner, I'd posit that if the fifth is omitted in an US triad, the chord doesn't necessarily disassemble into loose extensions. It can, in fact, still retain its togetherness or its shell, so to speak. Therefore, in keeping with the intersectional spirit of this thesis, I would conjoin the notions of USs and shell voicings into one, dubbing such cases shell USs.

Figure 35 - Harmonic Analysis of M. 15-16

While the base harmony speeds through the circle of fifths, the overlaid chords glissade down a chromatic slope through the systematic interchange of b6USs and 2USs⁶.

However, this pattern is soon turned on its head, thanks to a tritone substitution (D7) on the base, where Ab would be expected. This turnabout instigates a role reversal between the BCs and the USs: now, the first roles down a chromatic slide until it reaches the bona fide dominant of F, C; and the second tends to the circle of fifths, landing, at long last, at the recently thwarted Ab. Lastly, this flurry of harmonic tension finally concedes to F7, beginning a new chorus (see Figure 36).

Figure 36 - Crossing Harmonic Trajectories of M. 15-16

⁶ [Not a performative indication] number indicates the interval between the root of the BC and the root of the US.

This turnabout manages to momentarily switch our perception of where the BC and US reside. Given the linear strength of the two motions we've come to recognize, when they swap registers, we are temporarily stranded in a middle ground where it seems the US progression proceeds in the lower register and the BC progression soars to the upper register. Naturally, our minds soon reconfigure the chromatic decline to pertain to the BCs, and the cycle of fifths to befit the USs. Nonetheless, it is the gray area before that mental reconstruction that grabs my attention, for it confirms the possibility of subverting the higher register–US correlation through other musical means. In this case, it uses the powerful continuity of sequential harmonic progressions to capsize registral contingencies.

4.2. Michel Petrucciani's Take the A train: USs as an Onomatopoeia

Michel's Petrucciani's (1962–1999) interpretation of the well-known standard, Take the A Train, in the Montreux Jazz Festival of 1993 utilizes an US for the sole purpose of mimicking the noise caused by the intake and exhaust cycle of steam engines.

The introduction parrots the churning, percussive rhythm of a steam train in motion, establishing a C7 pedal (see Figure 37).



Figure 37 - Ostinato Bass of Michel Petrucciani's Interpretation of Take the Train

It then overlays this unrelenting motif with the ever-familiar “choo-choo” sound (see Figure 38).



Figure 38 - Onomatopoeic Musical Portrait

The reproduction of that recognizable, raucous noise is accomplished by the toggle and clash of Gb minor and Gb Major, coalescing into an anomalous minor-major chord. The fact this incongruous chord is superimposed over a C7 BC, its diametrical antipole in the cycle of fifths, only emphasizes the US’s cacophonous quality. Moreover, the placement of the minor-major chord in the first inversion assures that the tritone is heard in both ends of this musical portrait as a whole: C on the base and Gb at the crest of the US (see Figure 39).

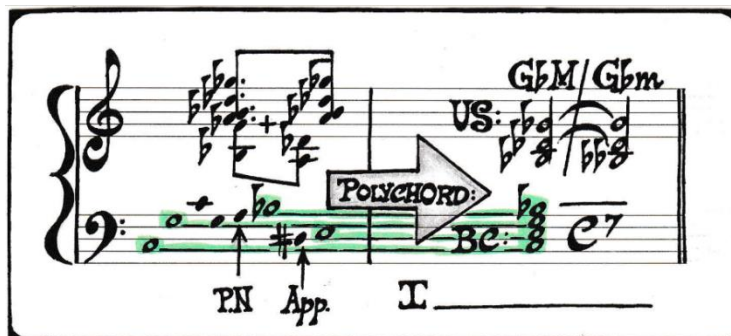


Figure 39 - Harmonic Reduction of Figure 38

As per usual, the US retains its own identity yet remains tied to the BC. Better yet, the US's individual identity and purpose is tied to the BC. If one were to hear the US's interjection in isolation, with no other context, it would not be axiomatically understood as a facsimile of the famous "choo-choo" sound. However, when the same US is paired with the boisterous baseline, its mimetic intent is all but obvious. In other words, the US's onomatopoeic efficacy still hinges on its pairing with the BC's ostinato.

When this imitative frame is meshed with the main theme (see Figure 40), a new layer of harmonic complexity is added.

The image displays a musical score for piano, consisting of four systems of staves. The first system is labeled 'C (Implicit Standard Harmony)' and 'e7 (Pedal Harmony)'. The second system features a 'CHOO-CHOO!' interjection with a new harmonic suggestion of D7(b9). The third system shows a melodic line with a D-7 chord and a G7 chord. The fourth system shows a melodic line with a G11(b9) chord. The bass line throughout is a boisterous ostinato.

Figure 40 - "Choo-choo" Interjection over new Harmonic Suggestion

Since this standard (see Figure 41) has been exhaustively disseminated within the jazz sphere, the underlying harmony of the melody is ineluctably perceived in our mind's ear (C-D7-Dm7-G-C), even if it is not iterated aloud.

TAKE THE 'A' TRAIN - ELLINGTON / STRAYHORN 421.

The musical score is handwritten and consists of ten staves. The first staff is the treble clef melody. The second and third staves are the bass clef accompaniment. The fourth and fifth staves are the treble clef accompaniment. The sixth and seventh staves are the bass clef accompaniment. The eighth staff is a treble clef staff with a double bar line. The ninth staff is a treble clef staff with a double bar line. The tenth staff is a treble clef staff with a double bar line. Chord symbols are written above the staves: C, D9 b5, D-9, G7, C, F, D9, D-9, G7, G7M, C, D9 b5, D-9, G7, C. There are also some handwritten notes and symbols like '1.', '2.', and '(C)'.

Figure 41 - Original Take the A Train Standard from REALBOOK 1

Of course, this phenomenon might very well be exclusive to musicians who've had a substantial amount of exposure to this kind of repertoire. Be that as it may, the fact the melody itself contours parts of the harmony aids in that inductive process. The result of this instinctive anamnesis when the choo-choo interjection blows in, is the perception of three simultaneous harmonic layers (see Figure 42): an explicit C7 BC, an implicit Db5(7,9) chord, and an absonant Gb minor-major US. All these chords possess distinct functions yet cohere with each other.

□ :	CHORDS:	LABEL:	FUNCTION:
U.S Onoma- topoeie Harmony		Gb+/-	"CHOO- -CHOO"
Implicit "Standard" Harmony		D _b ⁹ ₇ ⁵	X (X)
B.C: Pedal Harmony		C7	- X -

Figure 42 - Tripartite Harmonic Perception

This excerpt depicts how an US can serve as an agglomerate harmonic extension without absorbing or transforming the functionality of the BC; it can, instead, survive as a purely morphological entity with narrative purposes.

5. Ravel and the Heterogenous Utility of USs:

Much like Kaminsky, I agree that “*the term polytonality has been used for Ravel's music to designate a set of relatively consistent structural contexts that are not readily modelled by tonal or extended tonal techniques, and which thereby demand a different sort of analytical strategy*” (Ravel’s Late Music and the Problem of Polytonality, 2004, p.238). To solve this conundrum, Kaminsky develops the theory of primary and secondary pitch priority, broached in subsection 1.1. Practically, this proposal raises two main points of contention which I believe the BC–US couplet is better equipped to handle. My first discordance lies in the nature of what can conceivably constitute a second pitch priority:

5.1. Ravel’s Piano Concerto in G major:

A great case-study to hone my theoretical objections to Kaminsky’s perspective is in the first movement of Ravel’s concerto in G Major for piano. The passage in question spans from rehearsal 14, minus three measures, to 15, plus two measures (See Figure 44).

In the aforesaid article, Kaminsky hypothesizes that the superimposed G# Major chord, prolonged over the bass, survives as a series of unresolved *appoggiaturas* (see Figure 43). This approach renders the conception of G# Major as a chord rather useless, dare I say, meaningless, since it deprives it of any vertical congruency. Kaminsky shirks the harmonic demeanor of the overhead G#M chord.

EXAMPLE 5. *Unresolved appoggiaturas in Ravel, Piano Concerto in G major, first movement.*

Figure 43 - Kaminsky's Harmonic Analysis of Rehearsal 14 in the 1st Movement of Ravel's Piano Concerto in G Major

The image displays a page of musical notation for the first movement of Maurice Ravel's Concerto for Piano in G Major, specifically Rehearsal 14. The score is presented in three systems, each consisting of two staves labeled '1' and '2'. The key signature is G major (one sharp). The first system shows a piano introduction with a forte (fff) dynamic. The second system includes rehearsal mark 14 and features piano (p) dynamics. The third system includes rehearsal mark 15 and features piano subito (p subito) and mezzo-forte (mf) dynamics. The score includes various musical notations such as notes, rests, slurs, and dynamic markings.

Figure 44 - Rehearsal 14 of the 1st Movement of Ravel's Concerto for Piano in G Major

I reckon this interpretation poses an array of issues.

First and foremost, G# Major is asseverated in a way that undeniably confers it harmonic legitimacy, regardless of the gravitational pull of the bass. In point of fact, the harmony of G#7 has been consistently drummed into this piece. It simply migrates from the BC to the US (see arrow in fig. 54). To classify it as constant unresolved *appoggiaturas* demotes it to an ornamental status, and I do not believe it is heard as such.

Secondly, G# Major is soon answered with a C# Major chord, outlining a clear dominant–tonic relation (see Figure 45). Granted this C# Major is also an *appoggiatura* to D minor, which integrates the base harmony of G7. Be that as it may, it is not enough to supplant a motion as compelling as dominant–tonic.

Nº of BARS	3	14	4	3	1	2	15	~
	-	G#	- G# - G#	C# D	e			
	G#7	E	Am	D	G	e		
FUNCTION	V ²	V	ii	V	I↔V	I		

Figure 45 - Harmonic Reduction of Rehearsal 14–15

Third, as well as asserting its relatively autonomous existence, G#M almost always relates to the bass, providing a third, sometimes enharmonically: G# to E and B# (C) to A (see Figure 45). Thanks to this intuitive association, the bass line is heeded as a string of shell BCs born from their interaction with the US.

For my fourth argument, I will have to expand the excerpt under scrutiny. In the succeeding measures (see Figure 47), we come to realize that, much like the bass, G# Major initiates a lagged circle of fifths sequence (see Figure 46), bestowing an unmistakable harmonic drive to the upper layer.

N ^o /BARS	15 ⁺² 4	3	2	1/2	1/2	16 6 - 3
S	B	E	A	D	G	Bbm-Am
Shell	(b2)	(b2)	(b2)	(b2)	(b2)	(b2)
BE	Cm	Fm	F	Bb	Eb	Eb ⁹ b ⁹ ¹¹⁺
FUNCTION	V	V	IV	IV	IV	- IV

Figure 46 - Harmonic Reduction of Rehearsal 15-16

The image displays a musical score for the first movement of Maurice Ravel's Concert for Piano in G Major, specifically rehearsal measures 15 and 16. The score is arranged in two systems, each with two staves. The first system (measures 15-16) features a complex texture with multiple chords and moving lines. The right hand (RH) plays a series of chords, while the left hand (LH) has a more active role with moving lines and chords. Dynamics include *p*, *cresc.*, *f*, and *pp*. The second system (measures 17-20) continues the texture, with the RH playing a series of chords and the LH providing a rhythmic and harmonic foundation. Dynamics include *ff*, *p*, *f*, and *mf*. A rehearsal mark '16' is placed above the second system. The score is written in G major and 4/4 time.

Figure 47 - Rehearsal 15–16 of the 1st Movement of Ravel's Concert for Piano in G Major

Collectively, the shell BCs travel the same distance as the USs in the roundabout that is the circle of fifths (see Figure 48). It is only their point of departure that varies. Anticlockwise, the base stratum makes its way from E to Eb. Correspondingly, the upper stratum voyages from G# to G, with the exception of F# (■), which is replaced by a tritone substitution (C).

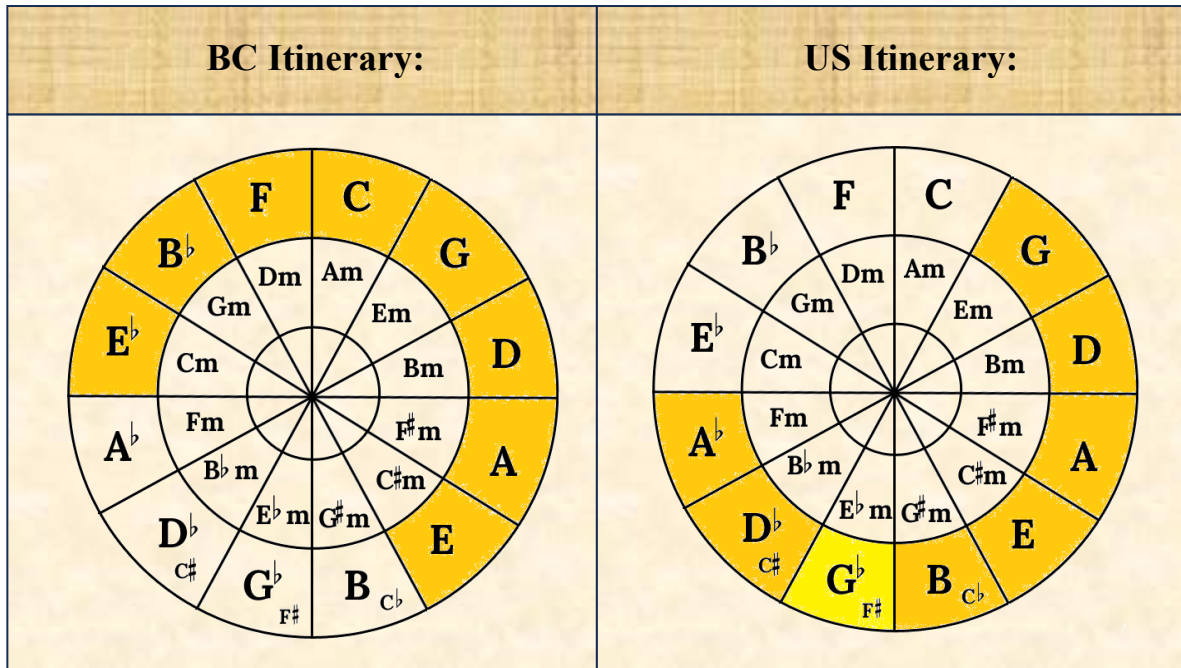


Figure 48 - Harmonic Trajectories of the BCs and USs

To dismiss these unsynchronized yet undeniably analogous harmonic motions as mere coincidence would be rather absurd. Indeed, it only invigorates the validity of my argument.

To sum it up, contextual factors such as repetition, block chords, internal harmonic interactions, and lines of force (circle of fifths), affirm G# Major as a prolonged US, rather than a set of unresolved appoggiaturas.

My second disagreement lies in Kaminsky’s correlation of primary and secondary pitch priorities with “bass chords” and “treble chords”, respectively. These terms bear too much of an association with register, instead of primarily determining the harmonic import between chords the way BCs and USs do. A piece that encapsulates that distinction, as we’ve seen in chapter 1, is *Ondine*.

5.2. Ondine, Gaspard de la Nuit – Ravel

Ondine's main theme flourishes from a straightforward BC + US polychord. The assembly of each iteration of that formula will impart two noteworthy lines of force. The first is the skeletal harmonic structure of *Ondine* as a whole. The second is the polychord members' gradual shift from relative integrality to relative autonomy, triggered by their interactions with ornamental harmonies. To uncover how these narratives come into fruition, let us start at their inception.

Ondine begins with the scintillating murmur of C# Major (see Figure 5). This delicate filigree possesses an eerie will-o-the-wisp-like quality, both metaphorically, given the borderline impossibility of the technical challenge it provides for the performer, and literally, thanks to its luminous high register and to the ever-present inquisitive flattened A, which blurs the perfectness and concreteness of the C# Major chord.



Figure 5 - *Ondine* (Gaspard de la Nuit): M.1

One measure later, the main theme makes its entrance (see Figure 6).

Figure 6 - *Ondine* (Gaspard de la Nuit): M. 2 & 3

Despite the natural propensity for the background motif to yield the melody's whims, hierarchically speaking, the main theme envelops the accompanying pattern as much as the pattern enfolds the main theme. From a textural standpoint, the melody-accompaniment relationship inevitably crowns the melody (See Figure 6). From a

harmonic point of view, however, the melody itself clearly outlines a chord, hence holding an inherently harmonic value that submits to the motif's base chord (See Figure 7).

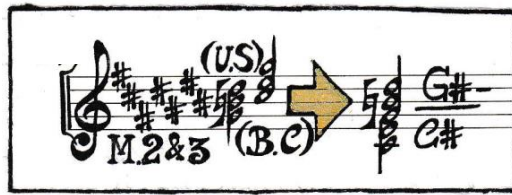


Figure 7 - Harmonic Reduction of M. 2 & 3 of Ondine

As discussed in chapter 1 (pages 12–14), this example accurately illustrates how the word “upper” in the term US refers exclusively to its hierarchal status in a harmonic structure, and not necessarily to a higher register in comparison to a BC.

The total rhythmic, timbral and registral partition of this intricate tapestry generates a polychord: two harmonic units with external dissonance. Both these “characters” are irrevocably distinct, yet the melody’s expressive value is gauged by its tension with the harmonic motif. An unresolved \wedge^9 is vehemently more poignant than a potential self-contained \wedge^5 . Therefore, despite the clear delimitation of two harmonic units, their borders playfully interact with each other.

A transpicuous paragon of said interaction that remains consistent throughout the movement is the two-faced allegiance of the only note that escapes the US traced by the melody. In the introduction, that note is C#. Through the prism of the G#m US, it is indubitably a passage note, yet from the C# BC’s viewpoint, it is most certainly a resolution⁷. The coexistence of these dichotomous roles by no means contradicts the

⁷ This duality invites two possible phrasings. The first handles C# as a tense and dissonant passage note (see Figure 49) while the second treats C# as a consonant resolution (see Figure 50).

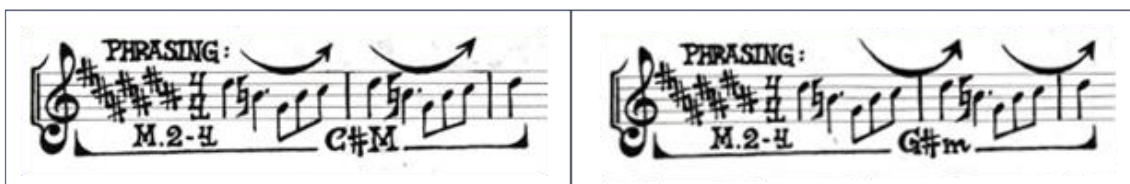


Figure 50 - Phrasing of C# as | Figure 51 –

divide in the harmonic reduction. In fact, it bolsters the yin and yang complementarity between the BC and the US.

This theme's harmonic richness is further enhanced in its future transposed reappearance, this time centered in D#m (see Figure 51):

The figure consists of two musical staves. The top staff is a grand staff (treble and bass clefs) showing measures 8 and 9 of a piece in 2/4 time with a key signature of three sharps (F#, C#, G#). A green rectangular highlight covers the fourth beat of measure 9. The bottom staff is a grand staff showing the harmonic reduction of the same measures. Handwritten annotations include '(U.S.)' above the treble clef and '(B.C.)' below the bass clef. A large yellow arrow points from the original notation to the reduction. The reduction shows the chord structure for the highlighted beat, with 'A#-' written above the treble clef and 'D#-' written below the bass clef. To the right, a B7 chord is shown with '(U.S.)' above it and '(B.C.)' below it.

Figure 51 – *Ondine (Gaspard de la Nuit): M. 8-9 & Harmonic Reduction*

In the fourth beat of measures 8 and 9, the archetype is adroitly interleaved with a B7 chord⁸, whose leading-tones (D# & A) pertain to both the BC and the US. On one hand, as the tritone substitution of E#7, it serves as the dominant seventh of US, A#m (see Figure 52). On the other, it also embodies a German sixth for the BC, D#m (see Figure 52). The dual purpose of the B7 chord allows it to serve a dominant function to both

⁸ This addition mutates the aforementioned “two-faced allegiance” of the passing note in the melody (see Figure 51). D# is still an outside note in the eyes of the US, A#m. It is also a resolution from the BC’s perspective. Nevertheless, the BC it resolves to is no longer the main harmonic pillar, D#m, but B7, an ornamental harmony in and of itself. For this reason, even if it “resolves”, the melodic D# is still dissonant in the grand scheme of things, and should be phrased as such.

A#/D# layers of the polychord, since either chord aligns with the organic trajectory of its leading-tones.

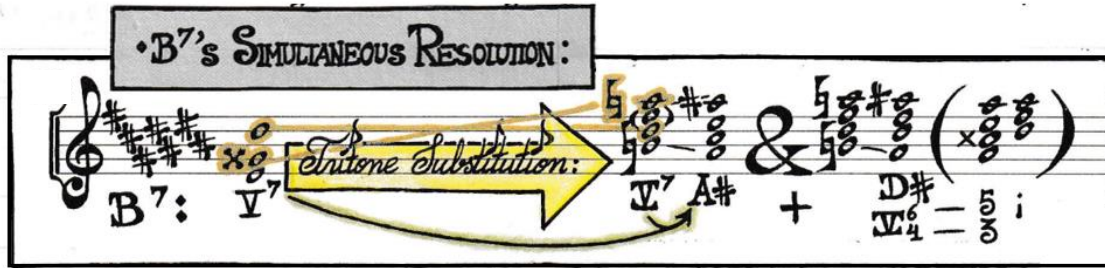


Figure 52 - Dual Meaning of B7

The following appearance of this paradigm recapitulates the theme in its original key – C# (see Figure 53). However, the base note can now only be surmised through context. That is to say, the actual note, C#, is not uttered once, yet its presence is both retrospectively inferred, given the unvarnished harmonic motif of the introduction (M. 1–3 in Figure 5 & Figure 6), and prospectively confirmed by the syntagmatic recurrence of the BC + US model whenever the main theme comes into play. The absence of C# is also smoothed over by the US's passage note, C#, which crops up in the exact register where it would typically appear in reference to the BC. The G#–A–G# trill, whose tendrils have disseminated to a wider register, now encases the theme within its range.

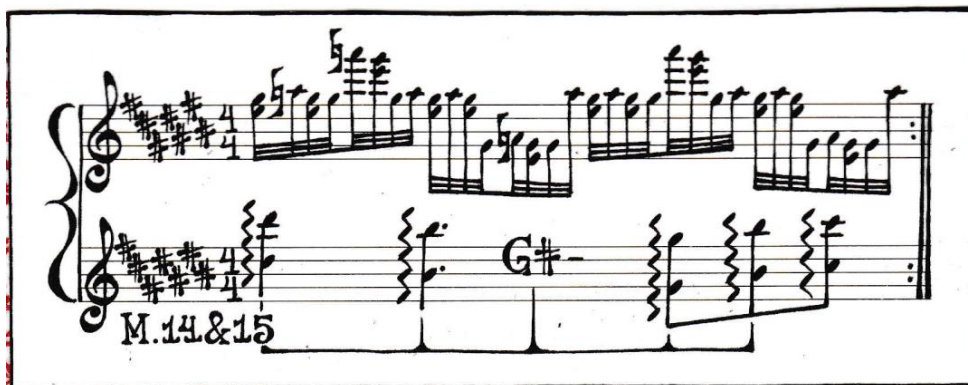


Figure 53 - Ondine (Gaspard de la Nuit): M. 14–15

Another variation of this thematic format manifests itself thereafter (see Figure 54).

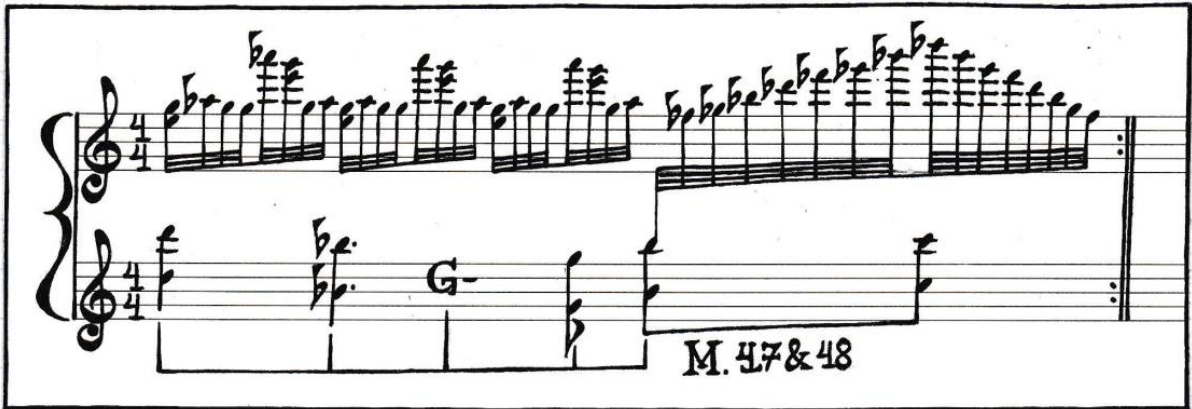


Figure 55 - Ondine (Gaspard de la Nuit): M. 47-48

A dominant hue burgeons from the C/Gm polychord: C7(9), which in turn alternates with its tritone substitution: Gb7 (see Figure 56).



Figure 56 – Alternation of Dominant Sonorities in M. 47-48

In addition to this, the base note—C—is once again muted. Its existence is, nevertheless, heavily implied by the melody's passing note, concurrently serving as a resolution, and by the preceding measures (M. 45 & 46), in which C is clearly continuously established as the base note (see Figure 57).

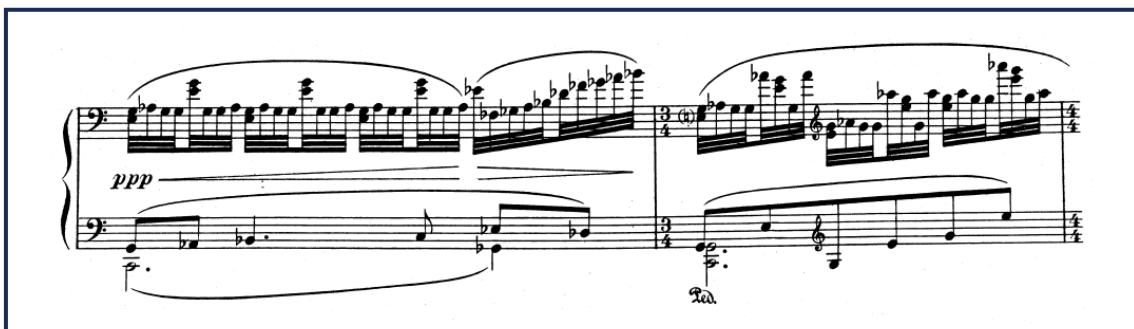


Figure 57 – Ondine (Gaspard de la Nuit): M. 45-46

The final instance where this thematic model resurfaces centers on G#m, along with a D#m US (see Figure 59). The BC finally appears in its conventional register. The alternating harmony at the end of the measure presents a more complex structure than its predecessors. It preserves its dominant anatomy, though instead of ushering the polychord (D#m/G#m) as a whole, it bifurcates in order to lead to each one of the chord members individually. In other words, two dominant seventh chords are simultaneously provided: E7, as a German sixth, gives way to G#m, and G#7 induces a plagal resolution back to D#m (see Figure 60).¹⁰

¹⁰ This diremption places the melody's "two-faced" note, G# (see Figure 59), in a novel position. G# is now a resolution of sorts to both the US (E7) and to the BC (G#7). Veritably, it is the only common note that swathes the two chords together. This way, when the harmonic tension is in its apogee, the melody acts as a local mediator. Of course, it is only a punctual conciliation since the harmonies G# tethers are *per se* ornamental. These two echelons, local mediation and macroscopic directionality, should be handled appropriately in one's phrasing.

Concluding, the "two-faced" note of the melody carries different interpretative connotations depending on its relationship with the BC and the US (see Figure 58).

		<i>US Prism:</i>	
		<i>Passage Note:</i>	<i>Resolution:</i>
<i>BC Prism:</i>	<i>Passage Note:</i>	✓ <i>M. 42-43</i> ✓ <i>M. 47-48</i>	---
	<i>Resolution:</i>	✓ <i>M. 2-3</i> ✓ <i>M. 8-9</i> ✓ <i>M. 14-15</i>	✓ <i>M. 90-91</i>

Figure 58 – Nature of the "Two-Faced" Note throughout Ondine

Figure 59 - Ondine (Gaspard de la Nuit): M. 90-91

Figure 60 - Dual Harmonic Trajectories of M. 90-91

The sequence of all the thematic material we've come to analyze unveils a syntagmatic harmonic thread with a fairly orthodox functional logic (see Figure 61):

Figure 61 - Harmonic Skeleton of Ondine

Additionally, these snippets offer an insight into different types of chord interactions that may arise with polychords, and how said interactions can affect the autonomy, or lack thereof, of polychordal layers. Ergo, over the course of *Ondine*, the harmonic layers forming the thematic polychords present varying levels of independence, even though their textural nature remains relatively unchanged (see Figure 62).

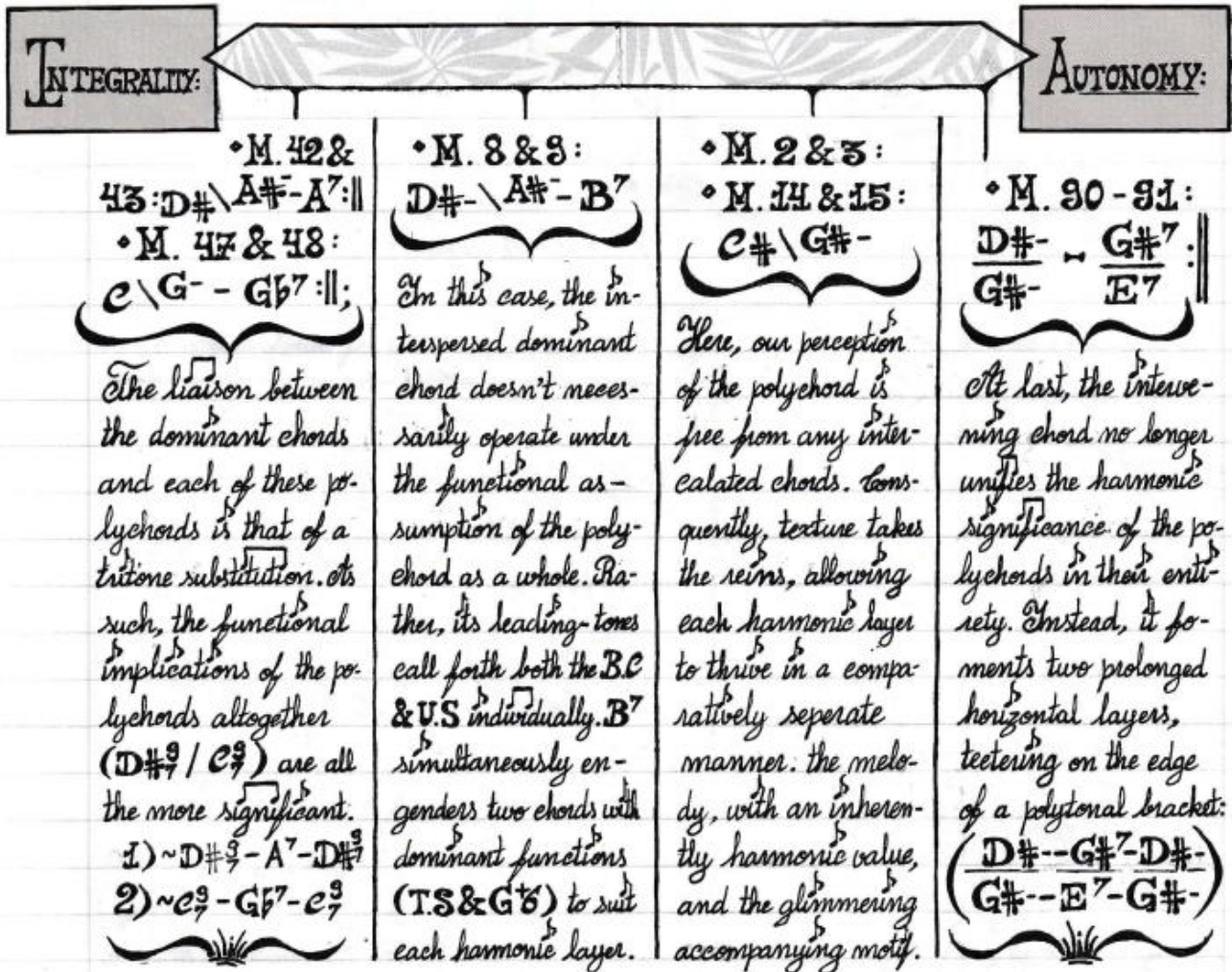


Figure 62 - Spectrum illustrating the Relative Integrality / Autonomy of Polychords in *Ondine*

1) M. 42–43: $A\#m/D\#-A7: ||$ & M. 47–48: $Gm/C-Gb7: ||$

The liaison between the dominant chords and each of these polychords is that of a tritone substitution. As such, the functional implications of the polychords altogether ($D\#7(9)/C7(9)$) are all the more significant.

2) M. 8–9: A#m/D#m–B7

In this case, the interspersed dominant chord doesn't necessarily operate under the same functional assumption of the polychord as a whole. Rather, its leading-tones call forth both the BC and the US individually. B7 simultaneously engenders two chords with dominant functions (TS & G+6) to suit each harmonic layer.

3) M. 2–3 & 14–15: G#m/C#

Here, our perception of the polychord is free from any intercalated chords. Consequently, texture takes the reins, allowing each harmonic layer to thrive in a comparatively separate manner: the melody, with an inherently harmonic value, and the glimmering accompanying motif.

4) M. 90–91: D#m/G#m–E7/G#7–D#m/G#m

At last, the intervening chord no longer unifies the harmonic significance of the polychords in the entirety. Instead, it foments two prolonged horizontal layers, teetering on the edge of a polytonal bracket.

This analysis unveils the potential for USs to serve a larger purpose than establishing a local harmonic bubble. While *Ondine* revealed the architectural utility of USs, *Oiseaux Tristes* promises to disclose their potential transformative properties.

5.3. Oiseaux Tristes, Miroirs – Ravel

Oiseaux Tristes contains two interconnected lines of force allowing an US to shift the presupposed functional character of a BC. The first is the alternation between the tonic, Ebm, and the dominant, Bb7, that merges into one comprehensive harmony; the second is the progressive interchange of BC and US positions between Ebm and Ab. To uncover how these melded trajectories will imbue an US with transformative properties, one must make their way there from the beginning.

This movement greets us with a velvety, reverberating whisper (see M. 1–3 in Figure 63). Not only does it point to Ebm as the tonic, but it also prefigures the persistent

oscillation, between Gb and Ab, that shall haunt the following segment. In measures 4 and 5, this inner pendulum (Gb–Ab), alongside the melody (D–Bb) and the baseline (Bb–Eb), intersperses a dominant sonance, Bb7, in the surrounding Ebm pedal harmony.

The image displays a handwritten musical score for 'Oiseaux Tristes (Miroirs)'. The top system shows measures 1-5 with a vocal line and piano accompaniment. The piano part includes a harmonic reduction at the bottom. The score is marked 'Tres lent' and 'M.1 pp très doux'. Chords indicated include Bb, Gb, Ab, Ebm, and Eb. The harmonic reduction shows Ebm, Bb7, and Ebm with figured bass notation.

Figure 63 - Oiseaux Tristes (Miroirs): M. 1–5 with Harmonic Reduction

This is the starting point for both the harmonic threads mentioned above: Ebm and Bb7 are still perceived as separate wavering harmonic entities; and Ebm is grounded as a BC while Ab is relegated to the inner voice (see Figure 64).

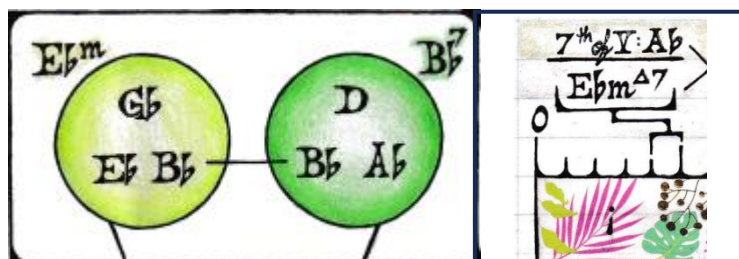


Figure 64 - 1st Stage of Lines of Force in Oiseaux Tristes

From measures 7 to 9, we return to an upheaved Ebm, taunted by D in the inner lineation. Ab, unlike its quondam appearance, has now migrated to the base, subverting the Ebm nucleus into an US. The acoustic position in which Ab and its perfect fifth is placed insinuates the presence of an overhead C (see Figure 65), despite it never being explicitly stated. The resulting integrated chord—Ebm/AbM—is then momentarily interspersed with a Bb7(b9) chord, calling for the return to Ebm. Of course, the resolution is consistently subjugated by the AbM BC.

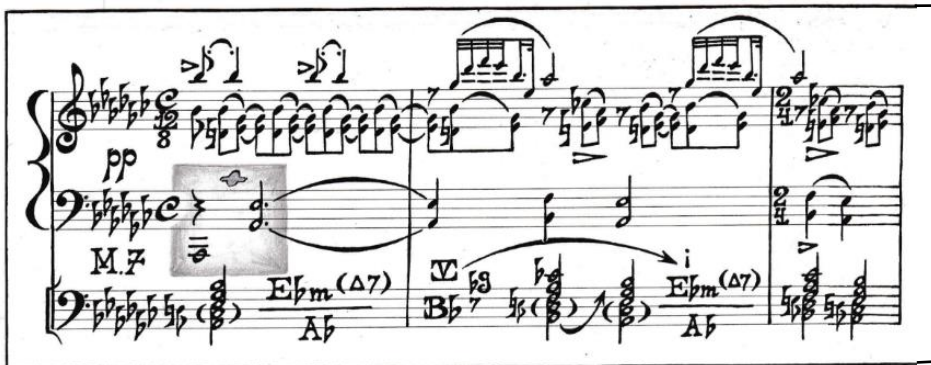


Figure 65 - Oiseaux Tristes (Miroirs) - M. 7-9 with Harmonic Reduction

In this phase, Ebm and Bb7 have yet to fuse together, but Ebm and Ab have already successfully switched positions: Ab detached itself from the inner pendulum, settling in the bass as a major BC; and Ebm departed from the baseline and soared to the interior pattern as an US (see Figure 66).

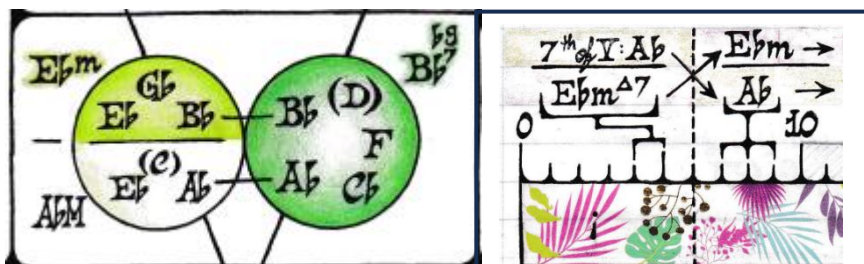


Figure 66 - 2nd Stage of Lines of Force in Oiseaux Tristes

Ebm and Bb7 only blend into one integrated chord roughly midway through the piece, in measure 24, where we revisit the plangent Ebm/AbM sonority (see Figure 67).



Figure 67 - Oiseaux Tristes (Miroirs): M. 24 with Harmonic Reduction

This time, however, D is no longer a dulcet ornament to Eb. Instead of relating to Eb horizontally, it faces it vertically as a harmonic equal, burgeoning an Ebm^Δ7 US. By virtue of this accrument, the integrated chord now interlocks all defining elements of the tonic and the dominant concurrently (see Figure 68): Ebm is sustained in the intermediate voices, and the guide-tones of the dominant seventh (Bb), D and Ab, thrive at the edges of the amplified chord. D reverberates thanks to the rebounding leitmotif at the vertex of the US. Ab, on the hand, resounds in the bass of the distended BC. Now the stage is set for an US to encroach on a BC's function.

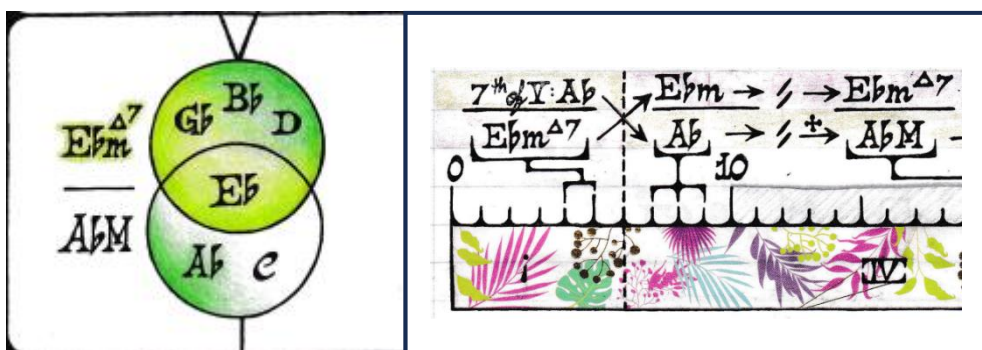


Figure 68 - 3rd Stage of Lines of Force in Oiseaux Tristes

The *cadenza* in measure 25 ushers in a paroxysm of alternating USs (see Figure 69).

Figure 69 - Oiseaux Tristes (Miroirs): M. 25 with Harmonic Reduction

The BC persists in the fourth degree, AbM, adding a dominant seventh (Gb), but the previous Ebm⁷ US unfolds into two contiguous USs. The first, DM, foments a strained dominant dynamic between itself and the Ab7 BC, due to the defining tritone of the fifth degree (Bb7), D and Ab. What's more, DM also provides a third leading-tone, A. In total, each one of these functionally charged notes, D, Ab and A, implore for release in Ebm—Eb, Gb and Bb, respectively. Congruently, the US that follows is none other than Ebm (see Figure 70).

Figure 70 - 4th Stage of Lines of Force in Oiseaux Tristes

The trajectory of each one of these dominant leading-tones has been augured in the inner pendulums of the previous excerpts¹¹ (See Figure 72).

¹¹ The motion of these inner pendulums might be homologous (see Figure 72), but the function of their constituent notes is not. Accordingly, they should not be played the same way.

The D–Eb and A–Bb *ostinatos* both begin with chromatic tensions that resolve upwards. When D and Eb pendulate, they are embedded in an Ebm/AbM integrated chord, making D a disconcerting disturbance within that resonance. Similarly, the oscillation between A and Bb is ingrained in an Ebm⁷/AbM harmony, turning A into a discomfited presence. *Ergo*, on a microscopic level, the pianist’s timbre and wrist movement should embody the directionality of these motifs (see 1st Graph of Figure 71).

When Gb and Ab sway back and forth, however, it is not Gb that seeks allayment in Ab, but Ab that beckons the return to Gb. Gb dwells in the innards of the reigning harmony, Ebm, but Ab, as the seventh of the dominant (Bb7), is innately charged with a desire for downward motion. We will later realize that this particularity will play a vital role in endowing the coda with an uncanny, bereft quality. Once again, the performer should coordinate their timbre and wrist flux in a way that translates Ab’s astriction to Gb (see 2nd Graph of Figure 71).

Figure 71 - Inverse Directionality of Inner Pendulums

Naturally, these inlayed lines should be catered to in proportion to their surrounding contexts, but they should be given due consideration since they herald the harmonic proceedings of the *cadenza*.




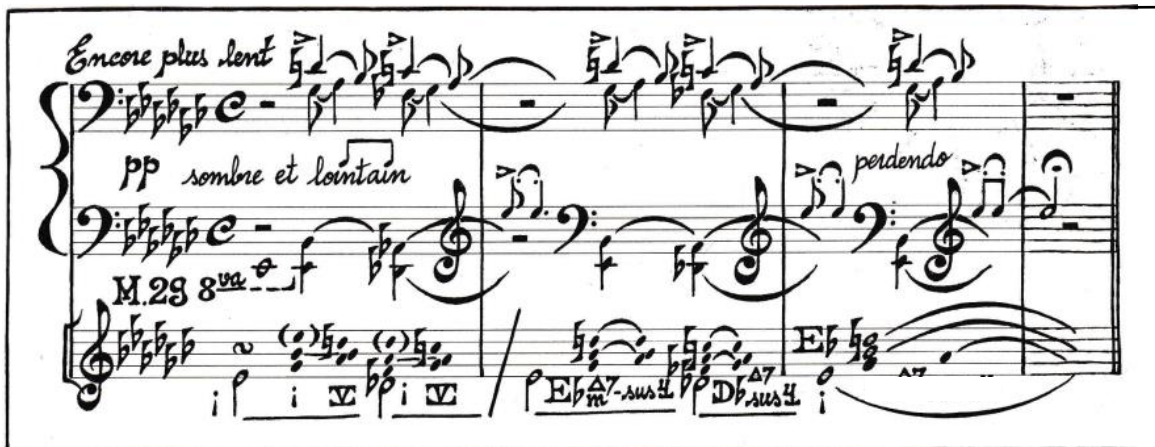
Inner Pendulums:	Excerpts:	Measures:
Gb – Ab :	 <p>Musical notation for the Gb – Ab pendulum. It shows a piano (pp) piece in a minor key with a common time signature. The right hand has a melodic line with grace notes, and the left hand has a rhythmic accompaniment. The measure number 'M. 4' is indicated.</p>	4–5
D – Eb :	 <p>Musical notation for the D – Eb pendulum. It shows a piano (pp) piece in a minor key with a common time signature. The right hand has a melodic line with grace notes, and the left hand has a rhythmic accompaniment. The measure number 'M. 7' is indicated.</p>	7–9
A – Bb :	 <p>Musical notation for the A – Bb pendulum. It shows a piano (pp) piece in a minor key with a common time signature. The right hand has a melodic line with grace notes, and the left hand has a rhythmic accompaniment. The measure number 'M. 26' is indicated.</p>	(20)– 24

Figure 72 - Compilation of Inner Pendulums prefiguring M. 25

Withal, the consonance of the US’s resolution to Ebm is undercut by the Ab7 pedal harmony. Only at the end of the movement is Ebm reinstated as a BC, and Ab remitted to the innermost harmonic fluctuation (see Figure 73).



Musical score for 'Oiseaux Tristes (Miroirs)' measures 29-32. The score is in common time and features a piano (pp) dynamic. The tempo is marked 'Encore plus lent'. The right hand has a melodic line with grace notes, and the left hand has a rhythmic accompaniment. The measure number 'M. 29' is indicated. The score includes a harmonic reduction at the bottom, showing the progression of chords: Ebm, Ab7, Ebm, and Ab7. The dynamic 'pordendo' is also indicated.

Figure 73 - Oiseaux Tristes (Miroirs): M. 29–32 with Harmonic Reduction

This restitution, evoking the format of measures 4 and 5 (see Figure 63), ought to resolve the dominant character of the *cadenza*, and it does, in fact, round out the two lines of force. Unexpectedly, this coda is still somberly and mercurially open-ended. The Dbm harmony interlacing Ebm is not there by coincidence. After laboriously setting Ab up to serve as a plagal dominant to Ebm, Ravel still allows an eerie harmonic ambiguity to linger. The possibility of Dbm to assume the role of tonic, and by extension, for Ab to serve as an authentic dominant, is ever-so-slightly, but sufficiently entertained to cast a shadow of doubt on what would otherwise be a perfectly primed return to Ebm. On top of that, as the resonance dwindles, the inner pendulum is left hanging on Ab (see M. 31), befogging Ebm with a dominant tinge¹². Paradoxically, the two lines of force guiding this piece are still brought to a close (see Figure 74 & Figure 76).

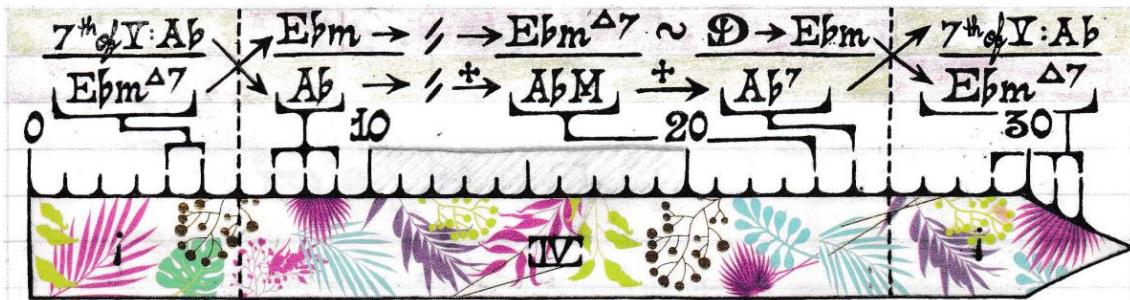


Figure 74 - Interchange of BC & US Positions between Ebm & Ab in Oiseaux Tristes

¹² An efficient way to convey this open-endedness is to play the last theme as if the conclusion it so poignantly alludes to was explicitly written (see Figure 75), only to then abandon said resolution in a perpetual state of latency. In fact, in a study session, it might be useful to play a version of the coda where its loose ends (Ab & D) are tied together (\rightarrow Gb & Eb, respectively). This way, when we revisit the original version, we can more viscerally languish in the sempiternal abeyance of a satisfactory resolution.

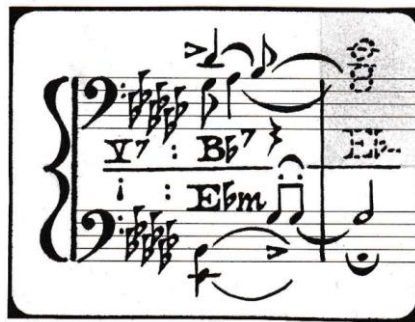


Figure 75 - Comparative Exercise for a Performer

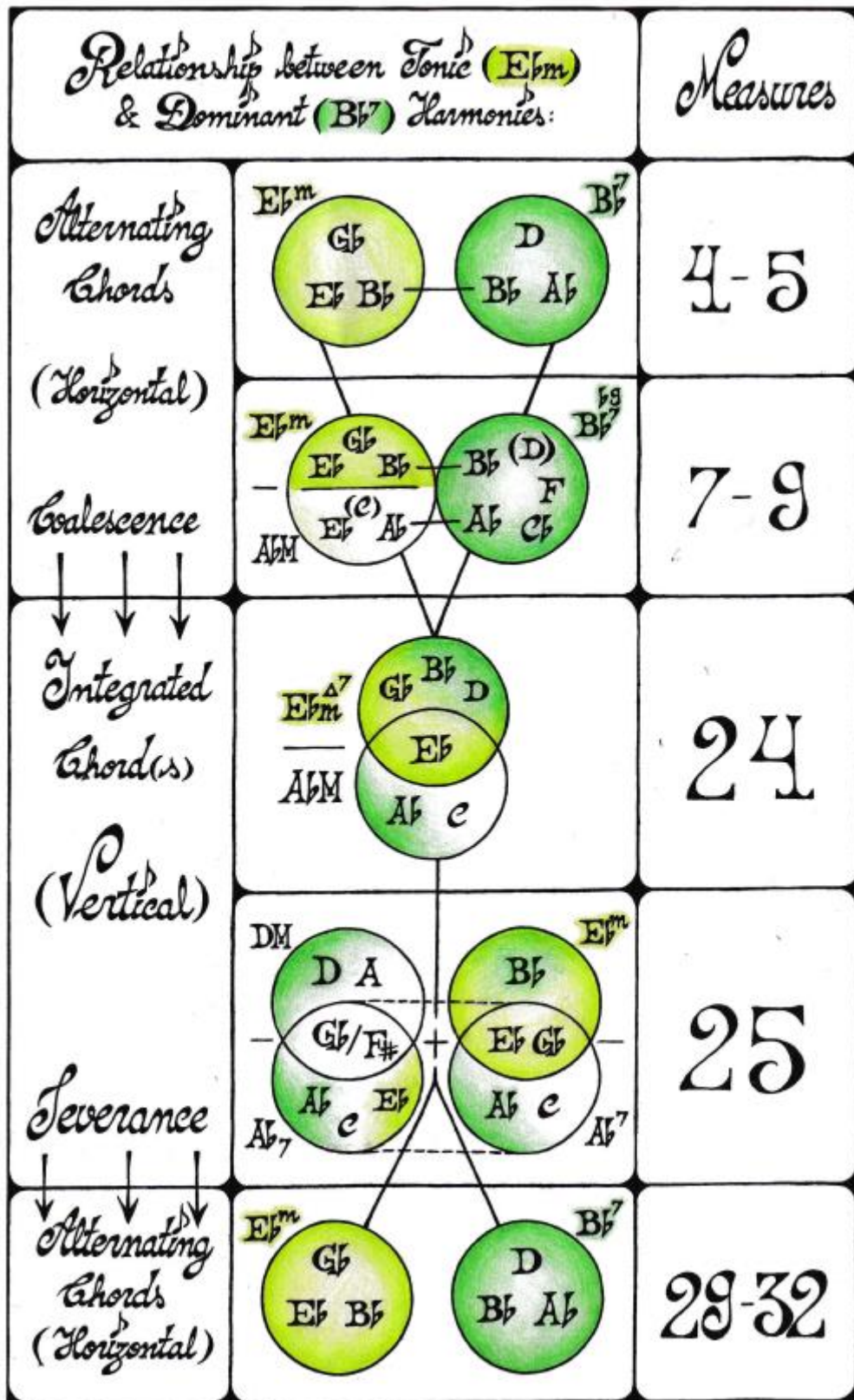


Figure 76 - Coalescence & Severance of E^bm & B^b7 in Oiseaux Tristes

These two narratives are perfectly symmetrical (see Figure 77 and Figure 78). Firstly, the dyad of E_bm and B_b7 draws itself inward and outwards. Secondly, E_bm and A_b crosses paths simultaneously.

	Measures:	4-5	7-9	24	25	29-32
Lines of Force:	Coalescence & Severance of i & V ⁷ :	B _b 7 — B _b 7	E _b m ^{Δ7} A _b M	DM-E _b m A _b 7	B _b 7	
		E _b m — E _b m/A _b M			E _b m	
	Interchange of USs & BCs:	A _b — E _b m	E _b m ^{Δ7}	DM-E _b m	A _b	
		E _b m — A _b M	A _b M	A _b 7	E _b m	

Figure 77 - Juxtaposition of the Two Lines of Force in Oiseaux

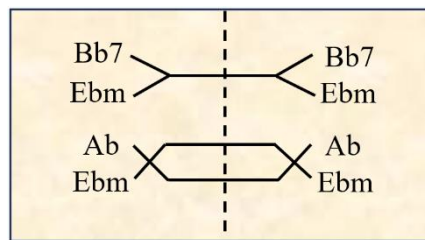


Figure 78 - Symmetrical Lines of Force in Oiseaux Tristes

The sum of all these factors confers a lot more power to the DM US in measure 25, than that of mere harmonic piquancy. In truth, DM manages to impinge a dominant function on the fourth degree (A_b), a traditionally plagal entity. In light of this, one comes to understand that the rather unusual macroscopic structure of the piece, i-IV-i (see Figure 74), still has the functional behaviour of a traditional i-V-i harmonic frame, thanks to the dominant essence of the US.

6. Brahms: USs as a means of Cadential Evasion

6.1. Intermezzo ops. 119, n°1, Brahms:

This piece begins with a refreshingly simple yet ambiguous arpeggio in measure 1 (see Figure 79).

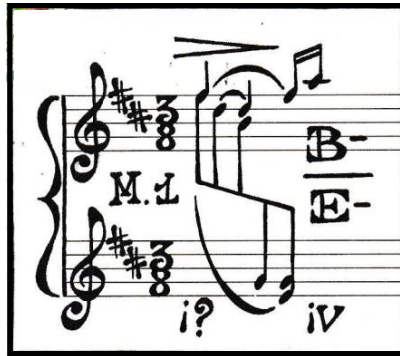


Figure 79 - Brahms' Intermezzo op. 119, n°1: M. 1

Were it ascending, its harmonic content would be quite clear-cut: Em7(9). However, when descending, the first naked triad to lull our ears is none other than Bm. Only after is it recontextualized over an Em chord (See Figure 80).

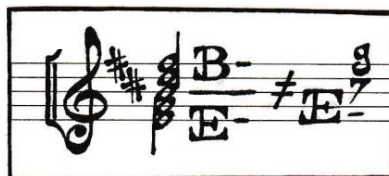


Figure 80 - Harmonic Reduction of M. 1

Albeit this fact alone might prove itself rather tenuous when making a case for regarding Bm as an US instead of a set of extensions, it gains more and more traction as the intermezzo progresses.

When the melody returns to its head, it is preceded by F# (V) dominant seventh (M. 8) begging for release in Bm (see Figure 81). Although, when we reach our desired destination, the rug is once again swiftly pulled from beneath our feet, leaving us hanging on the familiar plagal hook from the beginning (M. 9).

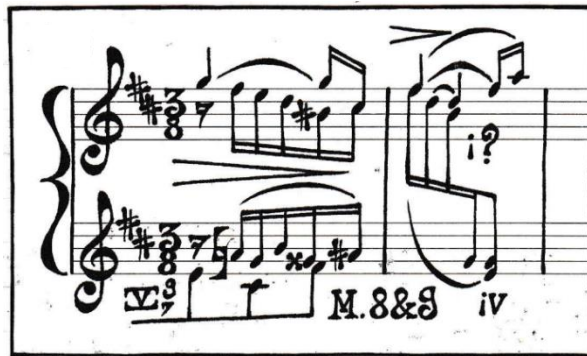


Figure 81 - Brahms' Intermezzo op. 119, n°1: M. 8-9

To further emphasize the relevance of Bm as an individual structure within the amplified chord Em/Bm, when the theme comes forth for the third time (see Figure 82), not only is it heralded by an F# dominant seventh (M. 46), the Bm chord itself is also adorned with its leading-tone—A# (M.47).

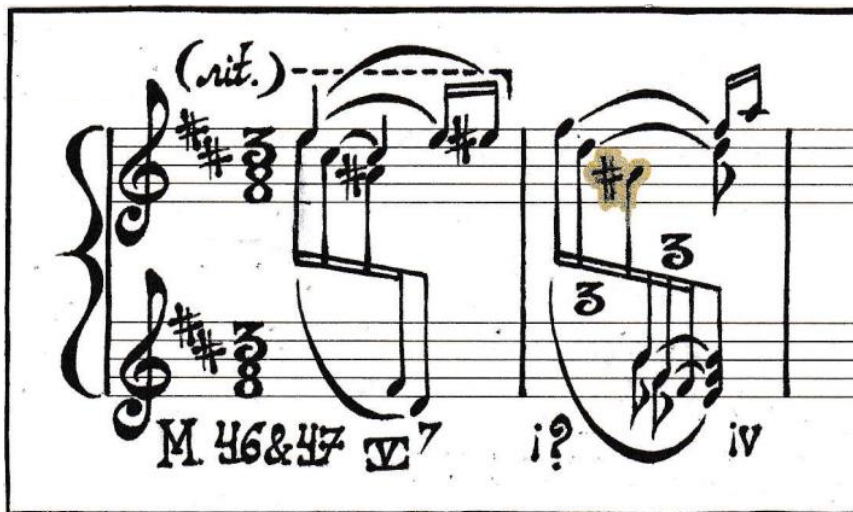


Figure 82 - Brahms' Intermezzo op. 119, n°1: M. 46-47

This seemingly minute flourish goes a long way to consolidate the credibility of Bm as an US.

Depriving Bm of its tonic position by relegating it to an US status is very much on brand for the A section of this tripartite piece (ABA'), since it purposefully evades any meaningful resolution to the constantly alluded i (first degree), in lieu diverting to its relative major, D, where it settles in the B section. For that reason, the last chord of the work (see Figure 83) is particularly cathartic for it finally concedes an unambiguous resolution, thereby categorically acknowledging the key in which the piece is centered.



Figure 83 - Brahms' Intermezzo op. 119, n°1: M. 67

Conclusion:

The constitution and utility of USs is extremely diverse. USs fall within the borders of extended tonality and polytonality, but that space still constitutes a spectrum that goes from integrated chords to polychords, depending on the textural divide of the piece in question. The examples overhead demonstrate that range. Ravel's *Oiseaux Tristes* has excerpts with a lot of nuances, sometimes being set somewhere in between the two ends. Of course, Brahms' *Intermezzo*, with integrated chords, and Ravel's *Ondine*, with polychords, are lodged at the extreme ends of the spectrum. But even in those extremities, slight variations can still be detected, as evidenced by the spectrum illustrating the relative integrality and autonomy of polychords in *Ondine* (Figure 63). There are even moments when USs manage to create a sort of linearity between them, as in the assay of Bill Evans and Ravel's *Concert in G Major*. The only factor impeding proper polytonal perception is the constant submission of the upper echelons to the BC.

USs also serve miscellaneous purposes. They can be perceptible as morphological objects (*Ondine*), as syntactical entities (*Come Rain or Come Shine*, *G Major Concert*, *Oiseaux Tristes* and *Intermezzo op. 119 n°1*) or as musical figures of speech, such as an onomatopoeia (*Take the A Train*).

All in all, USs manage to fill the conceptual gray area between extended tonality and polytonality since they are, in and of themselves, oxymorons. As extensions, they belong to a tonal framework, as secondary harmonic poles, they allow for the perception of stratified harmonies. This malleability makes them an incredibly useful tool in the analysis of tonally extended pieces.

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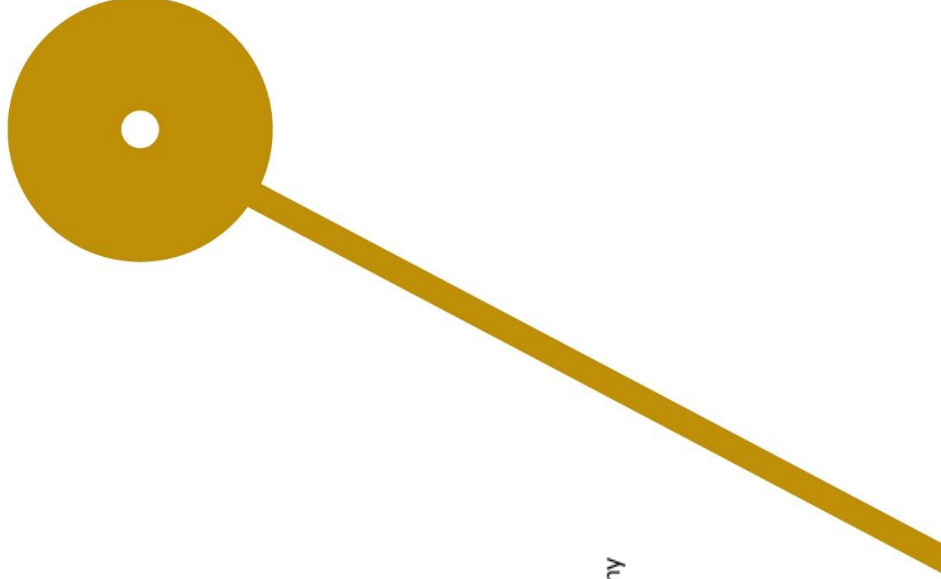
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PIANO



Upper Structures and their Locus within Extended Harmony
Erma da Costa Lecomte