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# An Analysis of Musical Layers and Formal Organization in Takashi Yoshimatsu's Piano Concerto, Memo Flora

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AN ANALYSIS OF MUSICAL LAYERS AND FORMAL ORGANIZATION IN TAKASHI YOSHIMATSU'S PIANO CONCERTO, *MEMO FLORA*

By

Jacob Aaron Farr

THESIS

Submitted in partial fulfillment of the requirements for the degree of Master of Music in Music Theory at the University of Texas at Arlington

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Supervising Committee:

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ABSTRACT

AN ANALYSIS OF MUSICAL LAYERS AND FORMAL ORGANIZATION IN TAKASHI
YOSHIMATSU'S PIANO CONCERTO, *MEMO FLORA*


Jacob Aaron Farr, MM

The University of Texas at Arlington, 2024


Supervising Professors: Amy Hatch, Megan Sarno, and Elyse Kahler


My thesis, An Analysis of Musical Layers and Formal Organization in Takashi Yoshimatsu's Piano Concerto, *Memo Flora,* draws on a range of analytical techniques to uncover writhing the work, a deep connection to classical formal norms, that are hinted at by the composer in the program notes and interviews regarding *Memo Flora*. A driving force behind the analysis is my concept of musical layers, in which the music is separated, according to the perception of the listener/analyst, into various Musical Strata. These Musical Strata can then be represented in a musical analysis of the work via corresponding musical-analytical strata. My analysis separates *Memo Flora* into three musical layers which I call the Musical Substrate, Internal Musical Stratum, and External Musical Stratum, each of which is represented in the analysis by a different combination of analytical techniques. The Musical Substrate is described using Sonata Theory and Formal Function Theory, the Internal Musical Stratum with Integrated Parametric Structures (IPSs) and theme types, while *Tonnetz* and Neo-Riemannian Theory are used in the External Musical Stratum.

ACKNOWLEDGEMENTS

The completion of this paper would not have been possible without the guidance of my thesis committee: Dr. Amy Hatch, Dr. Megan Sarno, and Dr. Elyse Kahler. Thank you all for your mentorship, thoughtful comments, and patience throughout this process. Additionally, I would like to thank Dr. Graham Hunt and the rest of the music theory faculty at UTA whom I have thoroughly enjoyed working with and learning from throughout my time here.

DEDICATION

I dedicate this thesis to my wife Kelsey, and my family for their constant love and support throughout this process.

TABLE OF CONTENTS

LIST OF FIGURES AND EXAMPLES

CHAPTER ONE

**Introduction to Yoshimatsu and *Memo Flora***

Ever since Takashi Yoshimatsu made his debut in 1981, with *Threnody to Toki*, he has been a frequent contributor to the vast body of modern concert music written by Japanese composers. Since 1981, Yoshimatsu has composed a multitude of solo works for piano, guitar, and Japanese traditional instruments, a wide variety of chamber music, six symphonies and ten concerti. His compositional prowess, however, was not developed in a traditional music school setting. After becoming interested in music in high school, Yoshimatsu began independently studying scores he would borrow from a nearby library.[1] Although he had a strong affinity for music, he chose instead to study technology at Keio University in Tokyo. It was during his years at university that Yoshimatsu began playing keyboard with local jazz and rock groups and had the opportunity to study briefly with Japanese composer and poet Teizo Matsumura.[2] Though his musical background is non-traditional, his music was well received; attracting the attention of pianist Kyoko Tabe, who had an affinity for a group of Yoshimatsu's solo piano works, the *Pleiades Dances*. Her interest in Yoshimatsu's music led to continued collaboration between the two artists, and eventually to the composition of *Memo Flora* in 1997. By the late 1990's Yoshimatsu had already written two symphonies, four concerti, as well as many works for string orchestra. *Memo Flora*—which was dedicated to Tabe—would be his first piano concerto, and his only work so far for full orchestra and piano.[3] *Memo Flora* comes from a critical juncture on

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[1] Classical Music Guide, "[ENG SUB][vol. 1]Composer Takashi Yoshimatsu/the appeal of classical music and his career," YouTube video, February 10, 2023, https://youtu.be/h3xbapirj38?si=2Cx51OYJCIReuQNc.

[2] "Profile," Yoshimatsu, Takashi, official website, accessed March 20, 2024, http://yoshim.music.coocan.jp/.

[3] In 2007 Yoshimatsu composed a new piece for piano and chamber orchestra entitled Concerto for piano left hand "Cepheus Note."

the timeline of Yoshimatsu's compositional output; he cites his debut as 1981, and his most recent composition (that is listed on his website) is from 2015, placing *Memo Flora* almost directly in the middle. The chronologically central position of this work within Yoshimatsu's output and *Memo Flora's* unique juxtaposition of classically influenced structures with a non-traditional harmonic and melodic style make this piece an apt point of departure for a detailed analysis of Yoshimatsu's unique compositional style.[4]

Yoshimatsu frequently discusses his musical style and ideology on his blog, where among other things, he compares modern (twentieth century atonal) music with a stylistically distinct, "non-modern" contemporary music.[5] In his compositions, Yoshimatsu aims to find a balance between musical freedom-of-expression and cohesion, and while this ideology is present in much of his work, the musical content in *Memo Flora* offers many representative examples of this balance. While Yoshimatsu draws on many sources for inspiration, *Memo Flora* appears to be particularly influenced by nature and neoclassicism. The program notes of *Memo Flora* reference nature many times mentioning the "placement of flowers (melody) in a flowerbed (score)," and Yoshimatsu himself has described in interviews the classical orientation of the work.[6] Though these two influences are prevalent throughout the work, they manifest in distinctly different musical dimensions or what I call "musical strata." I study the interaction of these musical strata and investigate how the upper strata of *Memo Flora* convey Yoshimatsu's contemporary musical style, while the musical substrate—upon which the music is presented—references Classical

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[4] An article titled "An Analysis of the Musical Style and Conception of Memo Flora" written by Li Xin, was published in the *International Journal of Music Studies* in 2021. While the subject of our work is the same, Xin's article focuses on the surface style, and only includes general descriptions of what happens in the music, my thesis will interact with the work on a much deeper level, in the hope of coming to a more full understanding of the piece.

[5] "Blog," Yoshimatsu, Takashi, official website, accessed March 20, 2024, http://yoshim.music.coocan.jp/.

[6] "Works," Yoshimatsu, Takashi, official website, accessed October 1, 2023, http://yoshim.music.coocan.jp/.; and Classical Music Guide, "[ENG SUB][vol. 2]Composer Takashi Yoshimatsu and 10 artists talk about his works," YouTube video, February 17, 2023, https://youtu.be/hMHWAI_YH1g?si=MGtJ5bQ2TgI3Yj-1.

sonata form, or what he terms "pseudo sonata form."[7] Moreover, by utilizing different analytical techniques for each "musical stratum" I will demonstrate how this array of methodologies can be used together to form a cohesive analysis of a musical work. Figure 1.1a visualizes the three musical layers which can be used to relate the formal design of the work with its smaller details. Additionally, this separation provides the analyst with a means to compare musical interaction within and between these layers. While there are distinct connections between each individual musical layer, Figure 1 highlights the deeper connection between the "upper strata" of *Memo Flora* (the Internal and External Musical Strata) by shading the two outer layers. A more detailed version of the same Figure (1.1b) shows how the various analytical techniques used fit into the three Musical Strata—Sonata Theory and Formal Function Theory (Substrate), Integrated Parametric Structures (IPSs) and theme types (Internal Stratum), and Tonnetz and Neo-Riemannian Theory (External Stratum).[8]
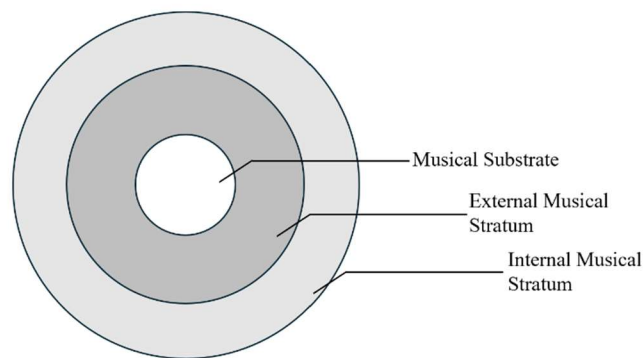


*Figure 1.1a:* Layers of Musical Strata

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[7] "Works," Yoshimatsu, Takashi, official website, accessed October 1, 2023, http://yoshim.music.coocan.jp/.
[8] See respectively William Caplin, *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven,* (New York: Oxford University Press, 1998). James Hepokoski and Warren Darcy, *Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-century Sonata* (New York: Oxford university Press, 2006). Patricia Howland, "Formal Structures in Post-Tonal Music." *Music Theory Spectrum* 37, no. 1 71-97 (2015): 71-97. Dimitri Tymoczko, *A Geometry of Music: Harmony and Counterpoint in the Extended Common Practice,* (New York: Oxford University Press, 2010).
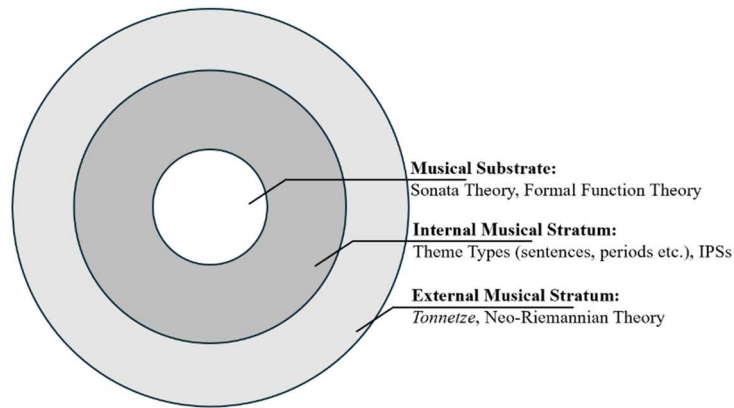
*Figure 1.1b*: Detailed view of Musical Strata

**Methodology**

My conception of musical layers, similar to *Memo Flora* itself, has clear parallels to nature. In geology, stratum is defined as a layer of rock that is distinct from the others around it. This definition translates well to a musical context, making a "musical stratum" a layer of music that is distinct, in one or more ways, from the other layers around it. By using this non-musical terminology in a musical context, I aim to evoke levels of musical depth, without implying any sense of hierarchy or level of importance. In my application of this concept to Yoshimatsu's *Memo Flora,* I consider three strata: the surface-level "External Musical Stratum," the mid-level "Internal Musical Stratum", and the underlying "Musical Substrate". The uppermost (surface) stratum consists of musical features that are easily perceived upon listening—melody, harmony, rhythm, and meter.[9] The middle layer (internal stratum) contains internal forms and phrases that create the grouping structure of local musical sections—the perception of this layer can change depending on the analyst's familiarity with the music, complexity of the music, and the length of the internal phrases. Both of these upper-level strata exist around the musical substrate, a musical layer that often lies beyond one's perception of the music, unless the analyst is extremely familiar

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[9] Note that while musical perception does play an important role in the identification of Musical Strata, a full discussion on the topic is beyond the scope of this analysis.

with the piece itself or the conventions of the genre that the piece falls under. The musical substrate, therefore, contains only the large-scale form, and harmonic journey of a work, and can likely only be identified after the analysis has already taken place. Since my conception of musical stratification is based on one's perception of the music, a musically stratified view of any given piece of music may vary from person to person depending on multiple factors such as their musical knowledge/background, personal taste, familiarity with the music at hand, etc.[10] Despite the possible differences in interpretation, however, a musically stratified view can still be a useful one—especially when the music at hand is new and doesn't have the support of decades of prior analysis of adjacent musical repertory. While this stratified view does separate the music apart from itself for the purpose of analysis, it does so with the realization that, in reality, the music is a singular entity and, in the end, the separated layers do not have impermeable boundaries, and features of the music itself and the resulting analysis can exist in multiple layers simultaneously.

Ideas drawn from both Caplin's Formal Function theory and Hepokoski and Darcy's Sonata Theory will be used to illuminate the classical roots of the work as well as describe the large-scale formal trends reflected in the corresponding "musical stratum:" The Substrate. These methodologies were conceived for a relatively small group of repertoire—instrumental works of the eighteenth and early nineteenth century. With a goal of understanding formal trends established during this time, Formal Function and Sonata Theory each create a well-defined set of features that, in combination, can describe a whole movement of a given composition. Hepokoski and Darcy view sonata-form movements as containing three main sections or

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[10] While both Edward T. Cone's and my process of musical stratification result in layers, Cone's resultant layers form linearly or horizontally across time, while mine occur simultaneously in a vertical or three-dimensional organization.

rotations—each with their own subsections. The exposition contains a Primary and Secondary Theme, which are separated by a medial cesura. The development section, as the name suggests, develops the themes established in the exposition and tonicizes different key areas and eventually returns to the original tonic. This original tonic is heard during the recapitulation, which retraces the steps of the exposition, with some small melodic and harmonic alterations. While these sections do not perfectly align with every layer of *Memo Flora*, they do allow for an accurate representation of the work's Musical Substrate.

The next layer, the Internal Stratum, reflects small theme types and Patricia Howland's Integrated Parametric Structures (IPSs)—which were first introduced in her 2015 article "Formal Structures in Post-Tonal Music.*"* IPSs aid in exploring smaller-scale formal trends and phrase formation within all three layers of musical strata. These IPSs are defined by Howland as "a succession of elements in which the whole exhibits coherence and articulation" and are organized into five IPS types: tension/release, departure/return, symmetric, directional, and steady-state. According to Howland, two things are crucial to formation of an IPS—coherence and articulation.[11] The former is more difficult to define outside of the conceptual space. In Howland's view, coherence is "the presence of internal relations among the component parts that hold the parts together as a single integrated unit in perception."[12] While there are many possible internal relations, or parameters, Howland identifies two primary groups that contain those most common in the formation of IPSs: properties of individual tones like pitch, duration, dynamics, and timbre, as well as properties of groups of tones like register, pitch interval, spatial and temporal density, contour, and texture. Articulation can be understood simply as closure, of which Howland identifies three types: return, salience, and replacement.  While I am taking IPSs

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[11] The concept of phrase formation via coherence and articulation comes directly from Hasty (1984)
[12] Howland (2015), 71

out of their original post-tonal context by placing them in a neo-tonal/neoclassical setting, all the key elements required for the formation of IPSs—various musical parameters, articulation, and coherence—remain present, and are integral to my analysis of *Memo Flora*.[13]

The External Musical Stratum contains musical material that is readily available to the listener, and consists of many musical features such as rhythm, timbre, dynamic, melodic motifs, and harmonic motion. While there is value in exploring the various aspects of this uppermost musical layer, my discussion of the External Musical Stratum of *Memo Flora* will be restricted to a discussion of what I view as the most difficult to perceive aspect of this musical layer— harmony. Two varieties of Neo-Riemannian *Tonnetze* occupy the External Musical Stratum and are used to visualize the unique harmonic palate provided by Yoshimatsu. The remainder of this thesis will consist of five more chapters—one that covers each Musical Stratum, plus a brief chapter on my use of Neo-Riemannian transformations and their resulting *Tonnetz*, and a short conclusion.

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[13] Although not relevant to the topic at hand, it is interesting that Howland includes parameters like dynamics and timbre as properties of individual tones. In my view, these and other parameters could easily be considered properties of both individual and groups of tones.

CHAPTER TWO

**Musical Substrate**

One can theoretically begin an analysis of a musical work at any point—a single note, a chord, an entire movement. The result of any musical analysis, however, will inevitably include aspects of all three previously listed elements, as well as an almost infinite number of others. While it is true that all the possible elements are "of music," these elements in themselves are not one in the same, and therefore they require some level of separation and reorganization to create a comprehensive musical analysis. The result of this separation and reorganization is the creation of musical-analytical layers (or strata) that are representative of the actual musical events that occur. It is worth noting that, because the various musical elements considered in the context of an analysis are drawn from musical elements that exist within the work, musical strata exist not only in the analytic realm, but to some extent in the work itself. In musical-analytical situations, certain musical elements—such as tempo, dynamic, instrumentation, etc.—are often clear immediately upon listening and can be classified with relative ease. Others however—broad formal structures, large-scale harmonic trajectory, and the like—are far less conspicuous, and exist on a different level of musical perception. This deep, perceptual layer is analytically represented by what I call the Musical Substrate. While there are countless ways to describe the events that occur in any given Musical Substrate, there are conveniently a number of well-established analytical techniques that align with what I consider to be the Substrate of *Memo Flora*; namely James Hepokoski and Warren Darcy's Sonata Theory, and William Caplin's Formal Function Theory.[14] Before moving forward with my analysis of the work, it bears

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[14] See respectively James Hepokoski and Warren Darcy, *Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-century Sonata* (New York: Oxford university Press, 2006). William Caplin, *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven,* (New York: Oxford University Press, 1998).

mentioning that neither of these two methodologies were intended to be used in the context that I will be placing them in—*Memo Flora* is neither a "Late-Eighteenth-century Sonata" or a piece by Haydn, Mozart, or Beethoven. Rather, this symphonic work takes inspiration from these styles and composers and, as my analysis will elucidate, references these inspirations in a surprisingly direct manner.

Possibly the most obvious of these references comes not from the music, but as I have already mentioned, from the composer in the form of program notes and interview responses. On his website, the phrase "pseudo-sonata" appears in a description of the first movement of *Memo Flora*; however, I believe it is possible to extend this label through the second movement, and to some extent, into the third as well.[15] Yoshimatsu has himself admitted to the Classical nature of the work, noting in a 2023 interview that, to him, *Memo Flora* is "Mozartesque."[16][17] These overt, extramusical references naturally lead to a comparison of the formal structures in *Memo Flora* with the norms of the Classical sonata which are well outlined in both Formal Function and Sonata theories.[18] Figure 2.1 shows the form of a prototypical sonata movement using terminology from Sonata Theory to describe the internal constituents. The largest formal level of a sonata form movement consists of three parts: the exposition, development, and recapitulation, all of which have their own distinct, internal formal units. There are many shared features between the exposition and recapitulation; both begin with a primary theme (abbreviated P) and move through a transition (TR) to the medial caesura (MC), or a textural break that sets up the

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[15] "Works," Yoshimatsu, Takashi, official website, accessed October 1, 2023, http://yoshim.music.coocan.jp/.

[16] Classical Music Guide, "[ENG SUB][vol. 2]Composer Takashi Yoshimatsu and 10 artists talk about his works," YouTube video, February 17, 2023, https://youtu.be/hMHWAI_YH1g?si=MGtJ5bQ2TgI3Yj-1.

[17] At this point in the interview, Yoshimatsu is specifically referring to his more measured and less emotionally driven compositional approach to Memo Flora.

[18] The majority of my analysis will employ Sonata Theory and use terminology established by Hepokoski and Darcy, however, certain musical areas—such as the development of movement one—necessitate a shift to Caplin's Formal Function Theory.

secondary theme (S). The secondary theme ends with an EEC (essential expositional closure) in the exposition and ESC (essential sonata closure) in the recapitulation. Both types of closure are closely associated with cadence; the EEC ends on a cadence in the dominant key, and the ESC ends on a cadence in the tonic key. A cadence often gives way to post-cadential material in the form of a closing section (C), coda, or possibly both. In between these two structurally related sections lies the development—a section that "initiates more active, restless, or frequent tonal shifts," and acts as a contrasting middle to the two surrounding sections.[19]

| Exposition | Development (in Caplin's terms) | Recapitulation |
|---|---|---|
| P-TR-MC-S-EEC-Closing | Pre-Core, Core, Retransition | P-TR-MC-S-ESC-Closing-(Coda) |

*Figure 2.1*: Prototypical Sonata Form Layout

While the structure presented in Figure 2.1 is representative of many sonata form movements from the eighteenth century and beyond, all the various formal elements are subject to certain deviations from the norm, what Hepokoski and Darcy refer to as "deformations."[20] These structurally significant deformations are an integral part of eighteenth-century sonata form and imbue works with a unique character often representative of the composer's style. In more recent music, both formal and tonal deviations have become increasingly common, necessitating slight adjustments to the definitions of certain formal elements—particularly those like the EEC, whose definition is tethered to tonality. This slight re-definition of pre-established terminology opens doors to new analytical spaces and broadens the reach of a theory that originally had quite

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[19] Hepokoski and Darcy, *Elements of Sonata Theory*, 18.
[20] For more on common deformations in sonata form movements see *Elements* (Hepokoski and Darcy) 8, 10-11,159, 529, 609, 614-21.

a narrow application. In *Memo Flora*, many of the harmonic choices are far removed from the tradition established by composers of the eighteenth and nineteenth centuries; this will be discussed further in later chapters. The underlying formal structures of the Musical Substrate however—especially in movements one and two—have significant ties to classical formal convention. The remainder of this chapter consists of a detailed overview of the formal layout of movements one and two and a comparison of these first two movements to the third, which has a startlingly different formal organization.

**Movement One**

At the onset of movement one of *Memo Flora*, instead of a clear thematic idea, we have something quite different—a quiet, slow, swirling of single tones from the strings who accompany delicate figures in the piano. This unique opening texture has the sense of existing before the beginning, echoing the slow introductions which are common to many first movements in the late-eighteenth and early-nineteenth centuries.[21] The slow introduction in movement one of *Memo Flora* slowly builds momentum, filling out the texture and gradually increasing the rhythmic activity for twenty-three measures before reaching the primary theme. Figure 2.2 shows the formal layout from the slow introduction through P and TR, ending with the medial caesura. One striking feature of movement one's organization is the seemingly disproportionate length of P when compared to the surrounding introduction and TR. One might assume that this results in a diminished representation of the musical content in P, but in reality, quite the opposite is true. The thematic material from P is originally generated in the introduction and remains the driving force for the momentum that builds up during the Transition. Example 2.1 shows this dispersion of thematic material by highlighting the appearance of P's melody at

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[21] Hepokoski and Darcy, *Elements of Sonata Theory*, 292-9.

the end of the introduction (m. 23), within P itself (mm. 24-31), and at the beginning of the TR

(m. 32).

| | | Exposition | | |
|---|---|---|---|---|
| **Section** | Slow Introduction | P | TR | MC |
| **mm.** | 1-23 | 24-31 | 32-53 | 54-5 |

*Figure 2.2*: Movement One-Intro through MC



m. 23



*Example 2.1*: Movement One, mm. 23-32

12

While it is rare for P's melodic material to be present in the slow introduction, using the already established melody as a springboard to launch the TR is a common occurrence.[22] The two graphs in Figure 2.3 represent the formal trajectory of the TR in *Memo Flora* (2.3a), and a generalized TR space as presented in *Elements of Sonata Theory* (2.3b). The similarities between the two are telling—both examples of TR space begin with melodic material taken from P, which eventually dissipates, and is replaced by less thematic musical material. Those transitions that could be accurately represented by Figure 2.3b are classified in Sonata Theory as "dissolving-restatement" transitions. Similar to many other formal elements present in Sonata Theory, the definition of dissolving-restatement transitions is closely tied to functional harmony; strictly speaking, a dissolving-restatement transition is only possible if P closes with a perfect authentic cadence (PAC).[23] The tonal character of *Memo Flora*—and more broadly the tonal style of Yoshimatsu—does not adhere to traditions of functional harmony. Consequently, his music is often devoid of any point of arrival that could be classified as a common cadence type. This, however, does not mean the description of dissolving-restatement is inaccurate or unrepresentative of the events that occur in the transition of *Memo Flora*. If the reliance on cadence in many of these definitions is simply replaced by an emphasis on thematic closure or

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[22] Hepokoski and Darcy, *Elements of Sonata Theory*, 94-5.
[23] Hepokoski and Darcy, *Elements of Sonata Theory*, 101.

arrival, many of these definitions can transcend the boundaries of functional harmony and be applied to works that occupy a neo-tonal space, such as *Memo Flora.*

**a. *Memo Flora* mm. 32-55**

TR

P motive ⟶

MC

Generic Musical
Material (no melody)

**b. Dissolving Restatement TR**

TR

I:PAC—P motive ⟶

MC

Cadential Material
(no melody)
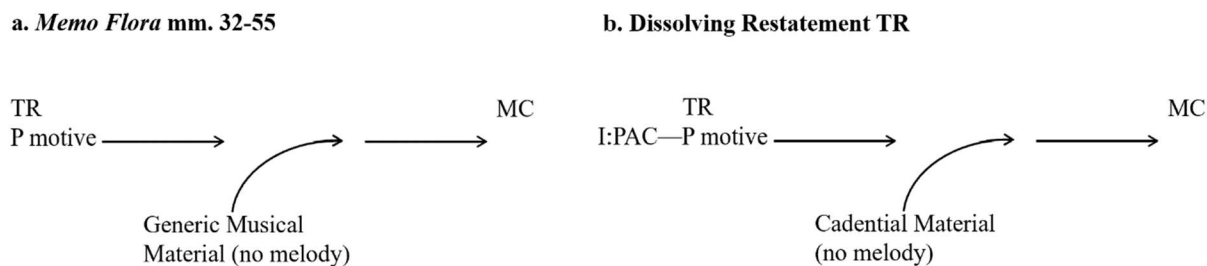
*Figure 2.3*: A comparison of the TR trajectory in *Memo Flora* and a
typical dissolving restatement TR

The medial caesura (MC) is yet another tonally defined formal feature that, in Sonata Theory, is categorized into four "harmonic defaults," which are organized by their frequency and are all defined by various cadence types.[24] Since we have already established the fact that in *Memo Flora,* there are no traditional cadences, we must take a step back from these specific MC defaults, and consider that on a basic level, "[t]he medial caesura is the brief, rhetorically reinforced break or gap that serves to divide an exposition into two parts, tonic and dominant."[25] This definition, save the last three words, is a perfect general description for what occurs in *Memo Flora*. After the energy picks up in the TR, which strongly suggests a tonal center of Bb, there is a break in the music which could be considered the MC.[26] However, instead of moving to the dominant key, a new string vamp enters, setting up a tonal center of Ab. In *Memo Flora,* instead of having two halves of an exposition that are defined by tonic and dominant harmony, the two halves are made distinct by their unique character and motivic content. Figure 2.4

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[24] Hepokoski and Darcy, *Elements of Sonata Theory*, 25-9.
[25] Hepokoski and Darcy, *Elements of Sonata Theory*, 24.
[26] This could also be considered an example of MC-effect, which distorts or significantly reworks normative practice. *Elements,* 47.

provides an overview of the form through the MC into the forthcoming section, which is not a

standard S theme, but a group of new themes that resembles what Hepokoski and Darcy describe

as a tri-modular block (TMB).

**Exposition**

| **Section** | Slow Intro | P | TR | MC | TM$^1$ | TM$^2$ | TM$^3$ | EEC |
|---|---|---|---|---|---|---|---|---|
| **mm.** | 1-23 | 24-31 | 32-53 | 54-5 | 56-71 | 72-93 | 94-105 | 106 |

**TMB**
**(S space)**
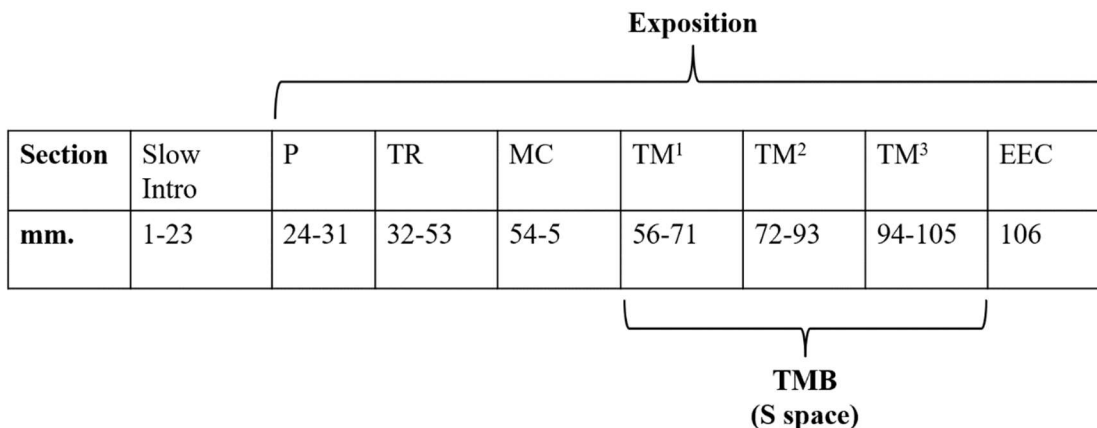
*Figure 2.4*: Movement One Exposition

In Sonata Theory, a TMB occupies the S-space in a sonata form movement, and its

constituent parts are shown in Figure 2.5. Tri-modular blocks often begin with MC$^1$, which in

many eighteenth century TMBs is a second-level default I:HC medial caesura. This is then

followed by TM$^1$, a thematic section that often resembles an S theme but does not reach the

desired EEC. TM$^2$ is a more active, transition-like section that leads to MC$^2$ (often a first level

default V:HC or III:HC MC).[27] Finally, TM$^3$ is another S-like theme that this time successfully

achieves the required EEC.[28] In *Memo Flora,* After the vamp in mm. 54-5 that serves as the MC

for movement one, a new, more energetic theme arises; this 16-measure phrase (mm. 56-71) is

TM$^1$. After this point, the TMB in *Memo Flora* is less closely aligned with its classical

counterpart. TM$^2$, instead of acting as a second transitional section that leads to another MC, is

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[27] Graham Hunt, "The Three-Key Trimodular Block and Its Classical Precedents: Sonata Expositions of Schubert and Brahms," *Intégral* 23, (2009): 65-119. https://www.jstor.org/stable/41219903.
[28] If a tri-modular block is present in the recapitulation, the tonal goal will be an ESC rather than EEC.

itself comprised of four distinct internal phrases, each of which contain new melodic material, and none of which end in what Hepokoski or Darcy would consider an MC. However, the final internal unit of $TM^2$ moves to a solo piano texture, which could itself be considered to be at least an MC-effect.[29] $TM^3$ is again another more thematic section which uses a rhythmically altered version of the melody from P. The existence of this TMB is confirmed in m. 106, which is the strongest point of arrival in the exposition. This salient moment, while non-cadential, clearly brings with it a sense of closure and can be considered this movement's EEC. In the External Stratum, the lush texture created by Yoshimatsu in this measure is a clear reference to the natural world and acts as a musical clearing between two surrounding dense overgrowths of music.



| Section | MC1 | TM¹ | TM² | MC2 | TM³ |
|---|---|---|---|---|---|

| Section | MC | TM¹ | TM² | TM³ |
|---|---|---|---|---|
| mm. | 54-5 | 56-71 | 72-93 | 94-105 |
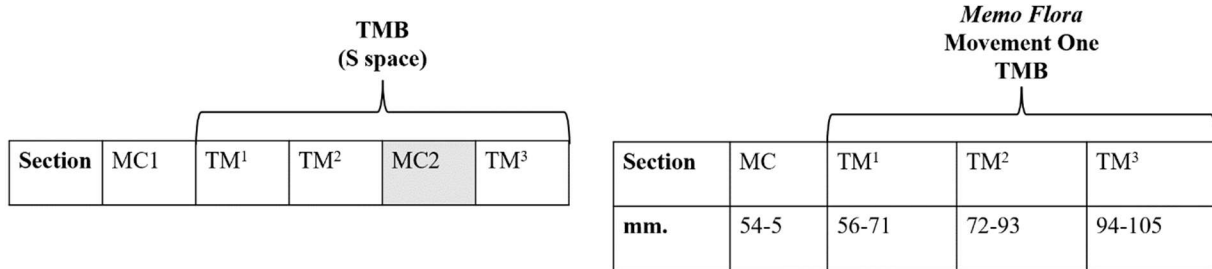
*Figure 2.5*: Comparison of a typical tri-modular block to that of *Memo Flora*

Following the EEC, Yoshimatsu includes another small section with a new melody that contrasts the dense orchestration and energetic rhythmic activity of $TM^3$ with a soft piano melody, and thinner string accompaniment—a texture reminiscent of the movement's slow introduction. The placement of this phrase directly after the EEC makes it a valid candidate for what Hepokoski and Darcy call a closing zone (C).[30] While this is not an inaccurate description of this phrase, it has a hidden, dual function that is only revealed after the development. As

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[29] This argument is further supported by performances of this work where the pianist or conductor leaves an extra pause before moving to the next section (TM³).
[30] Hepokoski and Darcy, *Elements of Sonata Theory,* 180-94.

shown in Example 2.2, the motivic material from mm. 107-14 reappears (transposed and

reharmonized) in mm. 189-96, revealing itself to be not only the closing section of the

exposition, but also a conduit or link between the development and the exposition and

recapitulation that surround it.



*Example 2.2*: Motivic connection in mm. 107-14 and 189-96

In movement one, the development is slightly longer than either the exposition or the

recapitulation, spanning 89 measures. While the discussion on developmental space in *Elements*

is well detailed, offering many possibilities for describing musical events in these sections (most

notably the idea of internal developmental rotations that reflect those of the exposition or

recapitulation), I find that William Caplin's *Classical Form* has a system for the analysis of

developments that is able to more accurately represent what occurs in movement one. Caplin,

17

who draws on and expands many ideas of Erwin Ratz, divides development space into three distinct units.[31] The first of these three, the pre-core, appears at the beginning of development sections, and often draws on ideas presented earlier in the movement (the primary theme in the case of *Memo Flora*). Next is the core, which is defined primarily by its larger phrase model and the existence of sequences. Additionally, for Classical works, the core will also consist of a half cadence which is often followed by "standing on the dominant."[32] Finally, some developments end with a retransition if the core does not end in the home key.[33] Figure 2.6a displays one possible formal plan for a development using Caplin's pre-core/core technique, while 2.6b shows the development of movement one of *Memo Flora*. One obvious difference between the formal organization of the two is the inclusion of multiple cores in *Memo Flora*. While there is some classical precedence for developments with multiple cores, they are often separated by motivic content, which is not the case for movement one.[34] Instead, the three cores, which all utilize the same melodic-motivic material, are separated by the clear stopping and starting of large-scale sequence patterns. More detailed discussion of movement one's development and the sequences that occupy it will take place in chapter on the External Musical Stratum. Since none of the development's cores in movement one achieve any sense of harmonic stability, the material from the closing zone resurfaces now functioning as a retransition, bookending the development with

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[31] Erwin Ratz, *Einführung in die musikalische Formlehre*, 1st ed. (Vienna, 1951); and Caplin, *Classical Form*, 139-59.
[32] William Caplin, *Analyzing Classical Form: An Approach for the Classroom*, (New York: Oxford University Press, 2013), 422.
[33] William Caplin, *Analyzing Classical Form*, 423.
[34] William Caplin, *Analyzing Classical Form*, 422-3.

the same melodic content. The retransition however is extended slightly, further emphasizing the departure from development space, and preparing the listener for the coming recapitulation.

**b.** *Memo Flora*

**a. Prototype**

**Development**

| Pre-Core | Core | Retransition (RT) |
|----------|------|-------------------|

**Development**

| Section | Pre-Core | Part One | Part Two | Part Three | RT |
|---------|----------|----------|----------|------------|-----|
| **mm.** | 115-20 | 121-36 | 137-60 | 161-88 | 189-204 |

Core
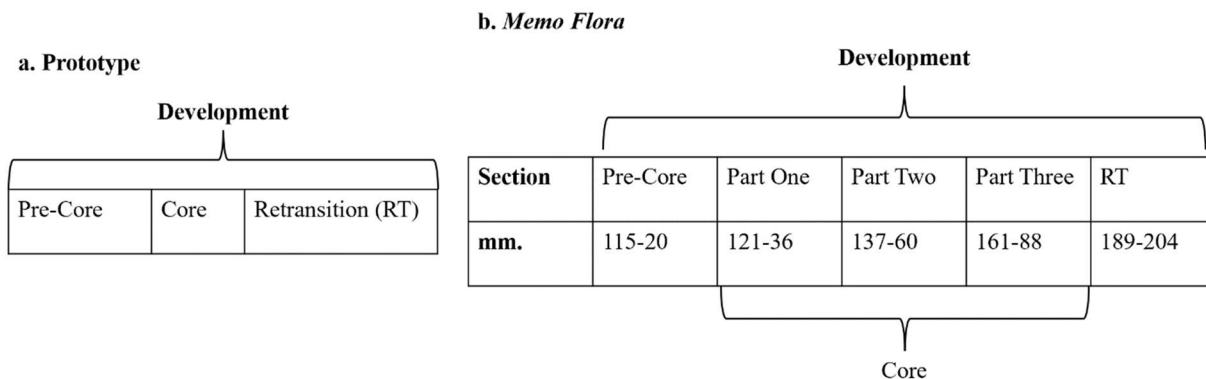
*Figure 2.6*: Comparison of a prototypical development to that of *Memo Flora*

When the recapitulation begins at m. 205, the texture thins, returning to a single line in the piano accompanied by individual notes in the string accompaniment—a texture that evokes the opening measure of the slow introduction. Over the course of six measures, the brief respite is quickly usurped by an increased harmonic rhythm and a flurry of sixteenth notes that obscure the primary theme. This dramatic increase in rhythmic and harmonic activity is the result of musical remnants from the development piercing through the formal boundaries, imbuing the recapitulation with energy not present in the exposition. The energy provided by the development lasts through much of the remainder of the movement, homogenizing the once distinct P, TR, and S zones. While this is atypical for classical recapitulations, the general sequence of events is reminiscent of an expansion section or what Hepokoski and Darcy call a "continuous exposition."[35][36] Continuous expositions, as the name implies exist in the exposition when the TR

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[35] For more on classical expansion sections, especially in the music of Haydn, see A. Peter Brown, *Joseph Haydn's Keyboard Music* (Bloomington: Indiana University Press, 1986) 295. James Webster, *Haydn's "Farewell" Symphony and the Idea of Classical Style* (Cambridge: Cambridge University Press, 1991) 166, 326.
[36] Hepokoski and Darcy, *Elements*, 51-64.

19

does not reach an MC and instead "fills up most of the expositional space with the relentlessly ongoing, expansive spinning-out (*Fortspinnung*) of an initial idea…"[37] In movement one of *Memo Flora,* we have not a continuous exposition, but what I call a continuous recapitulation. The relentless drive continues, climaxing at measure 241 with a harmonic shift from C minor to Bb major that evokes the EEC at measure 106 (see Example 2.3). After this point, a new closing section appears, and the wave of energy subsides before one final musical exclamation in the last



**m. 241**

*Example 2.3*: Movement One, ESC

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[37] Hepokoski and Darcy, *Elements*, 51.

two measures that reinforces Bb as the tonal center of movement one. Figure 2.7 diagrams the full form of movement one; a Type 3 sonata movement with a continuous recapitulation.[38] The formal organization of movement one is clearly in dialogue with its classical predecessors, but Yoshimatsu breaks away from tradition, in a few crucial areas: the reduced emphasis on medial caesuras in the exposition and recapitulation, non-cadential points of expositional and sonata closure, and a non-functional harmonic palette, to name a few. These unique details, as well as the broader formal units in which they exist, together form the musical substrate of movement one. Although these features are not immediately perceived upon listening, they reveal themselves through a thoughtful analytical process, and form the basis for corresponding musical strata of the next two movements.

**Exposition**

| Section | Slow Intro | P | TR | MC | TMB | EEC | Closing |
|---|---|---|---|---|---|---|---|
| **mm.** | 1-23 | 24-31 | 32-53 | 54-5 | 56-105 | 106 | 107-14 |

**Development**

| Section | Pre-Core | Core | Retransition |
|---|---|---|---|
| **mm.** | 115-20 | 121-88 | 189-204 |

Movement One

**Recapitulation**

| Section | P | TR/S | ESC | Closing |
|---|---|---|---|---|
| **mm.** | 205-20 | 221-40 | 241-4 | 245-69 |
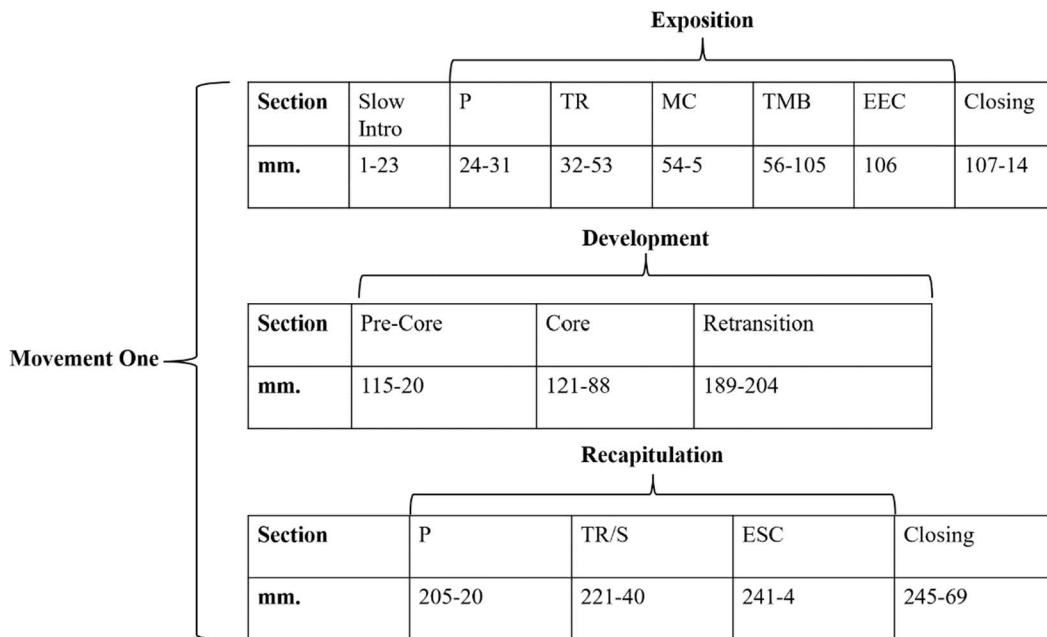
*Figure 2.7*: Formal Organization of Movement One

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[38] Hepokoski and Darcy, *Elements*, 343-52.

**Movement Two**

      If the Musical Substrate of movement one of *Memo Flora* could be described generally as a Type 3 sonata, movement two takes the form of a Type 2, or "binary" sonata.[39] Sonatas of this type, similar to Type 1 sonatas, are double-rotational, while standard Type 3 sonatas contain three rotations. The first rotation in both Type 2 and 3 sonatas consist of P, TR, S, and possibly a closing section. Whereas the second rotation of a Type 3 sonata is occupied by the development, in Type 2 sonatas the second rotation contains both developmental and recapitulatory material (Figure 2.8). Figure 2.9 shows the entire form of movement two and its alignment with the two sonata rotations. When comparing the full movements structure to that of movement one, many differences are immediately apparent: the lack of any introductory material, a regular S theme instead of the tri-modular block, a recapitulation that instead of retracing the steps of the exposition, paves a new path through two new, replacement S themes. Moreover, there are drastic proportional differences between the main formal units of the two expositions, and instead of a full closing section after the exposition and recapitulation there are merely codettas.

| Rotation One: | Rotation Two: |
|---|---|
| Exposition | Development and Recapitulation |

*Figure 2.8*: Rotations of a Type 2 Sonata

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[39] Hepokoski and Darcy, *Elements*, 353-87.

The result of these formal dissimilarities is an overall shorter movement, that more quickly

moves through its various thematic units.

**Exposition**

| Section | P | TR | MC | S | EEC |
|---|---|---|---|---|---|
| mm. | 1-51 | 52-60 | 61 | 62-84 | 85-7 |

**Development**

| Section | Pre-Core | Core | Retransition |
|---|---|---|---|
| mm. | 88-103 | 104-23 | 124-37 |

**Recapitulation**

| Section | TR | RST1 | RST2 | ESC | Codettas |
|---|---|---|---|---|---|
| mm. | 138-47 | 148-55 | 156-76 | 177 | 177-84 |
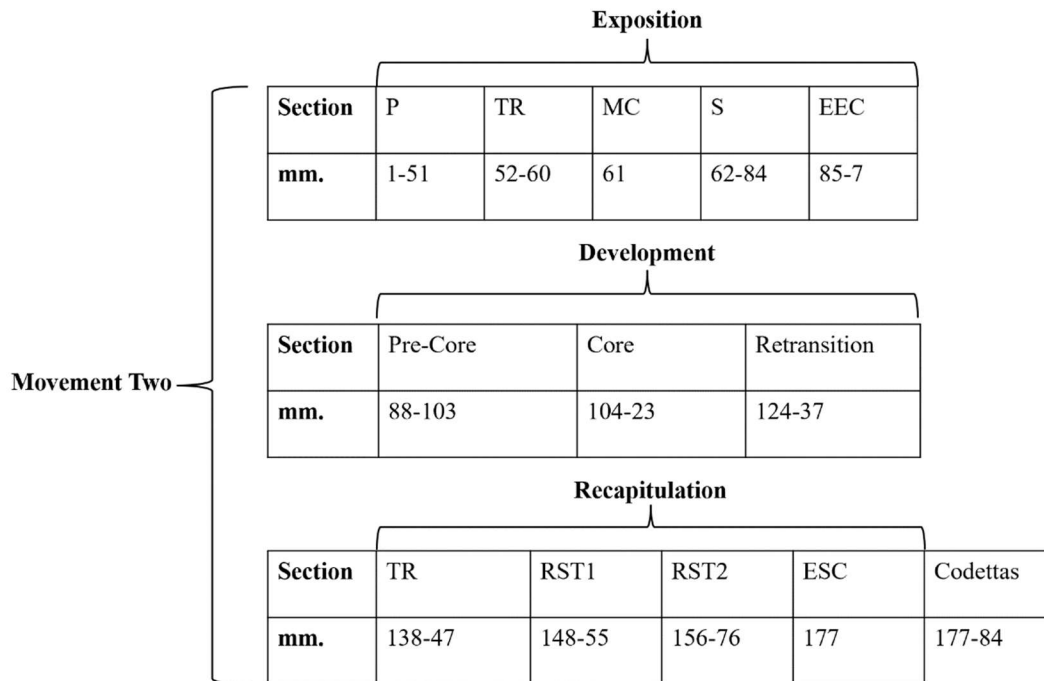
Movement Two —

*Figure 2.9*: Formal Organization of Movement Two

From the beginning of the primary theme, through the end of the secondary theme,

movement two, despite the obviously non-classical harmonic palette, strictly adheres to the

formal expectations established by Yoshimatsu's eighteenth-century predecessors. The primary

theme is expansive, covering just over fifty measures of music, with a point of arrival at measure

50 that echoes the EEC in movement one (Example 2.4). A P-based transition brings the music

from Bb major, which was confirmed at measure 50, to a new key, F# major, for the secondary

theme.[40] This relatively short secondary theme (only 26 measures) has two valid candidates of a

moment of EEC. Mm 80 and 85 (shown in Example 2.5) are both accentuated by fermatas and

range-spanning piano runs. If we take measure 80 to be the EEC, there must be some way to

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[40] Hepokoski and Darcy, *Elements*, 101.

account for the next seven measures that occur before the development begins. The easiest way to accomplish this would be to describe measures 81-87 as codettas or a small closing section. This is not an entirely inaccurate description, however, a more nuanced view of the musical events will lead to a more accurate description of this pivotal point of arrival. From measure 81-5, each chord is articulated with a 4-3 suspension in the top voice. These whole-step descents can also be found in the underlying chord progression, which moves from A major to G major and resolves in m. 85 to F major, that introduces a 9-8 suspension in addition to the pre-existing 4-3. By taking 85 as the EEC, we now are forced to justify the previous emphasis on m. 80. One possibility is what Hepokoski and Darcy refer to as an "attenuated PAC," which is described in *Elements* as a situation where "[a] PAC can have a weak or attenuated effect—something that instantly problematizes the strength of its potential EEC status."[41] While neither of our options for EEC here could be described as PACs, an adjusted description of "attenuated arrival" would be fitting for m. 80, considering the piano dynamic and relative harmonic stability.[42] Additionally, the broad harmonic implications of this arrival on F major solidify m. 85 as our best candidate for EEC; if the end of the primary theme, which concluded on Bb major, is taken to be the "tonic" for movement two, F major fits perfectly as the corresponding dominant—

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[41] Hepokoski and Darcy, *Elements*, 170.
[42] Many of the musical elements required to determine the placement of this EEC are necessarily taken from other levels of musical strata, mostly the external stratum. Further discussion of this moment's implications for the other musical layers will take place in their respective chapters.

aligning surprisingly closely with the norms of tonally functional sonatas, and bringing the first

rotation of movement two to a close.



*Example 2.4*: Movement two primary theme "cadence"

*Example 2.5*: Two candidates for EEC in movement two

The second rotation of movement two, as is with many Type 2 sonatas, begins in m. 138

with a transposed or "off-tonic" version of P that jumpstarts the development, and aligns with the

Caplin-Ratz model of pre-core, core, retransition.[43] The core of movement two, however, is less

closely aligned to the standard definition of "core," having no large sequences and instead

featuring the P melody transposed multiple times. During the retransition, the theme is liquidated

and replaced with more generic scalar patterns in the piano, overtop a harmonic pedal point

which decrescendos until the recapitulation begins. Overall, this development is more succinct

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[43] William Caplin, *Analyzing Classical Form*, 422.

than that of movement one and has less far-reaching ramifications for the substrate of the rest of the movement.

Because the development of movement two covers the beginning of the second rotation, the recapitulation skips over P entirely and picks up at a point that corresponds to the TR (Example 2.6), but what follows is something entirely different. At m. 148, a new melody enters—this is what I call replacement secondary theme (RST) 1. This new theme integrates the 5/4 meter that was featured prominently in the development but is now in Db major. After only eight measures, this 5/4 theme is quickly replaced by another odd meter theme (RST 2), which includes seemingly random metrical choices. In reality though these time signatures are not random at all and actually spell out the birthdate of the pianist Kyoko Tabe, for whom *Memo Flora* was written (Example 2.7).[44] Both of these replacement secondary themes confirm the key of Db major, ending with an underemphasized ESC at m. 177, which is followed by a set of small, formally insignificant codettas. Ending in this way is yet another callback to Classical formal convention where it was common to conclude with musical material that exists outside of the sonata rotation.

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[44] Li Xin, "An Analysis of the Musical Style and Conception of *Memo Flora," International Journal of Music Studies* 3, no. 1 (2021): 63.

m. 136

*Example 2.6*: Recapitulatory transition in movement two

m. 156

*Example 2.7*: Time signatures spelling out the birth date of Kyoko Tabe

28

**Movement Three**

Even though Yoshimatsu described only movement one as a pseudo-sonata, the exploration of the musical substrate of the first two movements clearly shows that this title could easily be extended to the second movement. Moreover, it is possible that the label of "pseudo" need not be included at all—depending on how strict a definition of sonata form one chooses to adhere to. However, movement three, which Yoshimatsu describes as "a 4/8 and 5/8 rondo that dashes lightly into the distance," is formally far removed from its compositional siblings.[45] The structure of movement three, in my view, is quite different than even Yoshimatsu's own description. While it is true that many classical rondos are faster and have a higher energy—which movement three of *Memo Flora* assuredly does—they often consist of a refrain that alternates with various couplets, forming a seven-part, ABACABA rondo form—the sonata rondo.[46] This description, however, does not fit movement three of *Memo Flora.*

Movement three, at first glance, presents as extremely formally ambiguous. And in the upper strata, there are certainly parameters that would support this ambiguity—the mono-motivic nature of the melody, uneven phrase lengths, and the ever-alternating bars of 4/8 and 5/8, just to name a few. These features, combined with the contrasting, upbeat tone of movement three set it apart from the first two movements, but there is a deeper separation that needs to be addressed—that of the removal of clear ties to sonata form in the substrate of movement three. Due to the extreme effect that the mono-motivic melody and enduring rhythmic pulse have on the music, formal features that were clear in the first two movements—like separate primary and secondary themes, the occasional medial caesura, and appearance of development-like sections—are

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[45] "Works," Yoshimatsu, Takashi, official website, accessed October 1, 2023, http://yoshim.music.coocan.jp/.
[46] William Caplin, *Analyzing Classical Form*, 644-5.

practically eliminated from the third movement entirely. Therefore, the music requires us to take

a different approach when attempting to identify the salient features of the musical substrate. As

previously stated, the majority of movement three consists of alternating bars of 4/8 and 5/8 at a

brisk allegro tempo—and within this overgrowth of mixed-meter madness, two musical clearings

appear—brief refrains from the unrelenting rhythmic flow. The first of these is a three-measure

passage that appears at the beginning to act as the introduction to the movement. The other

significantly different musical area in movement three is at m. 148, where after over 140 bars of

the same motif, we are treated to still the same motif, but now played at a markedly slower

tempo and without any of the accompaniment that has been present for the entirety of the

movement. This new setting of the same motif makes it so drastically different that with the first

few listens one may not even recognize this as the original motif. After eight bars of the motif at

the new slower tempo we get the first new meter since the opening three bars—four bars of 7/4

appear and serve as a harmonic and melodic link from the slower presentation of the melody

back to the original up-tempo variant that makes up most of the movement. Despite how brief

this section is, the significant departures in tempo and melodic content create the sense of a

contrasting middle section, a B section in the center of a large-scale rounded binary form.[47] With

the dividing line of the B section identified, finding the surrounding A sections becomes

relatively simple. The first A occurs at m. 4, directly after the three-measure introduction, and

establishes and develops the movement's motif over the course of the next 144 measures. The

second iteration of A is varied (A') and occurs at m. 160, directly after the contrasting B section,

and while A' is significantly shorter than its counterpart, it retains many of the same features of

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[47] This large B section appears notably close to the golden ratio; A is approximately 1.5 times the length of B and A' combined when calculated using number of seconds (time) and 1.9 times the length when calculated using measure numbers—both fairly close to a true golden ratio's 1.6.

A—namely, the alternating measures of 4/8 and 5/8, and some harmonic similarities which will be explored in the chapter on the External Stratum. Figure 2.10 shows all three main sections of movement three—A, B, and A'—as well as the short three measure introduction.

**Movement Three**

| Section | Introduction | A | B | A' |
|---|---|---|---|---|
| **mm.** | 1-3 | 4-147 | 148-59 | 160-221 |

*Figure 2.10*: Formal Organization of Movement Three

It is clear that the structural organization of the Musical Substrate of movement three differs drastically from that of the two preceding movements. However, the harmonic substrate, or large-scale harmonic trajectory of this movement, displayed on a right-triangle *Tonnetz* (Figure 2.11), is exceptionally similar to movement one. Both have a strong emphasis on Bb, that uses Eb to build tension in an almost plagal motion. In movement two, both Bb and Eb play prominent roles, but the eventual harmonic goal is Db—which is approached toward the end of the movement in a similar, plagal motion from Gb (Figure 2.12). When placed together on a *Tonnetz,* the harmonic trajectories show as a whole, a departure from and eventual return to Bb, that travels in the second movement through a transposition up a minor third to Db. While the combination of these four notes, Eb, Bb, Gb, Db, can be respelled to form an Eb minor seventh chord (as displayed by Figure 2.13), and although Eb minor seventh chords are present throughout *Memo Flora*, this chord does not hold any heightened significance. This seventh chord is simply a result of three movements whose individual musical substrates are

harmonically equivalent. The structure created by these related harmonic trajectories is however representative of a musical substrate that goes beyond each individual movement. An almost imperceptible connection that creates a sense of unity between the three movements—three landscapes in one vast musical world.
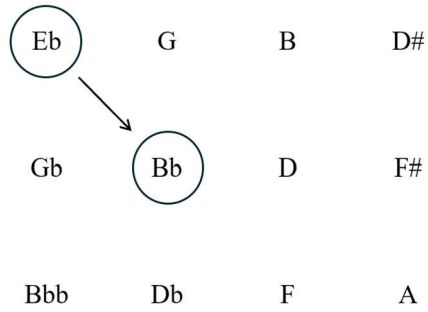


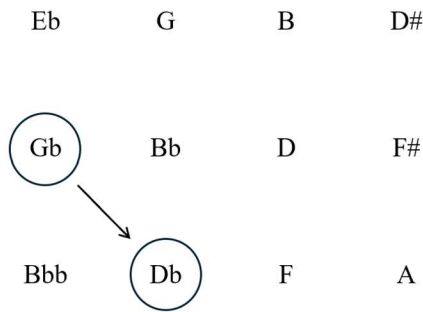*Figure 2.11*: Harmonic Trajectory of Movements One and Three



*Figure 2.12*: Harmonic Trajectory of Movement Two
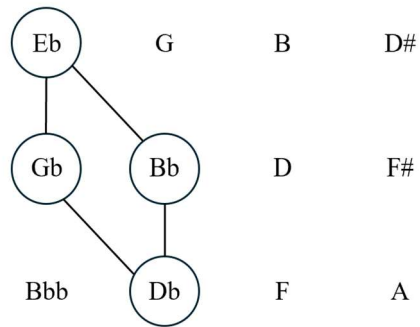


*Figure 2.13*: Harmonic Musical Substrate of *Memo Flora*

CHAPTER THREE

## Internal Musical Stratum

If the musical events that occur within the Musical Substrate are nearly imperceptible,

those of the Internal Musical Stratum become more readily available even to those who do not

necessarily have any formal musical training. This middle layer, when compared to the musical

substrate, is more detail oriented, and prioritizes the internal phrases and the themes that occupy

them. These internal units, however, differ drastically from movement to movement. In

movements one and two, the closely related underlying formal structures are internally quite

different. Movement two presents a surprisingly tight-knit internal formal organization that

features even phrase lengths that can be related back to certain classical theme types that will be

discussed later in this chapter. Movement one, on the other hand, is more phrasally ambiguous

and requires a new way of describing these internal phrases. Patricia Howland's concept of

integrated parametric structures (hereafter IPSs) provides a reasonable means for subdividing

and describing a section of music at the phrase level, where traditional theme types do not

appear.[48] Her IPSs will be central to my analysis of movements one and three, while movement

two will primarily use adaptations of common theme types as presented in William Caplin's

*Classical Form*.[49] I will begin my exploration of the Internal Musical Stratum of *Memo Flora*

with movement two—which provides the clearest example of phrase-level organization—and

conclude with a discussion of movements one and three which employ similar organizational

techniques at this level.

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[48] Patricia Howland, "Formal Structures in Post-Tonal Music." *Music Theory Spectrum* 37, no. 1 71-97 (2015): 71-97.

[49] William Caplin, *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven,* (New York: Oxford University Press, 1998).

**Movement Two**

Even within this one musical-analytical layer (the Internal Stratum), movement two provides a wide variety of analytical possibilities that range from as small as one measure to as large as 32 measures—it would be best though, to start somewhere between the two. Example 3.1 shows the first six measures of the movement, which is clearly subdivided into two groups of three measures—the first a group of expanding eighth notes in the piano, and the second a response from the strings. The even phrase lengths give this unit a sentential quality; mm. 1-3 are each basic ideas and form a presentation, while measures four through six are a continuation.[50] Similarly to elements such as the EEC and MC from Sonata Theory, many definitions of Caplin's theme types are tied to aspects of tonal harmony like cadences and tonic-dominant relationships. While these tonal prerequisites are not present in *Memo Flora*, the general formal layout of these smaller thematic units remains. This small phrase, which is the thematic crux of the entire movement, is repeated three times. Figure 3.1 diagrams the three repetitions showing the slight harmonic differences between their presentations, which contrast with the shared G minor harmony of the continuations. As the music continues past these three sentential units, the initial harmonies of each presentation, Gm9, Ebmaj7, and Cm9, act as a harmonic link, bridging the gap between measures 18 and 22 (Figure 3.2). This is followed by an expansive section which confirms the key of G minor and then introduces more harmonic activity and arrives at relative key of Bb major in measure 50 (Figure 3.3). Looking now at this section as a whole, one may begin to reconsider the scale of the potential formal units. While m. 50 does evoke the EEC in movement one, that is no longer its function in movement two. It instead serves to mark the

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[50] William Caplin, *Analyzing Classical Form: An Approach for the Classroom*, (New York: Oxford University Press, 2013) 33-72.

| Form | Sentence | Sentence | Sentence |
|---|---|---|---|
| **mm.** | 1-6 | 7-12 | 13-18 |
| **Harmonic Progression** | Gm9-Dm7-Edim7-Gm13 | Ebmaj9-Cm9-Gm9-Gm13 | Cm9-Gm11-Ebmaj7-Gm13 |

*Figure 3.1*: Three sentential repetitions in the primary theme of movement two

| Form | Sentence | Sentence | Sentence |
|---|---|---|---|
| **mm.** | 1-6 | 7-12 | 13-18 |
| **Harmonic Progression** | Gm9-Dm7-Edim7-Gm13 | Ebmaj9-Cm9-Gm9-Gm13 | Cm9-Gm11-Ebmaj7-Gm13 |

| **Harmonic Progression** | Gm9-Ebmaj7-Cm7 |
|---|---|
| **mm.** | 19-21 |
| **Form** | Harmonic Link |

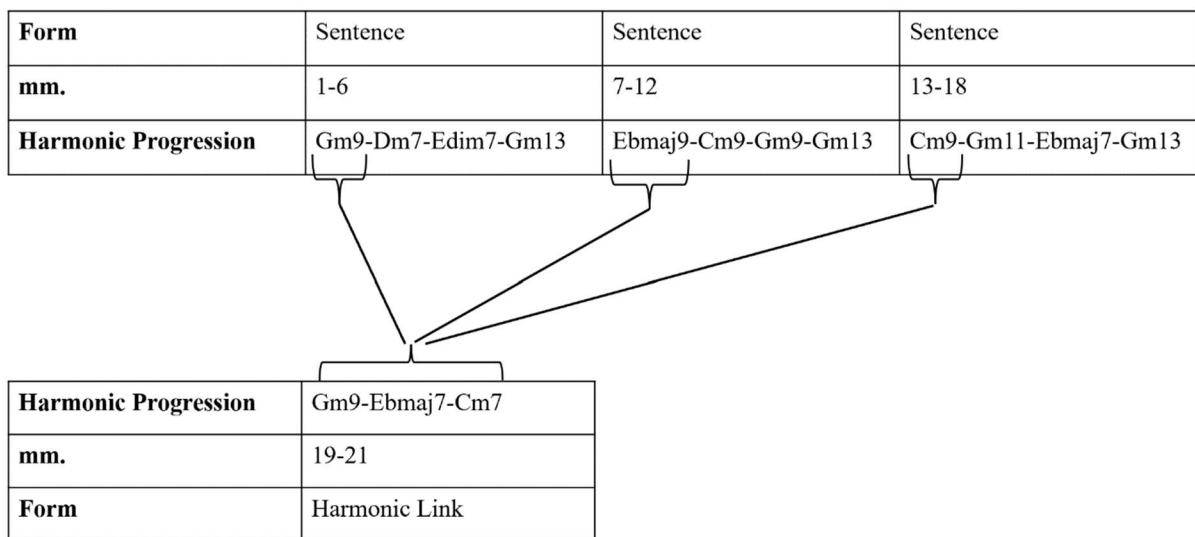*Figure 3.2*: Formation of the harmonic link in mm. 19-21 of movement two

| Form | Continuation Part One | Continuation Part Two | Arrival |
|---|---|---|---|
| **mm.** | 22-8 | 29-49 | 50-1 |
| **Harmonic Progression** | Gm11-Eb11-Edim7-Gm11-Bbaug-Gm7-Edim9 | Cm11-F13-Bbmaj13-Dm7-Ebmaj11-F13-[Cm11-F13]x3 | Bbmaj7 |

G pedal tone

*Figure 3.3*: Two-part continuation of the primary theme in movement two

ending of the movement's primary theme—a point of arrival that prepares the music to continue to what will be the transition and secondary theme. The preceding measures then, cannot possibly be the secondary theme, but are more likely to be an agent in a larger formal scheme that plays out in the first fifty measures of movement two.



*Example 3.1*: Movement two, mm. 1-6

A new diagram (Figure 3.4) arises after retrospectively reinterpreting the first 18 measures as not three individual sentences, but a single, larger, compound presentation, where each sentence now functions as a compound basic idea (c.b.i.).[51] Following the expansive compound presentation, there is an even larger expanded continuation which spans from the previously described harmonic link, all the way to the final point of arrival in the primary theme in measure 50. The twenty-seven measures of continuation space are divided into two subsections labeled in Figure 3.4 as continuation part one and continuation part two. Harmonically, part one of the continuation sits atop a G pedal and frequently returns to the G

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[51] William Caplin, *Analyzing Classical Form*, 166-8.

minor harmony that was established in the presentation. Part two begins with a C minor and F dominant chord that bring us securely into Bb major. Bb major is further confirmed by the closure of this section which again moves from F to Bb major in mm. 49-50. The relationship of F and Bb is noteworthy and will be further examined in the chapter on the External Musical Stratum. As a whole, the primary theme of movement two (Figure 3.4) can be described as a compound sentence, although one that is slightly more than three times the length of a prototypical compound sentence.[52] The measures following the arrival in mm. 50 -51 take the basic idea from the primary theme, reharmonize it, and shorten the phrase length from six measures to four, giving the section more energy than its thematic counterpart. The final reharmonization ends on F# major, hinting at the forthcoming secondary theme which begins in F#. Figure 3.5 shows the whole transition which culminates in a textural break in measure sixty-one—movement two's medial caesura.

Compound Presentation

| Form | Sentence | Sentence | Sentence |
|---|---|---|---|
| mm. | 1-6 | 7-12 | 13-18 |
| Harmonic Progression | Gm9-Dm7-Edim7-Gm13 | Ebmaj9-Cm9-Gm9-Gm13 | Cm9-Gm11-Ebmaj7-Gm13 |

Compound Continuation

| Form | Harmonic Link | Continuation Part One | Continuation Part Two | Arrival |
|---|---|---|---|---|
| mm. | 19-21 | 22-8 | 29-49 | 50-1 |
| Harmonic Progression | Gm9-Ebmaj7-Cm7 | Gm11-Eb11-Edim7-Gm11-Bbaug-Gm7-Edim9 | Cm11-F13-Bbmaj13-Dm7-Ebmaj11-F13-[Cm11-F13]x3 | Bbmaj7 |

*Figure 3.4*: Primary theme, movement two-compound sentence

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[52] William Caplin, *Analyzing Classical Form*, 168.

**Transition**

| Form | Presentation | Presentation | Basic Idea | MC |
|------|--------------|--------------|------------|-----|
| **mm.** | 52-5 | 56-9 | 60 | 61 |
| **Harmonic Progression** | Ebmaj7-F9-Bbmaj13 | Dbmaj7-Cm-Abmaj7 | F#maj7 | |

*Figure 3.5*: Transition, movement two

Formally, the secondary theme of movement two (Figure 3.6) is also a compound sentence. In this formal variation, however, the presentation—which still contains three-measure units—repeats, lasting for twelve measures. The motive for this S theme may, to the attentive listener, sounds somewhat familiar. This is because the melody is a quotation from the first movement; Example 3.2 compares m. 189 from movement one with m. 68 from movement two—what once was a short harmonic link is now fully realized as theme. The continuation of S,

**Secondary Theme**

| Form | Presentation x2 | Continuation Part One | Continuation Part Two | EEC |
|------|-----------------|----------------------|----------------------|-----|
| **mm.** | 62-7, 68-73 | 74-80 | 81-4 | 85-7 |
| **Harmonic Progression** | F#maj7-F#maj7-C#maj7 (x2) | Bmaj7-F#maj7-Emaj7-Bmaj7 | Amaj7-Gmaj9 | Fmaj |

*Figure 3.6*: Formal organization of movement two's secondary theme

similar to that of P, is broken into two parts: the first continues to develop the same motive that

was borrowed from the first movement and, while it does end on a fermata, this moment does not

have a sense of formal closure.[53] The second part of the continuation (Example 3.3) is much



m. 189 (Mvmt. 1)



m. 68 (Mvmt. 2)

*Example 3.2*: Comparison of m. 189 in movement one to m. 68 from movement two

shorter and features suspension-like figures that heighten the sense of arrival leading up to and at

the EEC. By m. 85 the dynamics have increased slightly and the music lands on another fermata,

this time on a somewhat surprising F major chord, bringing the exposition to a close.

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[53] This could be in part, due to the fact the the chord held out by the fermata in measure 80 is a B major chord, which in a harmonic space dominated by F# feels unresolved.

*Example 3.3*: Arrival of EEC in movement two

The development begins a new sonata rotation by initiating the pre-core with the same primary theme motive, now in G major with a new upbeat 5/4 ostinato supporting it. This continues from measure 90 through 112 where the P motive is moved from the piano into the strings, beginning the development's core. While there are no true sequences that occupy this development's core, there is a significant increase in harmonic activity. Figure 3.7 diagrams the core of movement two's development, showing three internal phrases that all display similar harmonic patterns. While these phrases themselves do not contribute to any larger theme types, they do resemble the four-measure variant of P that was found in the transition many measures prior. The retransition of this development is brief, only lasting 14 measures, which are divided into two six-measure groups, the second of which has a two-measure extension. However, instead of leading to another setting of the primary theme, the music skips immediately to the transition (Example 3.4). Again, expectations are subverted when instead of moving to the secondary theme, TR leads to a new set of themes that I call RST 1 & 2. RST 1 takes the Db left by the recapitulatory transition and combines this new harmonic area with another 5/4 ostinato

40

figure similar to the beginning of the development. This replacement theme is itself quickly replaced by RST 2 which continues to alternate on Gb and Db harmonies. The ESC is achieved at measure 177 and the last few measures of music are simply small codettas that bring movement two to a calm close.

**Movement Two: Core**

| Section | Part One | Part Two | Part Three |
|---|---|---|---|
| **mm.** | 112-15 | 116-19 | 120-23 |
| **Harmonic Progression** | Gmaj7-Bm7-Em7 | Cmaj13-Bm7-F#ø7 | Fmaj7-Em7-Dm9 |

*Figure 3.7*: Internal organization of the core of the development in movement two



m. 136



*Example 3.4*: Recapitulatory transition in movement two

**Movement One**

For my analysis of the Internal Musical Stratum of movements one and three, I combine the decimal system created for Hepokoski and Darcy's Sonata Theory—where each large section is given an Arabic numeral, and internal subsections are given decimals to distinguish between them—with Howland's IPSs, I call these IPS groups.[54] Both movement one and three of *Memo Flora* are well suited for an analysis of this style.

The entirety of the slow introduction in movement one can be thought of IPS group 1, and from there can be divided into individual IPSs which relate to the five IPS types that Howland defines in her article: tension/release, departure/return, symmetric, directional and steady-state.[55] A tension/release IPS is formed when there is a noticeable building and releasing of tension through an increase or decrease in parametric status. The departure/return IPS type is created when two areas of similar parametric status are separated by a contrasting middle that features a drastically different parametric level. Similar to the departure/return type, symmetric IPSs consist of symmetric musical content in addition to the symmetric parametric status. Directional IPSs, as the name suggests, form when the parametric status of a passage of music unidirectionally increases or decreases. Steady-state IPSs form when the parametric status of a given section of music remains static.

IPS 1.1 of Memo Flora is a directional IPS that forms primarily due to the expansion of register and density of pitch and rhythm.[56] This six-measure section, represented by Figure 3.8, begins with just a single note in the string accompaniment and supports the sparse piano melody.

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[54] James Hepokoski and Warren Darcy, *Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-century Sonata* (New York: Oxford university Press, 2006) 71-3.

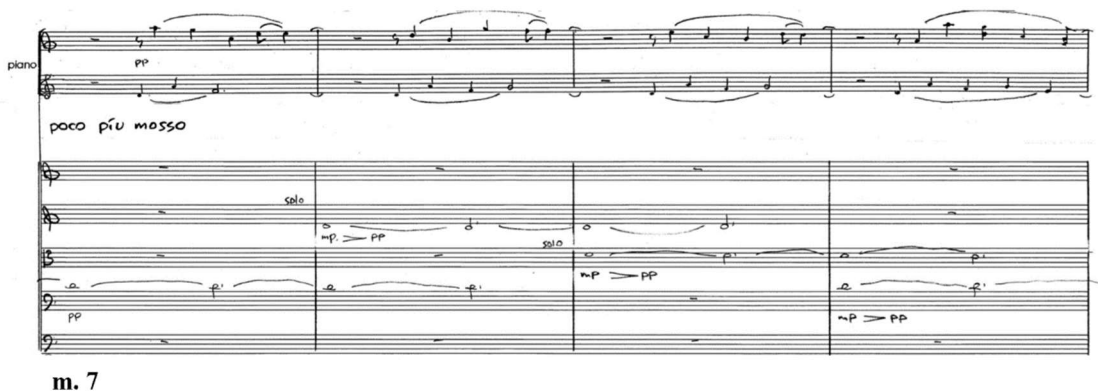[55] Patricia Howland, "Formal Structures in Post Tonal Music," 71-2.

[56] Patricia Howland, "Formal Structures in Post Tonal Music," 80-5.

Over the course of the section more strings begin to join, supporting the similarly expanding piano part. By measure six, the strings have a dense Dm11 (at this point all the strings are playing except for the basses) and the piano has a much more active part that, at this point is still more textural than melodic. IPS 1.2 similarly is directional but is distinct in a number of ways.



*Figure 3.8*: Movement one, IPS 1.1-directional

IPS 1.2 is eight measures instead of six and the piano motif switches from the textural eighth notes to an ostinato that consists of quarter-notes in both hands that are offset by an eighth note, creating a compound melodic line of eighth notes (Example 3.5). IPS 1.2 also takes longer to begin its expansion, passing off a single D for four measures before other pitches start appearing and the texture builds. These first two IPSs could also be considered departure/return IPS—departing from the original sparse texture only to return to it in the next phrase.[57] The return to a relatively sparse texture happens one more time when the strings return to just a single pitch at measure fifteen, which begins IPS 1.3—the final member of IPS group one. IPS 1.3, which lasts



*Example 3.5*: IPS 1.2, quarter note ostinato

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[57] Patricia Howland, "Formal Structure in Post Tonal Music," 78.

nine measures, contains the first appearance of what will eventually be the melody for the primary theme (Example 3.6) and features staggered entrances in the strings that remain relatively consistent throughout the final IPS of the introduction. Due to the harmonic and textural stability in both the string accompaniment and the piano part, IPS 1.3 would be best described as a steady-state variant.[58]



*Example 3.6*: Motivic source of the primary theme in movement one

The motive used in the final IPS of the introduction carries through, revealing itself to be the movement's primary theme—which, due to its harmonic progression (Figure 3.9), can be described as a departure/return IPS—IPS 2. However, this motive only exists as the primary theme for a brief eight measures, and while we could artificially divide this phrase in half, there would be no tangible analytical benefit as there are no units resembling basic ideas or

**Bbmaj7** ⟶ Gm7 ⟶ C7 ⟶ Ebmaj7 ⟶ Cm9 ⟶ **Bbmaj13**

*Figure 3.9*: IPS 2-departure and return

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[58] Patricia Howland, "Formal Structures in Post Tonal Music," 86-9.

continuations. P gives way to TR, which corresponds in the Internal Stratum to IPS 3, and is occupied by the same P motive. IPS 3 is broken down into two parts: IPS 3.1, a steady-state IPS, spans mm. 32-8. IPS 3.2 is directional, picking up where IPS 3.1 left off, consistently thickening the texture and increasing the dynamic level until the medial caesura at measure 54. IPS group 4 is the largest yet— encompassing almost fifty measures of music—and corresponds to the S zone in the Musical Substrate. Figure 3.10 shows the alignment of IPS 4 with the TMB. $TM^1$ covers IPS 4.1 and 4.2, which, despite containing very similar melodic lines and harmonic organization, are two different IPS types. 4.1 is a departure/return IPS, while IPS 4.2 is directional, beginning with the same parametric status at 4.1, but ending with an increase in textural density and dynamic level. Example 3.7 compares the last two measures of each phrase, especially highlighting the difference in the piano part and the addition of a *molto ritardando* that further confirms the directional nature of IPS 4.2. IPS 4.3-4.6 all exist within the boundaries of $TM^2$, and while they all contain different thematic content, they can each be described as steady-state IPSs. When taken as a whole however, IPSs 4.3-6 can be viewed as a symmetric type IPS which begins with a solo piano texture in IPS 4.3, adds the strings and increases the textural density in IPS 4.4-5 and returns to a solo texture for IPS 4.6.[59] The contour of this IPS sub-group (Figure 3.10) solidifies the representation of this section in my analysis of the Musical Substrate as $TM^2$ by making the connection between these seemingly disparate themes more apparent. When compared to $TM^2$, $TM^3$ is much more thematically interconnected, and therefore only spans one IPS subgroup—IPS 4.7. This twelve-measure, directional IPS is more goal oriented than the preceding modules, clearly driving to the EEC in measure 106. Not only is there a marked increase in dynamics, but there is also an introduction of new instruments—the winds—which

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[59] Patricia Howland, "Formal Structures in Post Tonal Music," 78-80.

make their first appearance in this movement at measure 94. After the EEC, one final steady-state IPS (IPS 5) brings the exposition to a close—reflecting the closing section in the Musical Substrate.



*Example 3.7*: Comparison of the last two measures of IPS 4.1 and 4.2

**TMB**

| Section | TM$^1$ | | TM$^2$ | | | | TM$^3$ |
|---------|--------|--------|--------|--------|--------|--------|--------|
| mm. | 56-63 | 64-71 | 72-5 | 82-5 | 86-9 | 90-3 | 94-105 |
| IPS | 4.1 | 4.2 | 4.3 | 4.4 | 4.5 | 4.6 | 4.7 |
| IPS Type | Departure/ Return | Directional | Steady-State | Steady-State | Steady-State | Steady-State | Tension/ Release |

*Figure 3.10*: Movement one, IPS group 4

The relationship between the analytical representations of the development of movement one in the Substrate and Internal Musical Stratum, shown in Figure 3.11, is relatively straightforward. IPS group 6 spans the entire development and is divided into six smaller units. The pre-core corresponds to IPS 6.1—and, mainly due to the crescendo in measure 120, can be described as a directional IPS which leads to core part one—a steady-state IPS 6.2. IPS 6.3—

| | | Core | | | | |
|---|---|---|---|---|---|---|
| **Section** | Pre-Core | Part One | Part Two | | Part Three | |
| **mm.** | 115-20 | 121-36 | 137-52 | 153-60 | 161-76 | 177-88 |
| **IPS** | 6.1 | 6.2 | 6.3 | 6.4 | 6.5 | 6.6 |
| **IPS Type** | Directional | Steady-State | Steady-State | Directional | Steady-State | Directional |

*Figure 3.11*: Movement one, IPS group 6

another steady-state IPS—uses the same thematic material from 6.2 but is transposed down a half-step. Still within core part two, IPS 6.4, which lasts from mm.153-60, once again returns to the P motive, using its directional nature to drive toward IPS 6.5—or core part three. The third iteration of this IPS (IPS 6.5) is now transposed up a minor third from its original starting position in F minor. Example 3.8 directly compares the opening measures of the three subsections of the core to each other, highlighting the similarities between IPSs 6.2, 6.3, and 6.5. Example 3.9 compares two of the remaining IPSs in this group, IPS 6.4 and 6.6, which both use melodic material taken from P. IPS 6.4 moves to 6.5 to continue with the development, while IPS 6.6 functions as a retransition—exiting the developmental space via a directional IPS that steadily decreases in parametric status. Eventually, IPS 6.6 fades away and a familiar melody appears. Mm. 189-96 (IPS 7) is a reworked version of IPS 5, that now, instead of bringing the listener into the developmental space, takes them out of it, preparing for the return of familiar thematic content in the recapitulation.

**m. 121**   **m. 137**   **m. 161**

*Example 3.8*: Comparison of the opening measure of the three subsections of the core in movement one's development



**m. 153**   **m. 177**

*Example 3.9*: Comparison of IPS 6.4 and 6.6

48

As discussed in the previous chapter, the recapitulatory rotation in movement one is notably different than its expositional counterpart. IPS group 8 lasts for the entirety of the truncated recapitulation and has a number of internal IPSs that loosely correspond to various moments in the exposition (Figure 3.12). IPS 8.1 corresponds to the exposition's primary theme, and 8.2 the transition, while 8.3—which is closely related to TM$^3$—eventually reaches measure 241, this movements ESC. 8.2 and 8.3 are both steady-state IPSs, which continue the energy that was gained during the directional IPS 8.1. The final member of IPS group 8 is 8.4—a directional IPS that by the end of the movement, lowers the parametric status from the full orchestral texture back down to the thinner instrumentation present at the outset of the movement. The last two measures of movement one, while not warranting an IPS label of their own, can be thought of as IPS 8.4a—one final musical exclamation to wrap up the movement. Figure 3.13 brings all the IPS groups together into one diagram that also includes the previously discussed structures that

**Recapitulation**

| Section | P | TR/S | | ESC | Closing | |
|---------|---|------|---|-----|---------|---|
| mm. | 205-20 | 221-32 | 233-40 | 241-44 | 245-67 | 268-9 |
| IPS | 8.1 | 8.2 | 8.3 | | 8.4 | 8.4a |
| IPS Type | Directional | Steady-State | Steady-State | | Directional | Directional |

*Figure 3.12*: Movement one, IPS group 8

| Section | Intro | P | TR/MC | TMB/EEC | Closing | Development | Retransition | Recapitulation |
|---------|-------|---|-------|---------|---------|-------------|--------------|----------------|
| IPS Group | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| mm. | 1-23 | 24-31 | 32-55 | 56-106 | 107-14 | 115-88 | 189-204 | 205-69 |

*Figure 3.13*: IPS groups of movement one

form the musical substrate. Including both IPSs, which represent the Internal Stratum, and structural elements that represent the Musical Substrate on one diagram, enables one to quickly gain a deeper understanding of how certain musical features relate to each other—on the phrase level and beyond.

**Movement Three**

Due to the lack of clear divisions at the phrase level in movement three, an IPS analysis becomes ever more crucial to the determination of musical form. We can begin by assigning each part of the Substrate of movement three—the intro, A, B and A'—its own IPS group. The introduction is by far the simplest of the three and because it does not require any extra subdivision, it can simply be referred to as IPS 1. From there a closer look at the main motive is required to understand the internal structure of the other three large sections. Throughout the majority of movement three, phrases revolve around the repetition of a pair of 4/8 and 5/8 measures that are consistently populated with the same two-measure motive (Example 3.10). Example 3.10 displays the "stable" variety of this motive, which always begins with a series of repeated pitches in the melody. This is contrasted throughout the movement with a "variable" version of the same motive (Example 3.11) that features large melodic leaps. It is this alternation between stable and variable iterations of the



*Example 3.10*: Movement Three, stable motive    *Example 3.11*: Movement Three, variable motive

same thematic material that gives rise to a potential internal grouping structure—an Internal Musical Stratum.

Figure 3.14 shows a more detailed version of the form of the A section of movement three; there are six pairs of the stable and variable variants of the melody (labeled S and V) and each corresponds to an individual IPS that uses the IPS number with a subscript that identifies if it is of the stable or variable motive. Of the twelve total IPSs in A, six are steady-state and six are directional. There is a large range of lengths between each IPS, the smallest examples being eight measures (IPSs $2.1_V$, $2.2_S$, $2.2_V$, $2.4_S$, $2.4_V$, $2.5_V$, $2.6_S$ and $2.6_V$) and the longest reaching up to twenty-four measures (IPSs $2.3_V$, and $2.5_S$). Notably, all of the directional IPSs in A except IPS $2.6_V$ feature an increase in parametric status, while $2.6_V$, which leads into the severely calmer B section, sees a significant decrease; the dynamics become softer, the texture thins, and the tempo slows down, like the quiet rain that signals the end of a deafening downpour.

**Movement Three: A**

| IPS | $2.1_S$ | $2.1_V$ | $2.2_S$ | $2.2_V$ | $2.3_S$ | $2.3_V$ | $2.4_S$ | $2.4_V$ | $2.5_S$ | $2.5_V$ | $2.6_S$ | $2.6_V$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| IPS Type | Dir. | Dir. | S.S. | S.S. | S.S | Dir. | Dir. | S.S. | Dir. | S.S. | S.S. | Dir. |
| mm. | 4-19 | 20-7 | 28-35 | 36-43 | 44-59 | 60-83 | 84-91 | 92-9 | 100-23 | 124-31 | 132-9 | 140-7 |

Dir.=Directional
S.S.=Steady-State

*Figure 3.14*: Movement three, IPS group 2

The B section contrasts the surrounding As in a number of ways: it is much shorter—lasting only twelve measures, it is much slower—marked *memo mosso*, and at first glance the thematic material is unrelated to the surrounding sections. Upon further inspection however, B or IPS group 3 is more connected than it seems. The first eight measures make up IPS 3.1 (Example 3.12) which is a re-orchestrated version of the main motive that has had an unrelenting hold on

the melody of the movement so far. To bring much-needed auditory relief, IPS 3.2 enters at m. 156 with a melody new to this movement but not to *Memo Flora*. IPS 3.2 in movement three is an almost exact repetition of IPS 4.3 from movement one (compared in Example 3.13). Of the two differences between these units one of them can be found rather overtly in the last measure which is shortened and slightly reworked to lead into A' in movement three. The other, less obvious difference lies in an interesting metrical choice. In movement one there is no marked time signature, but the preceding measures are in 4/4 and the at this point the quarter note still holds the beat making 7/4 the obvious choice (the first measure of IPS 4.3 contains five eighth-note triplets and four eighth notes beamed in groups of two). In movement three however, there is a clearly marked time signature of 7/4 at the onset of IPS 3.2, but the rhythms are written twice as fast, which, while this does make sense with the surrounding music, does not quite fit the notated time signature. One can easily assume this was a simple editing error and the correct time signature for IPS 3.2 is actually 7/8, which aligns with all the other meters in movement



*Example 3.12:* Movement Three, IPS 3.1

52

three. Despite the quirks of this phrase, the connection is still significant, connecting the

movements on a motivic level—filling out the lore for the musical world of *Memo Flora*.



*Example 3.13:* Comparison of IPS 3.3 in Movement Three to IPS 4.3 in Movement One

The calm of the B section does not last long, as the proportionally shorter A', or IPS

group 4, has little time to build the energy to a level fitting of a finale movement. IPS $4.1_S$ begins

with the piano dynamic of the B section and reintroduces the main motive while steadily

increasing the dynamic level back to forte—making IPS $4.1_S$ directional. $4.1_V$ is similarly

directional, accompanying the dynamic growth with an increase in textural density. The final two

IPSs of movement three, IPS $4.2_S$ and $4.2_V$ are also both directional, reaching a peak dynamic

level of fortissimo at measure 216. Similar to the final two measures of movement one, are the

last four measures of movement three which do not themselves constitute an IPS and can be

labeled IPS 4.2a. Movement three's formal ambiguity, which is due in large part to the mono-

motivic nature of the A sections, is made clear through an IPS analysis. The separation and identification of these groups is necessary for an accurate and efficient comparison of the musical material within and between the movements, highlighting connections that would otherwise go unnoticed.

Both the Musical Substrate and Internal Musical Stratum, focus primarily on the formal organization of *Memo Flora*—dealing with musical events that to some extent lie beyond the perception of the listener. The detailed formal analysis of these two musical layers provide an important context for a third layer, the External Musical Stratum, which deals with musical events that are easily perceived immediately upon listening. This definition of the External Stratum is broad and can encompass a wide range of musical features from rhythm to instrumentation, but the focus of the next two chapters is the distinctive harmonic style of *Memo Flora*. Yoshimatsu populates the world of *Memo Flora* with lush, extended tertian harmonies that flow into one another rather than rigidly conforming to a tonic-subdominant-dominant-tonic formula. Consequently, a traditional Roman numeral analysis would result in a misrepresentation of the work. My analysis instead uses a combination of *Tonnetze* and Neo-Riemannian transformations, which are outlined in the following chapter, to analyze the harmonic elements of the External Musical Stratum.

CHAPTER FOUR

**Tonnetze and Transformations**

Integral to my analysis of the External Stratum of *Memo Flora* is the use of two different *Tonnetz* networks—a note-based *Tonnetz* that forms right triangles, and a chord-based *Tonnetz* that forms squares—as well as an expansion of traditional Neo-Riemannian transformations. The first of the two *Tonnetze* comes from Stephanie E. Leotsakos and is different than the traditional *Tonnetz* in a number of ways.[60] While the prototypical *Tonnetz* is formed by mapping tones onto the nodes of equilateral triangles, Leotsakos' network is mapped onto right-triangles and is formed by placing major thirds horizontally, minor thirds vertically, and perfect fifths diagonally.[61] This unique organization results in many interesting characteristics which are all outlined by Leotsakos; however, some standout features which are relevant to my use of this *Tonnetz* are worth mentioning: straightforward visualization of major and minor triads, and the formation of unique shapes for all seventh chord types.

To form a full network using right-triangles, pairs of equivalent-hypotenuse triangles are stacked on top of each other. This results in a rectangle that contains two, same-root triads—such as C minor and C major—always with the minor triad on the bottom and corresponding major triad on top (Figure 4.1). Another result of this organization is the formation of unique shapes for each variety of seventh chord (Figure 4.2). In each variation, the root is located in the top left corner, and makes instantly clear the fact that all seventh chord variants—except the fully diminished, which forms a straight line with no triangles—contains either a minor or major triad.

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[60] Stephanie E. Leotsakos, "A Tonnetz in Practice." Rutgers University (2020).
[61] This diagram is intended to be read left to right and top to bottom. This way of reading is what results in the intervals as described above.

This visualization of seventh chords also illuminates the similarities of what I see as two categories of seventh chords: one that contains dominant, minor/major, and half-diminished seventh chords (chords that contain one right angle) and another that contains minor and major seventh chords. The chords in this second category are unique in that they contain two perfect fifths which are both represented by right angles—one between the root and fifth, and the other between the third and seventh. While this network is extremely useful as both a pedagogical visual aide and as an analytical tool, one aspect of Neo-Riemannian theory that is left unexplored by Leotsakos is the ability to map Neo-Riemannian transformations onto this *Tonnetz*.
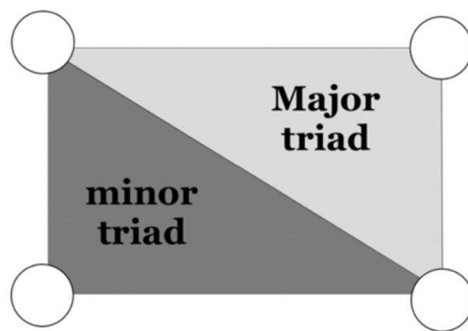


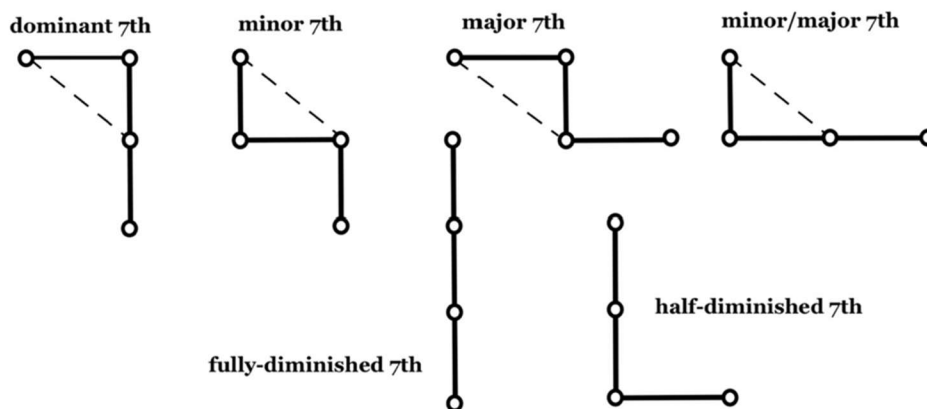*Figure 4.1*: Formation of the right-triangle *Tonnetz*



*Figure 4.2:* Visualization of seventh chords on the right-triangle *Tonnetz*

One possible reason for the absence of transformation in Leotsakos' thesis is the general inability for the existing transformations to deal with anything beyond the triad.[62] In recent years, however, a small number of studies have sought to expand transformations beyond the realm of triadic harmony. Scholars such as Jack Douthett, Peter Steinbach, Adrian P. Childs, and Graham Hunt have produced studies of particular importance to this topic.[63] Additionally, an unpublished study on extended Neo-Riemannian transformations by Graham Hunt and Scott Baker provide a basis for a new set of transformations of my own creation that deal exclusively with seventh chords. Table 4.1a comes directly from this unpublished study and while much of the information is not relevant to the topic at hand, I find their method of describing transformations to be clear and consistent and will be adopting their naming conventions for my new group of transformations.[64] Operations are named using uppercase and lowercase letters which distinguish between transformations that occur within the "bottom" or "top" triad of a seventh chord—uppercase for the bottom (CEG of a Cmaj7) and lowercase for the top (EGB of a Cmaj7) (Figure 4.3). The column titled P(x, x) describes as an ordered pair, the level of parsimony between two chords related by transformation. The left side shows how many notes are moved by semitone, while the right shows the number of notes that move a whole tone; for example, a P transformation, which has a P(x, x) of (1,0) moves one note from a triad by one semitone (CM to

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[62] The most common transformations, R, L, and P all deal exclusively with triads.
[63] See respectively: Douthett, Jack, and Peter Steinbach. "Parsimonious Graphs: A Study in Parsimony, Contextual Transformations, and Modes of Limited Transposition." *Journal of Music Theory* 42, no. 2 (1998): 241–63. https://doi.org/10.2307/843877. Childs, Adrian P. "Moving beyond Neo-Riemannian Triads: Exploring a Transformational Model for Seventh Chords." *Journal of Music Theory* 42, no. 2 (1998): 181–93. https://doi.org/10.2307/843872. Hunt, Graham G. "When Chromaticism and Diatonicism Collide: A Fusion of Neo-Riemannian and Tonal Anlalysis Applied to Wagner's Motives." *Journal of Schankerian Studies* 2 (2007): 1-32.

[64] Many of the names from the unpublished study by Hunt and Baker were not finalized, completing their list and streamlining the naming process and notational conventions, while likely interesting and potentially useful is a task best left for another time.

Cm). Table 4.1b displays my four additional transformations in the same fashion. Two of these

four transformations, r and ÜG, are used to form the second of the two aforementioned *Tonnetze.*



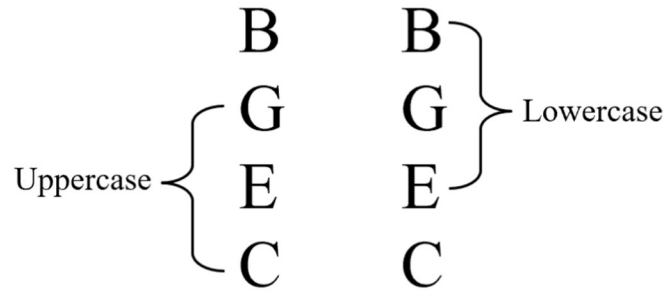*Figure 4.3*: Naming scheme for transformations

| number | Name | P (x,x) | Formula | C ex | motion | | Other/pr( | Connex |
|--------|------|---------|---------|------|--------|------|-----------|--------|
| 1 | P | 1,0 | XM-Xm | C - c | CEG | CEÔG | | |
| 2 | H | 1,0 | XM-(X+0,4,8)+ | C - C+ | CEG | CEGÒ | | |
| 3 | G | 1,0 | XM-(X+1)ø | C - cÒø | CEG | CÒEG | | |
| 4 | L | 1,0 | XM-(X+4)m | C-e | CEG | BEG | | |
| 5 | g | 1,0 | Xm-Xmø | c-cø | CEÔG | CEÔGÔ | | |
| 6 | h | 1,0 | Xm-(X+3,7,11)+ | c-B+ | CEÔG | BEÔG | | |
| | | | | | | | | |
| 1 | [HL] | 2,0 | XM-(X+4)M | C-E | CEG | BEGÒ | PL | 6 |
| 2 | [HG] | 2,0 | XM-(X+1)m | C-cÒ | CEG | CÒEGÒ | Slide | |
| 3 | h(H) | 2,0 | XM-(X+5)m | C-f | CEG | CFAÔ | N, Hh | |
| 4 | g(P) | 2,0 | XM-Xø | C-cø | CEG | CEÔGÔ | | 7 |
| 5 | [PL] | 2,0 | XM-(X+3,7l,11)+ | C-B± | CEG | BEÔG | | 8 |
| 6 | [Ph] | 2,0 | Xm-(X+4)m | c-e | CEÔG | BEG | PL | 1 |
| 7 | G(P) | 2,0 | Xm-(X+1)mø | c-cÒø | CEÔG | CÒEG | | 4 |
| 8 | [PL] | 2,0 | Xm-(X+0,4,8)± | c-C± | CEÔG | CEGÒ | | 5 |
| 9 | [Gg] | 2,0 | Xø-(X+3,7,11)+ | cø-B± | CEÔGÔ | BEÔGÔ | | |
| | | | | | | | | |
| 1 | R | 0,1 | XM-(X+9)m | C-a | CEG | CEA | | |
| 2 | Ü | 0,1 | XM-(X+4)ø | C-eø | CEG | BÔEG | | |
| 3 | ü | 0,1 | Xm-(X+9)ø | c-aø | CEÔG | CEÔA | | |
| | | | | | | | | |
| 1 | g1 | 1,0 | XM7-Xdom7 | CM‡-C‡ | CEGB | CEGBÔ | H1 | 1 |

*Table 4.1a*: Hunt and Baker's extended Neo-Riemannian transformations

58

| Name | P(x,x) | Formula | C ex | Motion | |
|------|--------|---------|------|--------|--|
| r | 0,1 | XM7-(X+9)m7 | Cmaj7-Am7 | CEGB | CEGA |
| ÜG | 0,1 | XM7-(X+4)m7 | Cmaj7-Em7 | CEGB | DEGB |
| Gr | 1,1 | XM7-(X+9)dom7 | Cmaj7-A7 | CEGB | C#EGA |
| Lr | 1,1 | Xm7-(X+8)mMaj7 | Cm7-Abm/maj7 | CEbGBb | CbEbGAb |

*Table 4.1b*: Four new transformations

An r transformation is similar in nature to the transitional Neo-Riemannian R

transformation, in that it moves any major chord to its relative minor counterpart or vice versa.

However, instead of moving the fifth of a triad up a whole-step, we move the seventh (of a major

seventh chord) down a whole-step, resulting in a minor seventh chord. Both R and r move

between chords that are $P_{0,1}$ related, and both transformations result in chords with a root nine

semitones away from the starting point. ÜG is a compound transformation that is based on two

relations developed by Scott Baker and presented in Hunt's 2007 article. Both Ü and G relate

back to L; Ü (*Überleittonwechsel*) holds the minor third and moves the remaining note by a

whole-step, while G (*Gegenleittonwechsel*) holds the minor third and moves the remaining note

up a semitone (the opposite direction of a traditional L relation).[65] When combined and applied

to seventh chords, ÜG moves between chords that are $P_{0,1}$ related, and brings a major seventh

chord to a minor seventh chord with a root four semitones away. Because both r and ÜG deal

exclusively with major and minor seventh chords, the two transformations share a few unique

properties (Figure 4.4). An r transformation is equivalent to a reverse ÜG (signified by placing

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[65] Hunt "When Chromaticism and Diatonicism Collide," 3.

parentheses around the name), therefore ÜG equals reverse r. (CEGB—r—ACEG, ACEG—ÜG—CEGB).

$$r = (ÜG) \qquad (r) = ÜG$$

$$ÜG = (r) \qquad (ÜG) = r$$

*Figure 4.4*: Properties of r and ÜG transformations

The similar nature of the two operations allows them to be placed together on a two-dimensional, repeating *Tonnetz.* First an r transformation is written out from left to right with a node for each chord (Figure 4.5a), from there, a ÜG transformation can be extended downwards creating the full m7/M7 network (Figure 4.5b). Moving from left to right and bottom to top



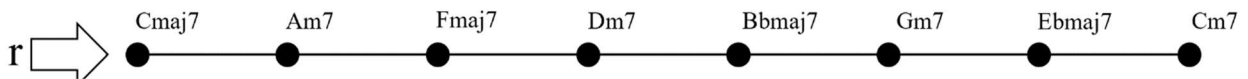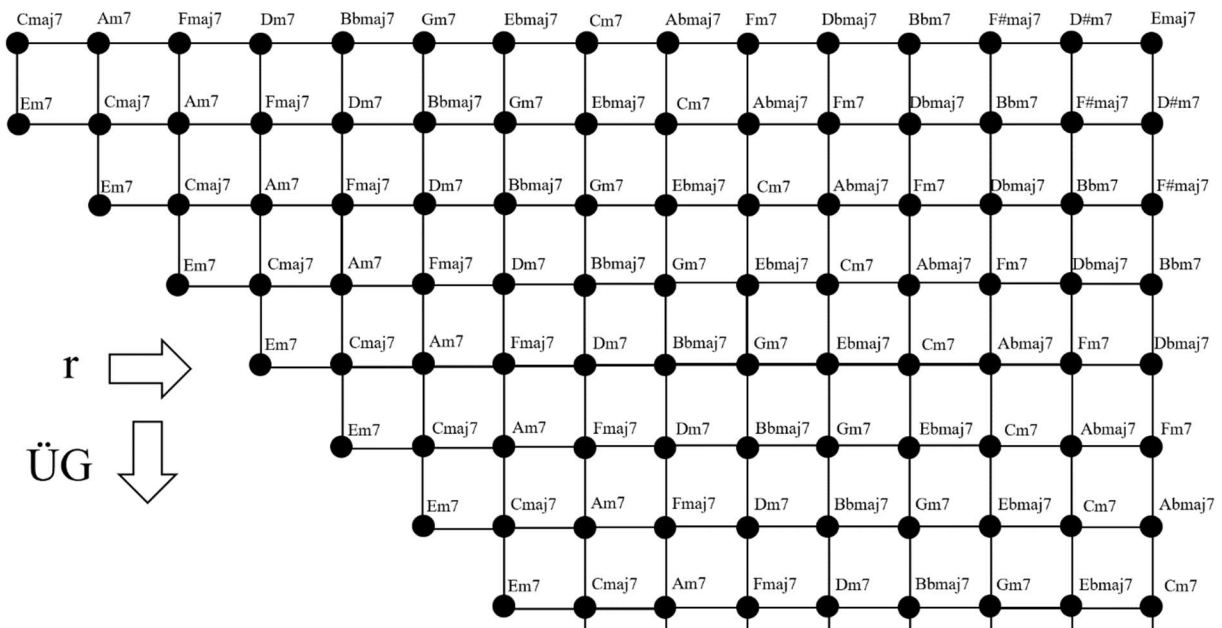*Figure 4.5a*: Linear group of r operations



*Figure 4.5b*: Network of r and ÜG operations

results in r transformations, while moving right to left and top to bottom results in ÜG

transformations. When moving left to right, if you begin with a major seventh chord, the same-

root minor seventh chord is seven r transformations away. If you begin with a minor seventh

chord, seven r transformations bring you to a major seventh chord with a root one half-step lower

than your starting chord. Chords repeat when moving diagonally down from left to right, and the

circle-of-fourth's sequence is created by diagonal motion up from left to right.

To this two-dimensional network, three-dimensional offshoots can be added to reach

more chord qualities and quickly travel to other areas on the network. The first of these offshoots

uses alternating P and g1 transformations to reach a quasi-network of dominant seventh chords

(Figure 4.5c). A P transformation changes the major third of a triad into a minor third (CEG to
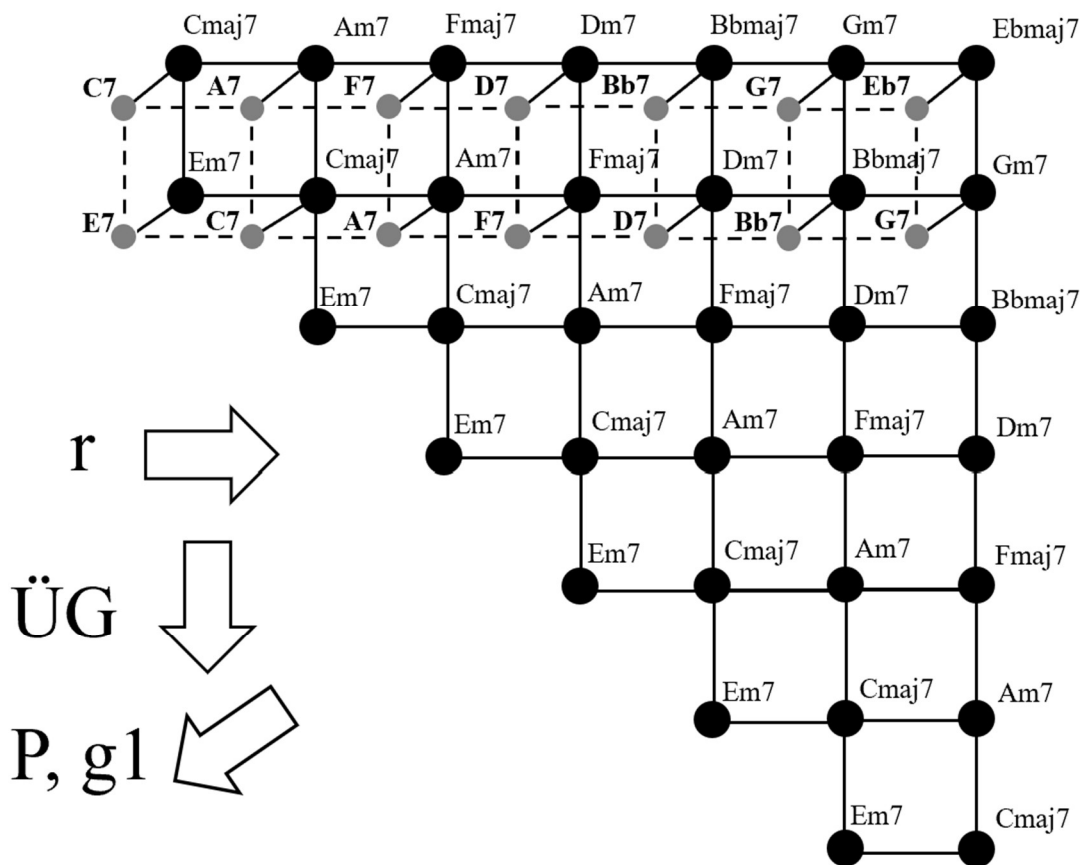


*Figure 4.5c*: Seventh chord *Tonnetz* with dominant seventh chord offshoots

CEbG) while g1 lowers the major third between the fifth and seventh of a major seventh chord to a minor third. In the context of the seventh chord network in Figure 4.6, both transformations result in dominant seventh chords. The dominant seventh network that lies adjacent to the central, m7/M7 network is not within itself parsimonious, therefore the connections are represented by dotted lines to signify the larger distance between the chords. The second offshoot reverses the polarity of each chord in the central network via an s-transformation (Figure 4.5d). While chords in this second offshoot network can all be reached eventually in the central network, the s-transformation remains parsimonious and is therefore more efficient. Similar to the dominant seventh network, the minor and major seventh chords in this offshoot network are not parsimonious and are connected with dotted lines.[66] The s-transformation is visualized with a curved line to distinguish it from the P and g1 that moves to the dominant seventh network.

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[66] All solid lines represent parsimonious connections, and dotted lines represent more distant, non-parsimonious relationships. Note the solid lines connecting the two outer networks signify the close relation between each group of same-root chords.
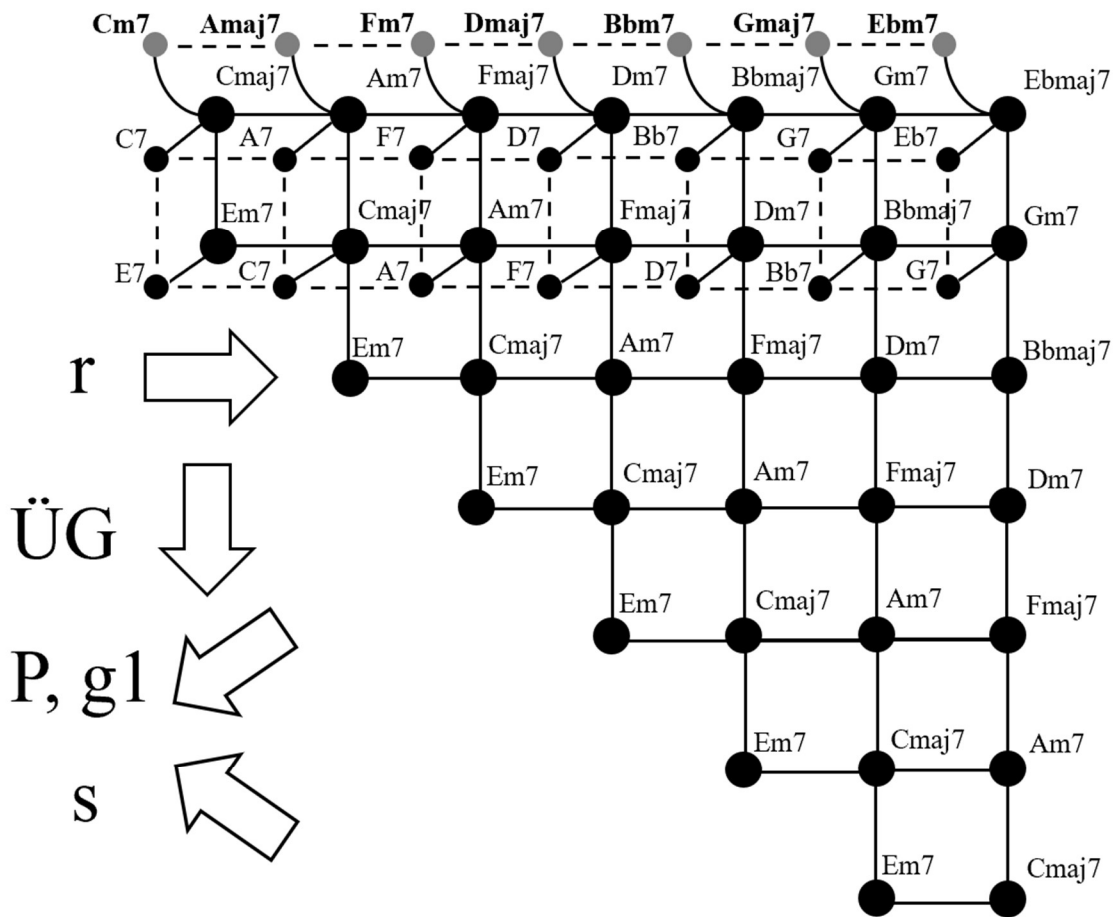
*Figure 4.5d*: Seventh chord *Tonnetz* with all offshoots

While this *Tonnetz* is interesting as an abstract theoretical model, it also has direct implications to the topic at hand and can be used to describe important musical moments in *Memo Flora.* One representative example of such a moment is the primary theme of movement one. While this moment is also discussed in chapter five, Figure 4.6 isolates the harmonic progression at this point in the music and maps it onto the seventh chord *Tonnetz.* This reveals a progression that is centralized along the r line and only makes one sidestep to the dominant seventh network (for the C7 chord). The initial Bbmaj7 moves via r to Gm7 by moving the A from the Bbmaj7 down a semitone to G, the new root. The path from Gm7 to C7 is longer, requiring three operations—r, r, P—to move between the two chords. C7 moves via a P$_{ÜG}$ operation to Ebmaj7, which moves via r to Cm7. Finally, the Cm7 travels back through three consecutive ÜG operations to get to the terminal Bbmaj7 chord.[67] Further application of the r and ÜG transformations and their resulting *Tonnetz* will be included in the chapter covering the External Musical Stratum.



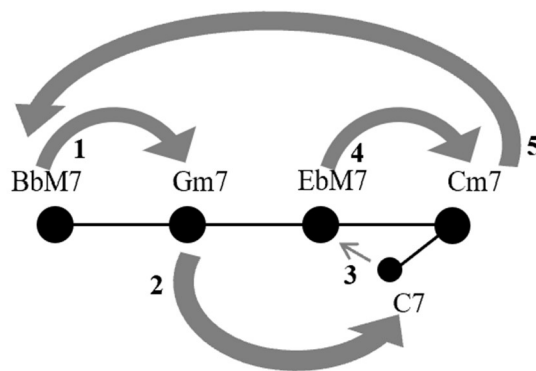*Figure 4.6*: Primary theme of movement one displayed on the seventh chord *Tonnetz*

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[67] While this progression doesn't use the s operation shown in fig. 4.6d, it is still a valid theoretical possibility, warranting its inclusion in the diagram.

CHAPTER FIVE

**External Musical Stratum**

The External Musical Stratum is the uppermost musical layer of a given work; a layer that is easily perceived in the music and is analytically represented by a more detailed harmonic analysis than was present in either the Internal Stratum or the Substrate. For this reason, this chapter will not cover each movement in its entirety, but instead zoom in and look at a few salient moments from each movement. Moments with increased structural emphasis like the EEC, MC, developmental cores, and other points of arrival will be the primary focus of the External Musical Stratum.[68] These important musical events will be mapped onto various *Tonnetze* to display Yoshimatsu's unique approach to harmonic progressions and their resolutions. Unlike the previous chapters that cover the Substrate and Internal Musical Stratum, this chapter will be divided into two sections: one that focuses on harmonic motion within thematic zones, and another that focuses on structural moments of arrival.

**Thematic Zones**

The exploration of the External Musical Stratum begins with an example taken from chapter four which introduced two unique *Tonnetze* and a set of new Neo-Riemannian inspired transformations. Figure 5.1 uses what I call the seventh chord *Tonnetz* to display the harmonic progression of the primary theme of movement one. The section begins at m. 24 on a Bb major seventh chord (hereafter BbM7) and first moves via an r-transformation that takes A, the seventh of our initial chord, and moves it down a whole step to G—which becomes the new root of a G

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[68] James Hepokoski and Warren Darcy, *Elements of Sonata Theory: Norms, Types, and Deformations in the Late-Eighteenth-century Sonata* (New York: Oxford university Press, 2006). William Caplin, *Classical Form: A Theory of Formal Functions for the Instrumental Music of Haydn, Mozart, and Beethoven,* (New York: Oxford University Press, 1998).
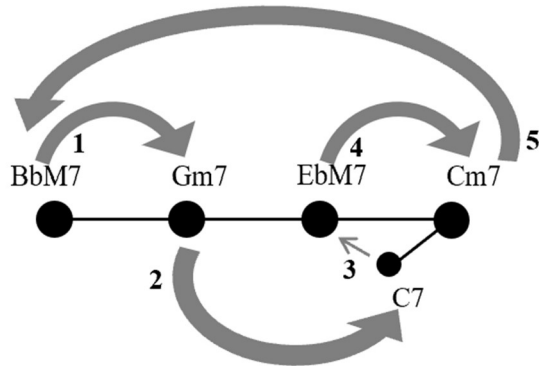
*Figure 5.1*: Movement one, primary theme-seventh chord *Tonnetz*

minor seventh chord (Gm7). Next, at m. 26, we move from Gm7 to the next chord, C7, which requires two notes of the Gm7 chord—D and F—to both be moved down a whole-step. This motion spans three transformations—r, r, and P—but is visualized by simply adding in a diagonal line, what I call on offshoot, to the central network. In m. 27 the C7 moves via a compound P$_{\text{ÜG}}$ operation, which changes the quality of the triad from major to minor and then moves the root (C) up a whole-step to the seventh of our new EbM7 chord. From here we begin working our way back through the harmonic path. An r-transformation is applied in m.29 to the EbM7 moving the seventh from D to C, which results in a Cm7. The final operation within the primary theme requires the Cm7 go through three consecutive ÜG transformations to eventually reach the BbM7 in m. 32, a point of arrival within the External Stratum that marks the beginning of the TR in the Musical Substrate. While the seventh chord *Tonnetz* is useful for concisely mapping out a progression onto one small grid, many details, like the specific notes that move or remain between chords, are made apparent when this section is viewed through the lens of the right-triangle *Tonnetz*.[69] Figure 5.2 shows the harmonic progression of the primary theme

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[69] Stephanie E. Leotsakos, "A Tonnetz in Practice," (MA thesis, Rutgers University, 2020).

grouped together onto one condensed *Tonnetz*. This relatively conservative harmonic space is then separated out to show each individual chord in relation to the larger structure. By visualizing the progression in this way, it is easier to see the specific voice-leading pathways between each chord. And more specifically shows P's reliance on Bb, which not only begins and ends the section, but is present in every chord throughout it.
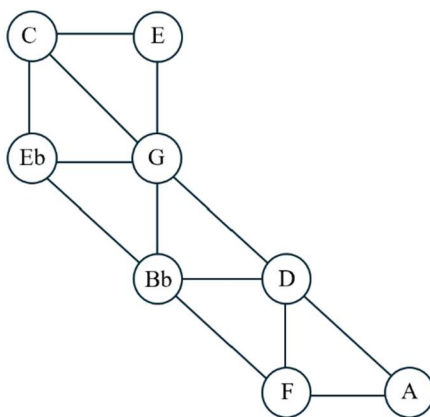


*Figure 5.2*: Movement one primary theme, right-triangle *Tonnetz*

As the music moves away from the relatively tame primary theme, the harmony begins to change faster and more drastically. Heightened energy reaches a climax during the core of the movement's development. As one might expect, the increased harmonic activity in the development takes the form of large sequences that occur on multiple levels. This increased complexity is also reflected in the *Tonnetz* by a larger and more complex structure (Figure 5.3). In movement one, the core is subdivided into three parts each of which contain their own large sequence. The first of these, displayed in Figure 5.3, begins with an Fm7 chord which is shifted down a half-step to an E minor7 chord. Note that since the quality of the chords remains consistent, so does the shape in the graphic representation. This minor seventh chord is then shifted up a minor third to G minor7, completing the sequences pattern of down a half-step, up a minor third. This pattern continues with G minor moving a half-step to F#minor, and then down

67

a minor third to A minor. It is at this point where the sequence proper ends—the A minor does move down a half-step to Ab, but the chord quality has been altered, and is now a major $7^{th}$ chord. Core part one ends by continuing the half-step descent all the from Ab to E, which restarts the sequence and begins core part two. The same pattern begins to unfold in part two as the E moves the Eb, then to F# and F, following the same sequence as its counterpart in core part one (Figure 5.4). By comparing the graphic representations of core part one and two (Figure 5.5), a larger sequence becomes clear—the two representations are congruent, and the entire structure is moved down a half-step. Core part two continues, but instead of changing chord quality it retains the minor7th quality until the half-step descent that ends both sections. Core part three continues the sequence pattern but builds the energy further by doubling the harmonic rhythm and increasing the textural density of the accompaniment.
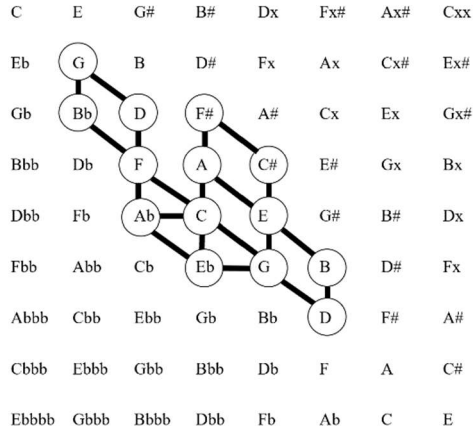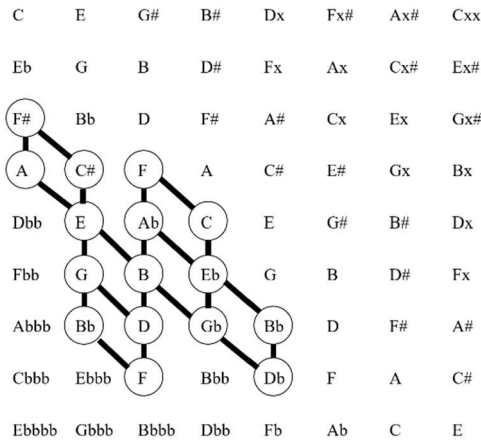
C E G# B# Dx Fx# Ax# Cxx
Eb G B D# Fx Ax Cx# Ex#
Gb Bb D F# A# Cx Ex Gx#
Bbb Db F A C# E# Gx Bx
Dbb Fb Ab C E G# B# Dx
Fbb Abb Cb Eb G B D# Fx
Abbb Cbb Ebb Gb Bb D F# A#
Cbbb Ebbb Gbb Bbb Db F A C#
Ebbbb Gbbb Bbbb Dbb Fb Ab C E

*Figure 5.3*: Movement one, core part one

C E G# B# Dx Fx# Ax# Cxx
Eb G B D# Fx Ax Cx# Ex#
F# Bb D F# A# Cx Ex Gx#
A C# F A C# E# Gx Bx
Dbb E Ab C E G# B# Dx
Fbb G B Eb G B D# Fx
Abbb Bb D Gb Bb D F# A#
Cbbb Ebbb F Bbb Db F A C#
Ebbbb Gbbb Bbbb Dbb Fb Ab C E

*Figure 5.4*: Movement one, core part two

C E G# B# Dx Fx# Ax# Cxx      C E G# B# Dx Fx# Ax# Cxx
Eb G B D# Fx Ax Cx# Ex#      Eb G B D# Fx Ax Cx# Ex#
Gb Bb D F# A# Cx Ex Gx#      F# Bb D F# A# Cx Ex Gx#
Bbb Db F A C# E# Gx Bx      A C# F A C# E# Gx Bx
Dbb Fb Ab C E G# B# Dx      Dbb E Ab C E G# B# Dx
Fbb Abb Cb Eb G B D# Fx      Fbb G B Eb G B D# Fx
Abbb Cbb Ebb Gb Bb D F# A#      Abbb Bb D Gb Bb D F# A#
Cbbb Ebbb Gbb Bbb Db F A C#      Cbbb Ebbb F Bbb Db F A C#
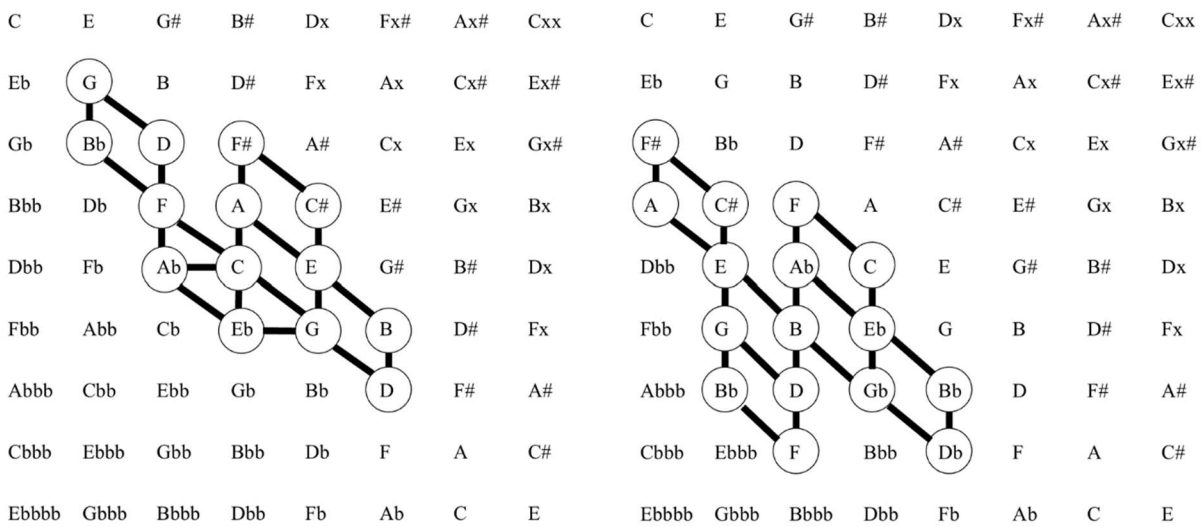Ebbbb Gbbb Bbbb Dbb Fb Ab C E      Ebbbb Gbbb Bbbb Dbb Fb Ab C E

*Figure 5.5*: Large-scale sequence of the development in movement one

Within the second movement of *Memo Flora*, the transition, which occurs clearly in both the exposition and the recapitulation, is a prime candidate for analysis via both the right-triangle and seventh chord *Tonnetze*. Both occurrences of the TR are the same length and have identical proportions. The primary difference, therefore, is their divergent harmonic goals; the expositional TR moves toward F# major, while the recapitulatory TR drives to Db major. Mapping both sections onto the seventh chord *Tonnetz* (Figure 5.6) reveals another difference—the recapitulation eliminates all chord qualities other than major seventh chords, while the TR in the exposition contains major, minor, and dominant seventh chords. While Gb does not appear in the recapitulatory TR, it does occur in the replacement secondary theme that occurs immediately after and is featured prominently throughout the rest of the movement. This emphasis on Gb later in the movement elevates the brief visit to F# in the expositional TR and S, which can now be retrospectively reinterpreted as Gb. The exposition hints at the eventual arrival on Db, which is approached in an almost plagal manner from IV to I. A closer look at the last four measures of each transition using the right-triangle *Tonnetz* shows the transposition of the original TR's resolution, that moved AbM7 to F#(Gb)M7, up a perfect fifth to EbM7 and DbM7. Both resolutions have a root motion of down a whole-step, which arises as an important relationship in many of *Memo Flora*'s prominent moments of arrival. Before discussing these salient points of
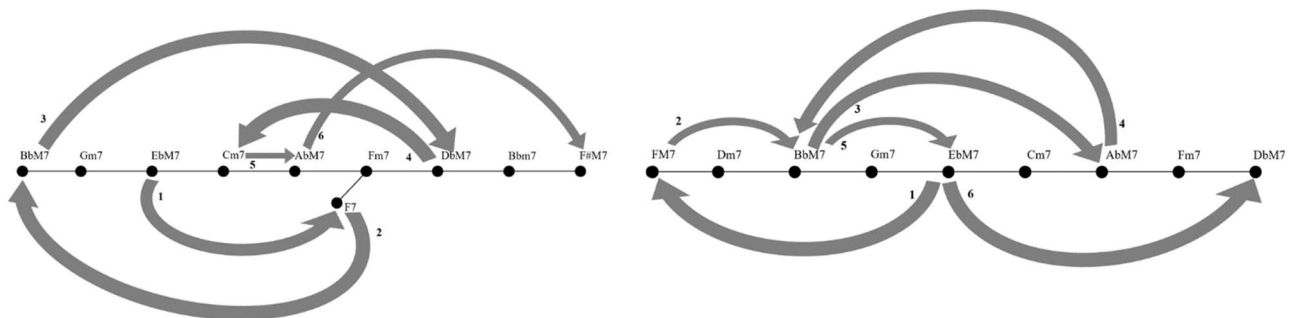


*Figure 5.6*: Comparison of the expositional TR (left) and the recapitulatory TR (right)

arrival, one more example taken from the third movement will further emphasize Yoshimatsu's consistent use of various seventh chord types.

Taken from IPS 2.2$_\text{S}$ in movement three, Figure 5.7 maps its harmonic progression onto the seventh chord *Tonnetz*. The section begins with AbM7 which moves quite a distance to Bb7—the only dominant seventh offshoot in this progression. Bb7 moves via P$_\text{r}$ to Gm7, which moves through two r-transformations to get to Cm7, which again moves in the same fashion to Fm7. From here we jump back to the Bb dominant chord, as if restarting the progression. This time, however, Bb skips over Gm7 and moves directly to EbM7, which moves via ÜG to the skipped over Gm7 to end the phrase. Although there are many other related progressions throughout movement three, this phrase contains the largest variety of chord qualities and fits more cleanly into the two *Tonnetze*. While the seventh chord *Tonnetz* showed that not every move from one chord to the next is parsimonious, the re-mapping of the same section onto the right-triangle *Tonnetz* (Figure 5.8) shows that despite the greater distance between certain chords, this phrase occupies a relatively limited harmonic space.[70] In movement three, besides areas such as IPS 2.2$_\text{S}$ that move between many chords in a relatively small amount of time, many of the large sections simply alternate between two chords. Of the sixteen IPSs that occupy the A sections of movement three, exactly half feature this alternating chordal pattern. Of the eight IPSs that have this pattern, all but one alternate between Eb and Bb chords.[71] The harmonic outlier is IPS 2.2$_\text{V}$, which alternates between Ab and Eb. Both varieties, when placed on a right-triangle *Tonnetz*, have the same structure—two major seventh chords related by transposition

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[70] Douthett, Jack, and Peter Steinbach. "Parsimonious Graphs: A Study in Parsimony, Contextual Transformations, and Modes of Limited Transposition." *Journal of Music Theory* 42, no. 2 (1998): 241–63.

[71] Two of these Eb and Bb variants, IPS 2.5$_\text{S}$ and 2.6$_\text{V}$, flip the order, and begin their progression with Bb.

down a fourth. This relationship is abundant in the third movement and also appears at critical points of arrival throughout all three movements of *Memo Flora*.
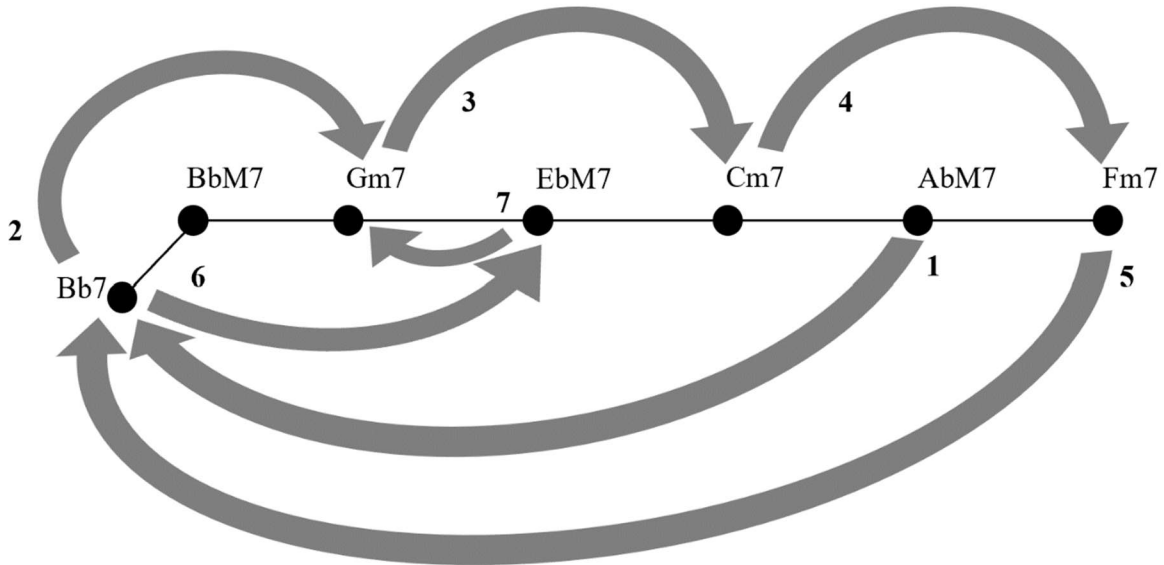


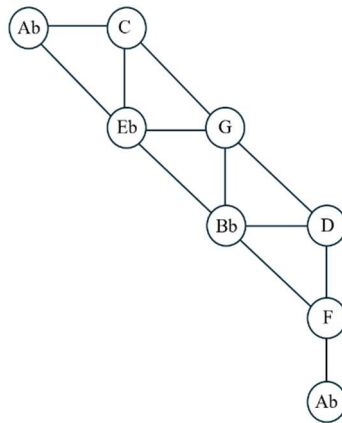*Figure 5.7*: Harmonic Progression of IPS 2.2ₛ



*Figure 5.8*: IPS 2.2ₛ on a right triangle *Tonnetz*

**Points of Arrival**

    *Memo Flora,* while not relying on functional harmony in the way a work by Mozart or Haydn would, still displays a level of harmonic consistency that is especially prevalent at points of arrival throughout each movement. The trends that arise through these moments of formal

closure can be represented on a right-triangle *Tonnetz*, allowing for the easy comparison of these moments within and between the three movements. Throughout *Memo Flora*, two primary harmonic devices are used: one resolves from a chord a fourth above, in a plagal motion, while the other resolves from a chord a whole step above, as if moving from ii to I.

The first example of one of these resolutions comes from movement one at the end of the primary theme in mm 31-32. While this moment does not bring with it any large-scale closure like an EEC, it marks the end of P and the beginning of TR with a Cm9 moving to BbM13. This motion is echoed over seventy measures later at the EEC in mm. 105-106, when the end of TM[3] moves from C minor to Bb major marking the end of expositional space. Again, this motion is mimicked at the ESC. Here however, the C minor harmony leading up to the moment of arrival is doubled in length, lasting four measures instead of just two. A fourth iteration of this effect appears leading into m. 50 in movement two (Figure 5.9). An F13 is inserted in between the C minor and Bb major chords, creating a functional ii-V-I—this is the closest *Memo Flora* gets to a traditional cadential formula. Another salient moment from the second movement connects to another movement, this time to movement three. The plagal relationship that is featured in movement three appears in transposed form throughout the recapitulation of movement two. Figure 5.10 compares the harmonic scheme from movement three with movement two's recapitulation. In movement two the primary difference, other than the transposition, is how this harmonic motive functions within the movement. In movement two, it is used to bring a sense of calm closure, and while it does eventually bring closure in movement three, it primarily serves to keep the energy moving, never wanting to settle on one chord for too long. This same motion appears in movement three, though it is less emphasized, existing only briefly after the ESC has already occurred. These two varieties of harmonic closure replace the traditional tonal goals,

causing *Memo Flora* to reach points of arrival not through a dominant to tonic resolution, but through plagal relationship, which gives more of a sense of harmonic settling instead of traditional harmonic resolution. By relying on these harmonic figures in all three movements, Yoshimatsu begins establishing own set of harmonic and formal rules that govern his vast compositional realms.
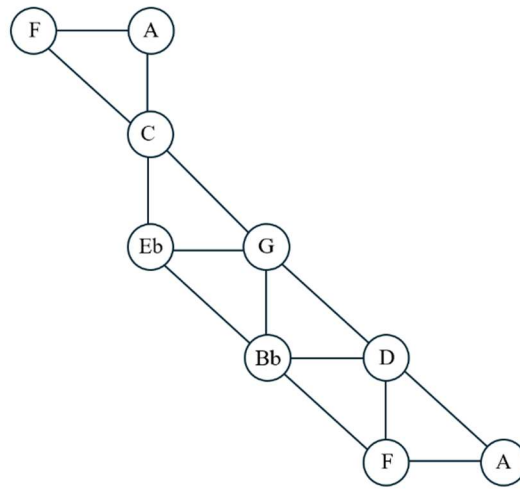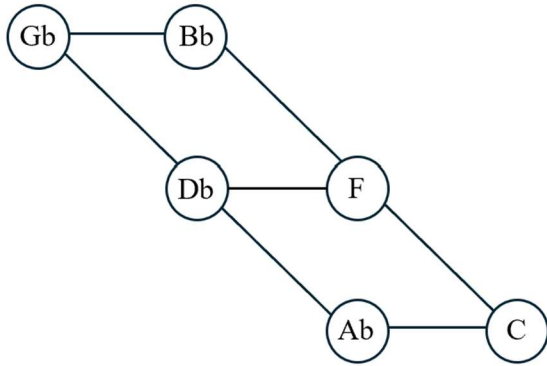


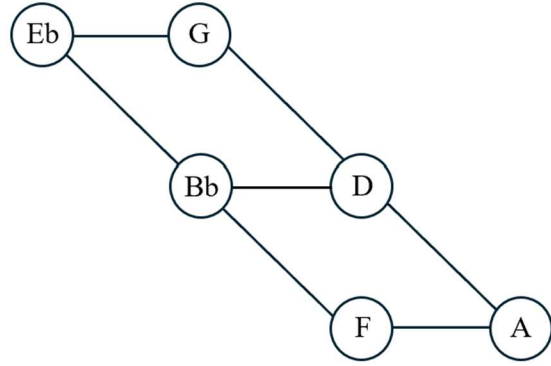*Figure 5.9*: Cadential motion at the ESC in movement one

*Figure 5.10*: Harmonic closure in movements two and three

CHAPTER SIX

**Conclusion**

These representative examples provide a closer look at the nuances of *Memo Flora*'s

harmonic style. While the work does not fully adhere to any pre-existing compositional norms, it

is logically coherent: and creates a world within itself. Through *Memo Flora,* Yoshimatsu

establishes his own set of rules and norms, set up listeners' expectations, and then be creatively

subverts them as the music unfolds. Additionally, this careful and creative compositional style,

which features a consistent harmonic palette, and clear formal boundaries, opens the door to

many analytical possibilities. In my analysis of *Memo Flora,* these features enable a musical and

analytical division which results in what I call Musical Strata. This stratified view, in a way, pulls

the music apart, morphing what once was a singular work into multiple constituent parts. In

doing so, the analyst is able to make deeper connections within and between different musical (or

potentially non-musical) works and the strata that exist within them. These musical layers are

malleable and can conform easily to a certain work's specific parameters. It is important to

understand that the size, number, and method of division of the strata are all variable and

therefore must be determined according to the work, and the analyst's interpretation of it.

Additionally, the analytic strata will inevitably interact and overlap, forming an analytical

whole—a comprehensive musical analysis—just as the various musical elements interact and

combine to form a work. My choice to separate *Memo Flora* into three Musical Strata is unique

to this work and by no means is meant to dictate that all works must have three layers—or any at

all, for that matter. These three layers, however, are intentional and as my analysis has shown,

correspond to specific musical aspects of *Memo Flora,* as well as the analytical techniques which

I apply to them. By using an array of methodologies to describe the Musical Strata, I have created a cohesive and representative analysis of *Memo Flora*.

As I move forward with my research, I plan to look at a wider range of Takashi Yoshimatsu's output, in hopes of identifying more connections between his works and establishing a consistent analytical method for his individual style. Additionally, I plan to expand my use of Musical Strata to other musical genres and time periods: what might the musical layers of a work by an established composer such as Mozart look like, or a film score, or perhaps even a pop song? In sum, I believe that it is possible to identify Musical Strata in any musical work. These Musical Strata should, to their best ability, accurately represent the musical events to which they correspond, while simultaneously portraying clearly the analyst's coherent interpretation of the work.

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