Supposition: the Prototype for Extended Harmony?

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Ian C. Snider

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Δόζα σοι Ὁ Θεός! (Glory to you, O God!)

ABSTRACT

This paper discusses Rameau's theoretical and harmonic principles, particularly supposition. The theory of supposition, as Rameau understood it, is a compositional technique in which a bass note is added a third or a fifth below a given seventh chord, thus creating a ninth or eleventh chord, respectively. Rameau's view of harmonic supremacy in music shaped his understanding of supposition regarding harmony as opposed to melody—vertical versus horizontal motion. This analysis includes theoretical principles and historical context, as well as the cultural and nationalistic factors, that led up to that theory. Based on this theoretical backdrop, the paper seeks to show how Rameau's theory of supposition influenced Romantic and twentieth century composers with their harmonic language and the development of extended chords.

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INTRODUCTION

Extended chords—harmonies built by thirds beyond the seventh chord—became a defining feature of Western Art Music from the Romantic period onward and remain central to the harmony of jazz and popular music today. The earliest accounts of extended chords such as ninth and eleventh chords can be found in Jean-Philippe Rameau's (1683 – 1764) *Traité de l'harmonie/Treatise on Harmony* (1722) under the section of his theory of supposition. Composers such as Maurice Ravel (1875 – 1937), Claude Debussy (1862 – 1918), and Arnold Schoenberg (1874 – 1951) employed extended harmonies as fundamental elements in their compositions. This was a time in which nationalism and anti-Wagnerianism grew among French composers. The French hostility stems from nationalistic sentiments and a rise in "Gallic nationalism" amongst late nineteenth century French composers.[1] A more euphemistic term to describe French music and composition of the time was "New Classicism," which utilized nationalistic terms such as Gallic, Hellenic, and Latin.[2] "Neoclassicism" on the other hand used descriptors such as German and Teutonic. "New Classicism" was used largely in response to the styles that were associated with German composers as a means of making distinctions.

What united these three composers' interest was Rameau (1683 – 1764) and his theory of supposition. The link between these composers, especially the French composers of this era, and Rameau is heavily nationalistic, which inevitably influenced the harmonic language of the composer. Some surmise that Rameau's influence over Debussy is due to the fact that both men were French nationals. Hence, the nationalistic

[1] Scott Messing, *Polemic as History: the Case of Neoclassicism* (Journal of Musicology, 1991), 482.
[2] Messing, *Neoclassicism,* 482.

pride in Rameau's influence over Debussy. Even if French nationalism was the primary cause of this revival of Rameau's works, these nationalistic tendencies would inevitably affect the harmonic language of French composers. Debussy's claim of influence from Rameau was likely drawn for political reasons; his motive was to avoid marginalization by the public in the musical and social world.[3] In this political campaign to nationalize his musical influence, one of Debussy's key allies was musicologist and champion of Rameau, Louis Laloy. Laloy supported Debussy's position of nationalism to the very end. In Debussy's obituary, Laloy called his colleague's works "a memorable victory for French taste" and said that Debussy himself was "the greatest musician of Old France [Rameau] resurrected and restored to glory."[4] Laloy would further Rameau as Debussy's favorite symbol of French music by posthumously claiming that Rameau and Debussy were inseparably linked.[5] Rameau found continuity in Debussy while Debussy remained present in a revived Rameau.[6] Ravel was a product of this neo-classical French tradition of nationalism and, for this reason, was heavily influenced by Rameau. Ravel's complex harmonies were derived from Rameau's theory of supposition.[7] This influence by Rameau does not belong to an individual composer, but Ravel, Debussy, and Schoenberg are three examples of the impact of Rameau's influence.

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[3] Anya Suschitzky, *Debussy's Rameau: French Music and Its Others,* (The Music Quarterly, 2002), 400.
[4] Suschitzky, *Debussy's Rameau,* 399.
[5] Suschitzky, *Debussy's Rameau,* 399.
[6] Suschitzky, *Debussy's Rameau,* 399.
[7] Peter Kaminsky, *Of Children, Princesses, Dreams and Isomorphism: Text-Music Transformation in Ravel's Vocal Works,* (Music Analysis, 2000), 65.

Rameau's theory of supposition is the technique of placing a bass note a third or a fifth below a given seventh chord, or, in other words, to suppose a bass note.[8] This theory explains the construction, use, and voice-leading procedures of ninth and eleventh chords, extended harmonies that are a hallmark of Rameau's compositional output. The concept of supposition, as Rameau explained, first appears in Rameau's *Traité* in the section under Supposition. The question is whether Rameau's codification of supposition laid the groundwork for the extended harmonies that would define later musical practice. This thesis argues that Rameau's theory of supposition served as a crucial catalyst for the development of extended chords.

This thesis comprises three primary sections. First, I examine Rameau's biography, his theoretical works, and the French philosophical and scholarly context of his era. Second, I will analyze compositions by a composer who was a contemporary of Rameau named François Couperin (1668 – 1733) containing examples of ninth and eleventh chords found within the *Traité*, demonstrating the practical application of supposition. Finally, I assess Rameau's influence on later composers from the Romantic, Impressionistic, and early twentieth century, to situate this thesis within current Rameau scholarship.

This thesis begins by laying the foundation of past and current scholarship regarding Rameau's theory of supposition. A review of the literature from multiple interpreters of Rameau's understanding of supposition results in two main schools of thought. On one side, there are scholars who believe that supposition is a harmonic

[8] Jean-Philippe Rameau, *Traité de l'harmonie,* (Courier Corporation, 2012) 88-89.

concept explaining extended chords. On the other side, there are those who believe that Rameau used supposition to explain melodic suspensions.

Chapter 2 provides historical context by delving into Rameau's predecessors, their theoretical ideas, and the understanding of supposition. Next, a biographical sketch of Rameau's background and education provides a context for the theoretical ideas that shaped his definition of supposition. Utilizing his work in *Traité de l'harmonie*, Rameau's theory of supposition is explained. The debates and controversies from many philosophes, including Jean-Jacques Rousseau (1712 – 1778) that resulted from Rameau's *Traité* are examined. Finally, an example from François Couperin (1668 – 1733) containing extended chords explained in the *Traité* through Rameau's theory of supposition will be analyzed.

Chapter 3 analyses excerpts of works from Ravel, Debussy, and Schoenberg. These excerpts provide examples of extended chords and harmonies used by Ravel, Debussy, and Schoenberg, demonstrating Rameau's influence on their harmonic language. What is more, these excerpts are examples of extended chords and supposition used in a harmonic manner. In some cases, these composers used extended chords in ways that depart from Rameau's original explanation of supposition, but this departure shows how supposition has developed and evolved since Rameau.

This thesis concludes by arguing that, although the term "supposition" predates Rameau as a contrapuntal/melodic concept, Rameau redefined supposition in a way that is original to him, changing supposition into a harmonic concept. His vertical understanding of supposition influenced the harmonic language of later composers such as Debussy and Ravel. Debussy and Ravel went on to use Rameau's theory of

supposition to further develop extended chords as we know them today. Without Rameau's theory of supposition and his harmonic influence on these composers, Ravel and Debussy's compositional works would not have sounded the way they did.

CHAPTER 1: EXISTING SCHOLARSHIP AND LITERATURE REVIEW ON RAMEAU

Many academics have developed their own interpretations and explanations for the taxonomy and functions of the extensions in Rameau's treatise. Twenty-first-century scholar Nathan Jonathan Martin in his article, "Rameau's Changing Views on Supposition and Suspension," provides an overview of the scholarship of Rameau's theoretical works and the corresponding analyses of extensions. Martin explains how two scholars who preceded Rameau, Denis Delair and Guillaume Gabriel Nivers, coined the term "supposition," defining it as "certain collisions caused by passing notes."[9] Their description suggests they understood these dissonances as melodic phenomena rather than harmonic entities.

The examples provided in Martin's article show extended chords given in Rameau's writings on Supposition. The chord provided in one example is what we call an A minor seventh chord.[10] A new bass note is placed a third below the root of the seventh chord, creating an F major ninth chord.[11] Underneath the same seventh chord, a different bass note is placed a fifth below, creating a D eleventh chord.[12] Figure 1, shown below, is a transcription of these two chords created by supposing a new bass note below the given seventh chord.

[9] Nathan Martin, *Rameau's Changing Views on Supposition and Suspension,* (Journal of Music Theory, 2012), 121.
[10] Martin, *Supposition and Suspension,* 122.
[11] Martin, *Supposition and Suspension,* 122.
[12] Martin, *Supposition and Suspension,* 122.

Supposition being part of the harmony or melodic suspensions, was, as mentioned above, taken by many scholars and researchers of Rameau's treatise, involved in the taxonomy of these extensions.

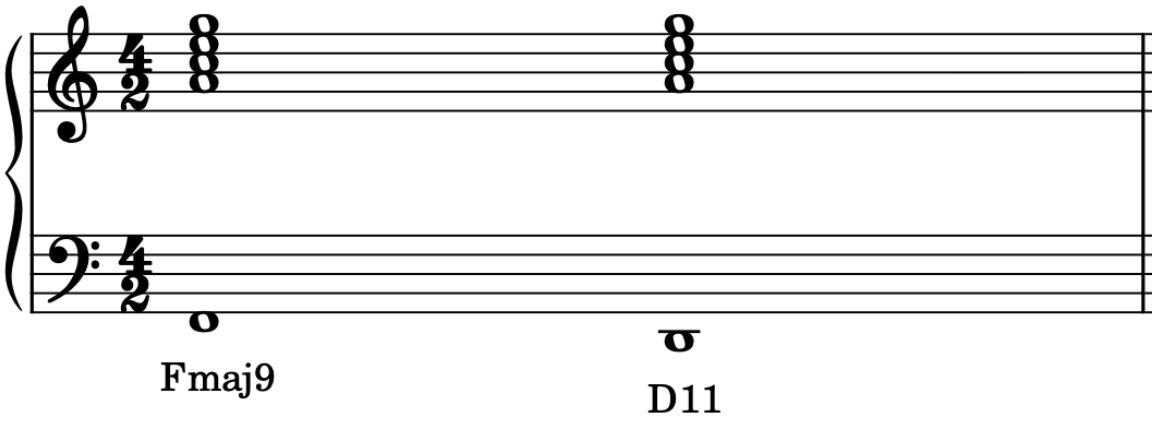

Figure 1: Fmaj9 chord and D11 chord created by supposing an added bass note a third or fourth below a given seventh chord, respectively.

Martin writes, "Hugo Riemann (1849 – 1919) followed Friedrich Wilhelm Marpurg (1718–1795) in construing Rameau's accords par supposition as straightforward ninth, eleventh, and thirteenth chords,"[13] thus making them part of the harmony. Marpurg provided a set of chords in his own works that replicate those in Rameau's treatise. In contrast, other scholars, such as Steve Grazzini (who received his PhD in Music Theory in 2014) and Thomas Christensen (1954 – Present), believe that these extensions are nothing more than non-harmonic tones above triads. Martin cites yet another researcher, Thomas Christensen (author of the *Cambridge History of Western Music Theory*), who, in contrast to Riemann and Marpurg, holds that the chordal ninth and eleventh of extended chords in Rameau's treatise are merely an explanation of melodic suspensions

[13] Martin, *Supposition and Suspension,* 122.

on top of triads. In his article titled "L'Art de la Basse Fondamentale," Christensen writes,

> Music theorists have always recognized that the suspension is but a displaced consonance, or more specifically, a dissonance resulting from the melodic retardation of a consonance...for Rameau, the linear suspension was not an explanation, rather a description.[14]

He continues, "Rameau wanted to understand theoretically why specific notes in a chord such as the fourth and the ninth tended to suspend and not others."[15] Christensen makes clear his interpretation of Rameau's treatise being melodic suspensions rather than chord tones. However, Christensen's interpretation seems to contradict his later research on Rameau's view of harmonic superiority, which will further be discussed in a later chapter of this thesis.

In his article, *Rameau's Theory of Supposition and French Baroque Harmonic Practice*, Steve Grazzini asserts that, not only does supposition function as an explanation for suspensions, but also that Rameau himself held such views. Grazzini writes,

> Rameau thinks that certain dissonances ought to be understood as seventh chords to which a note has been added in the bass, either a third or a fifth beneath the fundamental... the fundamental harmony is meant to be the seventh chord on A and where the F in the bass is understood to be a non-chord tone of some sort. Taken out of context, this might look like an idiosyncratic way of interpreting what we would ordinarily call a "ninth chord," meaning in this case a root-position seventh chord on F with an extra third stacked on top. But that is not what Rameau has in mind. He is actually thinking of the kind of ninths (and elevenths) that result from "suspensions, appoggiaturas, and motions over a pedal" —cases, that is, where the dissonant upper parts resolve over the same bass.[16]

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[14] Thomas Christensen, *Rameau's "L'Art de la Basse Fondamentale,"* (Music Theory Spectrum, 1987), 28.
[15] Christensen, *Fondamentale,* 29.
[16] Steve Grazzini, *Rameau's Theory of Supposition and French Baroque Harmonic Practice* (Music Theory Spectrum, 2016), *155*.

Grazzini goes on to explain the understanding of supposition in the late seventeenth century and into the eighteenth century. He writes,

> As a musical term, 'supposition' traditionally meant something like 'substitution'… Later in the seventeenth century, supposition was used in France as a more general term for ornamental melodic dissonance. It was usually used to describe unprepared or passing dissonances, but occasionally it was applied to suspensions as well. By the middle of the eighteenth century the term was used simply to mean 'non-chord tone'…in spite of the gradual shift from contrapuntal explanations to chordal ones, the underlying concept remained the same throughout this period: a dissonance is explained as a substitute for the consonance that ought to have appeared in its place.[17]

According to Grazzini, from a historical standpoint, even before Rameau ever utilized the concept, supposition was used as a means of explaining non-chord tones. To his credit, Grazzini acknowledges that supposition has been used for harmonic explanations. But overall, his view is that supposition is a contrapuntal or melodic concept.

Mark Howard explains in his book *Decoding Rameau* (2016) that Christensen's view of supposition versus suspension makes the distinction on what he calls "collective understanding." By that, Howard means what was generally agreed upon by Rameau's predecessors and contemporaries.[18] Howard writes, "if the chord is complete, it is *supposition*, while if incomplete or *heteroclite*, *suspension*, since some of the notes in the latter chord need to resolve in order to form a complete harmony."[19] In other words, it appears that full harmonies indicate supposition while incomplete or tones that demand resolution are suspensions. Rameau's theory of supposition could be used to explain both

[17] Grazzini, *Rameau's Theory,* 157.
[18] Mark Howard, *Decoding Rameau: Music as a Sovereign Science,* (Lucca Libreria Musicale Italiana, 2016), 209.
[19] Howard, *Decoding Rameau,* 209.

harmonies and suspensions. However, the primary use for supposition is to explain harmonies. I think the biggest indicator of whether a supposed chord is used harmonically or as a melodic suspension is the motion or activity of the notes in question, which will be shown in Chapter 2 in the analysis of Couperin's second prelude. The stacked block chords and ornamentations are indicators of harmonic tones and nonharmonic tones, respectively.

The discussion about Rameau's theory of supposition goes beyond interpretation of his works and extends into his influence over later composers. One scholar from the mid twentieth century, Arthur Hutchings, argues that Rameau is the catalyst of a line of great composers known for their harmonic works. In his article *Rameau's Originality* (1972), Hutchings writes,

> We can, at least, honour this bicentenary by acknowledging Rameau's place at the head of a brilliant succession-Rameau, Berlioz, Bizet, Debussy, Ravel-musicians admired for a wonderful mind's ear, for conceiving original orchestral textures and also for securing the effects they imagined. Maybe their common endowment is related to their common nationality; and maybe that is why we cannot begin the succession with Lully, who happened to be born an Italian.[20]

Many attribute the phenomenon of Rameau being these composers' influence purely to nationalistic motives. The phenomenon came during a rise of anti-Wagnerian and anti-Italo-Germanic feelings among some French composers.[21] Although there are clearly nationalistic tendencies to this "movement," these nationalistic tendencies were not the only motive.

[20] Arthur Hutchings, *Rameau's Originality,* (The Royal Musical Association, 1964), 39.
[21] Charles Paul, *Rameau, d'Indy, and French Nationalism,* (The Musical Quarterly, 1972), 46-47.

What makes Rameau's influence over these later French composers interesting is that his conceptualization of harmony in the Baroque period differed significantly from that of many German writers of the time. David Schulenberg addresses this point in his article, *Composition before Rameau: Harmony, Figured Bass, and Style in the Baroque* (1984). Schulenberg explains how Rameau's theoretical ideas were both innovative and revolutionary for French composers in years to come. He writes,

> Rameau's conception of the fundamental bass as the generator of harmony and harmonic progression seems to have been a genuine innovation, and one which furnished the basis for most of the important theory, above all that of harmonic function, which followed in the course of the next century and a half.[22]

Schulenberg, turning to the German Baroque tradition, continues,

> Representing the other side [in opposition to French nationalism] are the German writers on figured bass and related topics, above all C.P.E. Bach, whose writings on continuo realization and improvisation, though only marginally dealing with composition as such, were admired by Haydn, Mozart and Beethoven. . . . Johann Philipp Kirnberger presented a similar conception of composition in his *Kunst des reinen Satzes*, which also includes theoretical discussions that seem to have been intended to adapt Rameau's theory of harmony to the more contrapuntally conceived harmony of the Bach circles.[23]

Schulenberg's article demonstrates that, even in Rameau's time, there were differing schools of thought between French and German traditions. The motives of Rameau's musical successors may be nationalistic at their roots, but it is evident that harmonic concepts were a part of this anti Italo-Germanic movement growing among French composers and theorists.

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[22] David Schulenberg, *Composition before Rameau: Harmony, Figured Bass, and Style in the Baroque,* (College Music Symposium, 1984), 130.
[23] Schulenberg, *Composition before Rameau,* 130-131.

A third scholar, Peter Kaminsky, claims that Ravel was directly influenced by Rameau's theory of supposition. In his article *Of Children, Princesses, Dreams and Isomorphism*, Kaminsky explains that Ravel took an interest in the concept of supposition. Kaminsky writes,

> Evidently Ravel was interested very early on in sub-position as a means of generating complex chords. Examples include the 1893 'Ballade' (Ravel's first completed composition) and the 1903 'Asie' from Sheherazade. As the similarity in name would suggest, my sub-position has as its conceptual forebear Rameau's supposition.[24]

Kaminsky continues, "Ravel's predilection for stating a chord and then putting different notes under it, taking advantage of expanded possibilities for harmonic extension, thereby interacts suggestively with Rameau's supposition."[25] Although it is possible that Ravel's usage of extended and dissonant harmonies is formulated differently from Rameau's theory of supposition, the evidence suggests that the latter's theoretical idea gave Ravel the steppingstones to utilize extended chords. Additionally, the evidence points out that supposition continued to evolve and develop by the time Ravel used the concept.

[24] Kaminsky, *Isomorphism,* 65.
[25] Kaminsky, *Isomorphism,* 65.

CHAPTER 2: BEFORE RAMEAU

Little is known about Jean-Philippe Rameau's (1683 – 1764) theoretical background and education prior to the publication of the *Traité*. Rameau's background in music theory during his first forty years of life, despite his claims to have always had an interest in the subject, is virtually unknown. It is not unreasonable to infer that what is known about his early musical background played a significant role in his fascination with theoretical matters. To current knowledge, he did not undertake any formal studies in theory, and there is no information as to what comprised his formal studies. Despite his interest in the mathematical dimensions of music, the extent of his familiarity with contemporaneous theoretical literature remains unclear. One of his theoretical ideas, the fundamental bass, discussed below, was his own imagination and effort.[26] From this information about the fundamental bass, one might infer that he was not deeply immersed in the theoretical literature of his time.

Rameau's early years of prominence grew around the time in which he published many of his early theoretical works in his late thirties and early forties (approximately the late 1710s through early 1720s). By then, he became widely known as France's greatest composer and theorist.[27] A rare instance of a theorist who was also a major composer, not only did he pursue many theoretical ideas for their own consistency, but he also viewed the purpose of a theory of harmony to explain music as it is

[26] Thomas Christensen, *Rameau and Musical Thought in the Enlightenment* (Cambridge University Press, 1993), 23.
[27] Mark Howard, *Decoding Rameau*, 5.

understood compositionally.[28] His *Traité de l'harmonie*/*Theory of Harmony* was published in 1722 when he was thirty-nine years old. Prior to the *Traité*, the only published work of his was a small 1706 collection of harpsichord pieces.[29]

Rameau's stature as both composer and theorist extended beyond the musical world, as evidenced by the visual arts. Several paintings and etchings commemorate his achievements.[30] One anonymous painting, which was made some time after his death, honors Rameau as a famous theorist and composer.[31] The caption on the etching reads, "Guided by the torch of taste and genius, he has probed the immense depth of his art: his writings have set the laws of harmony and his immortal melodies make themselves heard in the heart La Combe."[32] This etching suggests that Rameau's reputation as both composer and theorist resonated beyond musical circles.

What is known about his early music education is that he was raised in a musically sophisticated family.[33] His father, the organist at the Dijon Cathedral, taught him to read music at an early age. Furthermore, those who knew him from childhood reported that he could sight read sheets of music at the harpsichord at a young age, perhaps as young as the age of seven.[34] In terms of formal education, Rameau only spent a few years at the Collège des Gordrans in Dijon from 1695 to 1699. There, his exposure to education was primarily the progressive humanist curriculum as the standard Jesuit

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[28] Thomas Christensen, *The Cambridge History of Western Music Theory* (Cambridge University Press, 2006), 753.
[29] Thomas Christensen, *Rameau and Musical Thought*, 22.
[30] Florence Getreau and Desmond Hosford, *The Portraits of Rameau: a Methodological Approach* (Music in Art, 2011), 285.
[31] Florence Getreau and Desmond Hosford, *The Portraits of Rameau,* 285.
[32] Florence Getreau and Desmond Hosford, *The Portraits of Rameau,* 285.
[33] Christensen, *Rameau and Musical Thought*, 22.
[34] Christensen, *Rameau and Musical Thought*, 22.

education.[35] In 1702, at the age of nineteen, he was the assigned organist at the Clermont-Ferrand Cathedral until 1706. In 1709, he returned to Dijon to succeed his father as organist of the Dijon Cathedral.[36] Between then and 1722, he took various jobs as organist, as well as earning money as a composer and teacher before permanently relocating to Paris in 1722 at the age of thirty-nine.[37]

Another important fact about Rameau's early musical knowledge is that he was familiar with some predecessors such as the Italian theorist Gioseffo Zarlino (1517 – 1590). Zarlino may have influenced Rameau through his definition of harmony. Zarlino defined harmony as "diversity of moving parts and consonances, brought together with variety."[38] Rameau understood harmony as the vertical aspect of music independent from counterpoint. This is not to say that Rameau did not apply Zarlino's harmonic concepts to support his own theory of harmony. For instance, one of Zarlino's compositional pedagogical works that influenced Rameau was the latter's Book III of *Isititutioni harmoniche/Foundations of Harmony* (1558) compositional canons.

Both Zarlino and Rameau wrote and presented two strict canons for four voices rather than for a specific instrument. Rameau wrote his canons in the *Traité* (1722) largely as a response to Zarlino.[39] Zarlino wrote his canons to demonstrate his contrapuntal rules, one of which held that consonances created by these moving voices make a perfect composition when fifths and thirds are produced.[40] Rameau also

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[35] Christensen, *Rameau and Musical Thought,* 21.
[36] Christensen, *Rameau and Musical Thought*, 22.
[37] Christensen, *Rameau and Musical Thought,* 22.
[38] Christensen, *Rameau and Musical Thought,* 26.
[39] Alan Gosman, *Rameau and Zarlino: Polemics in the "Traité de l'harmonie"* Music Theory Spectrum, 2000, 45.
[40] Gosman, *Polemics,* 45.

followed suit with his canons, primarily for the reason of pointing out what he believed was Zarlino's mistake. According to Rameau, Zarlino only envisaged two sounds at a time.[41] Zarlino did compose four-part canons. However, he would double one of the voices to keep the created consonances triadic. Rameau, moreover, composed four-part canons as a means of building up chords with four different notes, creating seventh chords. The practice of building chords with four different notes relates closely to his *Traité's* teaching and the assurance of complete seventh chords with all four voices having entered.[42] Rameau's building of seventh chords in his four-part canons is clearly a crucial part of his theory of supposition and his overall theoretical works through his belief of harmonic supremacy.

Thoroughbass, a concept that served as a precursor to figured bass, was used to fill in musical textures with chords above the bass. Though not universally the case, thoroughbass was typically indicated by what we now know as figured-bass notation.[43] The thoroughbass contributed significantly to the widespread recognition of the $\frac{5}{3}$ chord, also known as root position, as the primary stable harmonic unit. However, chords are understood or identified by the bass note rather than just the root. For example, as seen in Figure 1 below, a C-E-G chord in the right hand of a keyboard style thoroughbass practice could be played over a bass C in the left hand. The harmonic principle of thoroughbass is also true for the same C-E-G chord played over an E figured with $\frac{6}{3}$, or a G figured with $\frac{6}{4}$.[44] The thoroughbass was not limited to triads but also applied to seventh

[41] Gosman, *Polemics,* 52.
[42] Gosman, *Polemics,* 52.
[43] Christensen, *Cambridge History,* 755.
[44] Christensen, *Cambridge History,* 755.

chords of all types as well. The same C-E-G chord in the previous example would be understood as the proper right-hand notation over an A figured with a 7.[45] Figure 2 below is a transcription of the chords described above, which show a general concept of thoroughbass and its precursor to figured bass.

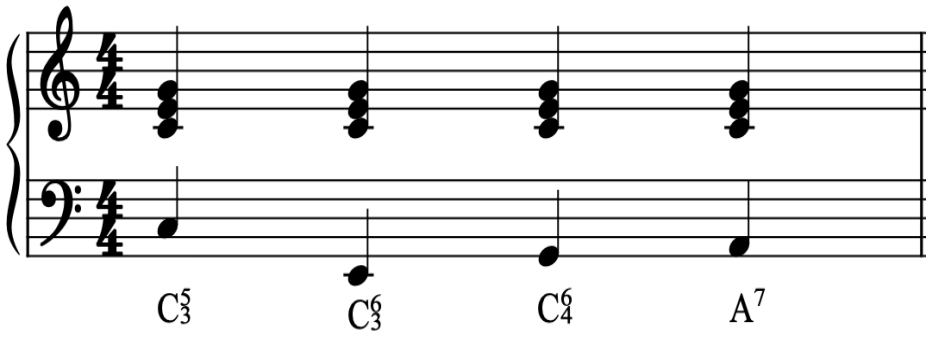

Figure 2: Keyboard Style Thoroughbass Practice

Thoroughbass, commonly known as figured bass, originated as a common practice in Italian composition and performance prior to 1652. The French adopted the practice of the thoroughbass, some time much later. When it was finally adopted, it spread rapidly throughout France. Since thoroughbass, as a compositional device, was compatible with the French preference of full harmonic sonorities and strong chordal textures.[46]

The practice of thoroughbass could be found in eighteenth-century French keyboard and accompaniment music and was employed to realize rather dissonant chords, by using a fixed triad and creating complex signatures either with inversions,

[45] Christensen, *Cambridge History,* 755.
[46] Christensen, *Rameau and Musical Thought,* 46.

added dissonant notes, or alterations of the triad itself. One example is found in the writings of Michel de Saint-Lambert (1610 – 1696), a theorist and contemporary to Rameau, who was often quoted, and sometimes cited, by Rameau himself.[47] In his writings, Saint-Lambert advised to realize the dissonant figures of thoroughbass by playing a consonant triad and a bass note in the right and left hands, respectively.[48] Saint-Lambert explains, "When a [bass] note has several figures that assign to it an unusual chord, this chord is often the perfect chord of another [bass] note."[49] In Figure 3, Saint-Lambert refers to root position triads as perfect chords. He continues,

> When an Ut [C], for example, is figured with a 6, the chord denoted by 6 on Ut is the perfect chord on La [A]; if it is figured with Four & Six [6/4],[50] this is the perfect chord on F [F]; if it is figured with 7, or with 7/5, or with 7/5/3, this is the perfect chord on Mi [E], etc.[51]

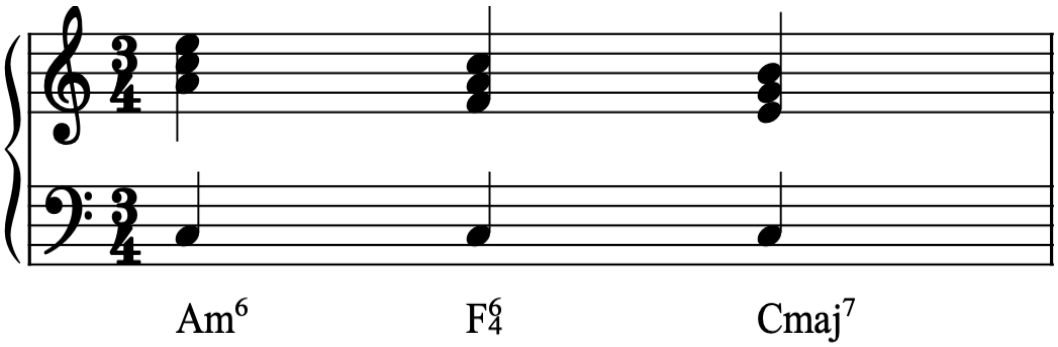

Figure 3: Root Position Triads with inversions over a C Bass Note

[47] Christensen, *Rameau and Musical Thought,* 50.
[48] Christensen, *Rameau and Musical Thought,* 50.
[49] Christensen, *Rameau and Musical Thought,* 51.
[50] Brackets added for clarity.
[51] Christensen, *Rameau and Musical Thought,* 51.

The strategy explained above is taught by Saint-Lambert as a means of simplifying chord realizations. He also uses chord simplification with more dissonant figures such as $^{6}_{\#4}{}_{2}$ and $^{9}_{7}{}_{4}$.[52] In the context of C being the bass, the first of these dissonant figures spells out a D major triad over a C (D, F sharp, A). The second figure spells out a B diminished triad over a C (F, B, D). These two examples, shown in Figure 4, can be seen as precursors to Rameau's theory of supposition. From this, it can be inferred that Saint-Lambert's short treatise served as a building block in the development of supposition.

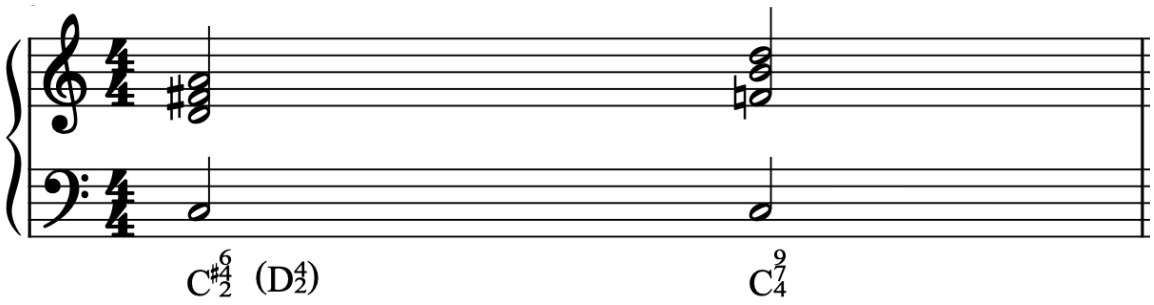

Figure 4: Dissonant Figures of Chord Realizations in the Context of C

Thoroughbass practice is crucial for Rameau's theoretical works because it was through this practice that he developed the concept of the fundamental bass. Through his experience composing and performing with thoroughbass, he learned that harmonies can be conceived as units controlled by a temporal bass line.[53] As explained earlier in the keyboard style example in Figures 2 and 3, this practice can be seen as a step towards the concept of supposition. The right hand plays a chord, while the left hand plays an added

[52] Christensen, *Rameau and Musical Thought,* 51.
[53] Christensen, *Rameau and Musical Thought,* 51.

bass note. Similarly, in supposition, a bass note is added below a given seventh chord, changing the seventh chord into an extended chord. The way in which this relates to supposition is that the right hand can play a chord, either a triad or seventh chord, while the bass note added in the left hand can be a "supposed" bass below the chord.

Several of Rameau's later publications develop his theory of supposition further, including the *Code de musique pratique/Code of Practical Music* (1760) and *Nouvelles réflexions sur le principe sonore*/*New Reflections on the Sonorous Principle* (1760). Topics important to the development of Rameau's theory of supposition found in the *Code,* such as the fundamental bass, appeared in a lengthy manuscript titled *L'Art de la Basse Fondamentale*/*The Art of the Fundamental Bass*, also written by Rameau, which is thought to have been published sometime between 1737 and 1744. [54] These publications are important in that they give insight into both the speculative and practical aspects of Rameau's theory. According to Mark Howard, author of *Decoding Rameau* and lead scholar on Rameau, separating the speculative and practical aspects of Rameau's theory into two different categories is something that modern scholars do but should not.[55] Rameau himself did not value one over the other but rather, he viewed both the practical and speculative aspect of his theory as interdependent.[56]

Prior to the publication of the *Code de musique practique* (a book of guidelines for music in practice), a document called the *Prospectus*, which outlines the *Code*, was published around 1757. The *Prospectus* was to give the public access to the contents

[54] Howard, *Decoding Rameau,* 3.
[55] Howard, *Decoding Rameau,* 4.
[56] Howard, *Decoding Rameau,* 3-4.

of one of his treatises before it was finished for publishing. In a letter, written about a year prior to the publication of the *Prospectus*, Rameau reveals that his intention was to write clearly without compromising the quality of his theoretical ideas as a whole.[57] The *Code* was also a reflection of the philosophical tools he used in his debates with Jean-Jacques Rousseau (1712 – 1778) about whether the primary source of musical expression was harmony or melody. This debate is still unresolved today, which is apparent when examining current scholarship on Rameau's theory of supposition, as discussed in the previous chapter. Furthermore, in the same letter, Rameau writes that a main purpose of the Code is "to print Music with all the varieties of Melody drawn from the same harmony."[58] He adds that "the expression of sentiment requires a change of key."[59] The type of harmony and modulation into a change of key was one of the most significant driving forces of musical composition during the late eighteenth century and into the nineteenth century.[60]

Supposition in the *Traité*:

Rameau made a distinction between the speculative and practical, or theory and practice, yet he did not indicate a preference for one over the other. He sought to reduce the complex body of empirical data known as harmonic practice into a rational system governed by a single principle.[61] The reduction of the complex body of empirical data into a single principle is seen in his first published theoretical work *Traité de*

[57] Howard, *Decoding Rameau,* 5-6.
[58] Howard, *Decoding Rameau,* 5.
[59] Howard, *Decoding Rameau,* 5.
[60] Howard, *Decoding Rameau,* 5.
[61] Howard, *Decoding Rameau,* 4-5.

l'harmonie.[62] The treatise is divided into four books: the first two address theoretical issues, and the last two address practical issues.

Traité de l'harmonie, Book I, seeks to explain and validate chords as primary musical constructs. He explains that all chords are generated from a single source called the "monochord."[63] The monochord, which was mostly outdated by Rameau's time, is an ancient instrument dating back to antiquity used to demonstrate the mathematical ratios of intervals. His employment of the monochord as the single source of all chords, despite insisting that it was natural, was considered to be rather unorthodox at the time. Book II addresses chord movement and function and introduces the fundamental bass. The chords explained in the previous book are given different functions and tendencies based on "natural principles."[64] In the concept of the fundamental bass, chord roots are written similar to how a basso continuo line is written. However, unlike basso continuo, the fundamental bass is a depiction of a sequence of chord generators or what kind of chords are constructed above a given bass note. This means that the fundamental bass is not meant to be played like a piece or compositional work.[65] Rameau believed that the chord is the essential unit of any musical structure and also acknowledged that voice leading occurs as harmony moves from one chord to the next.[66] The core principle underlying the fundamental bass is that the presence of dissonance is the primary factor that moves one chord to another.[67]

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[62] Howard, *Decoding Rameau*, 4-5.
[63] Christensen, *Rameau and Musical Thought,* 28.
[64] Christensen, *Rameau and Musical Thought,* 28-29.
[65] Christensen, *Cambridge History,* 761.
[66] Christensen, *Cambridge History,* 761.
[67] Christensen, *Cambridge History,* 761.

Rameau expounds in Books III and IV of the *Traité*, on the practical side of his theory, composition and accompaniment, with the principles of the first two books kept in mind.[68] He asserts that mastery of the principles of the first two books is essential to composing and musical accompaniment.[69] Rameau makes clear in the last half of his treatise that composing and accompanying become much easier when the principles of chord origins and fundamental bass are well understood, integrating the theoretical and practical aspects of music. [70] On the whole, the *Traité* demonstrates how Rameau synthesized musical experience, theoretical knowledge, and proficient aural skills into formulating an original theory. With his treatise, along with some of his other works, he sought to draw parallels between his theory and seventeenth-century science. Rameau emphasized the need for mathematical demonstrations in music, i.e., for explaining the motion or tendency of chords through rational principles. The treatise is a collection of scientific and physical explanations of musical material. Rameau viewed music as a science that existed in the natural world. He was in search of a mechanistic cause explaining the motion of musical material and analogously comparing it to scientific motion.

The harmonic motion of chords and voice leading principles are the basis of Rameau's view of music as a science, which are explained thoroughly in the second book of his treatise. Rameau thought in terms of two different forms of bass. One is the already established basso continuo, or the actual bass. The other, which is original

[68] Rameau, *Traité*, 152.
[69] Rameau, *Traité,* 152.
[70] Howard, *Decoding Rameau,* 3-4.

to Rameau, is the fundamental bass. The fundamental bass is distinct from the basso continuo in that basso continuo is a figured bass line in which either the root, third, or fifth of the chord is present in the bass. The fundamental bass, on the other hand, represents the root of each chord, serving as a means of explaining harmonic function and progression.[71] Essentially, the fundamental bass functions as the root of the harmony, while the basso continuo is the sounding bass line or bottom note of each successive chord.

Supposition, unlike the fundamental bass, is a concept that first circulated at least several decades prior to its appearance in Rameau's *Traité*. It was first discussed by Italian theorists, such as Claudio Monteverdi (1567 – 1643) as "a dissonance that supplanted an expected consonance."[72] This very same concept discussed by Monteverdi was also addressed in seventeenth-century German treatises, relative to the changing concepts of dissonance and consonance.[73] The German's concept of the substitution, as it is known in English, was a control of dissonance. Supposition, in this sense, literally meant "substitution" in terms of substituting the bass note with a different note. However, in the early seventeenth century, French theorists viewed sequential consonant intervals that create tension and release by ratio of their acoustical contexts as central to musical composition.[74] Dissonances, on the other hand, were thought of as adding variety to

[71] Matthew Shirlaw, *The theory of harmony; an inquiry into the natural principles of harmony, with an examination of the chief systems of harmony from Rameau to the present day* (Cornell University Press, 1955) 63-64.
[72] Howard, *Decoding Rameau,* 209.
[73] Albert Cohen, "*La Supposition" and the Changing Concept of Dissonance in Baroque Theory* (Journal of the American Musicological Society, 1971), 63-64.
[74] Cohen, *La Supposition,* 67.

harmony by complementing and "giving charm" to the consonance.[75] Later, despite a lingering Italian imprint, French theorists gave the concept a harmonic focus. They would allow for freer use of dissonance. For example, expressing the passion of a text or text painting was a common usage for these freer uses,[76] which is an understanding held and defended by Rameau himself.

Rameau defined supposition as a bass note placed a third or a fifth below a dominant seventh. This definition is found in both the *Traité* and in the *Code*.[77] Categorically, this includes, but is not limited to, our modern understanding of ninth chords and eleventh chords, or suspensions as some would argue.[78] Some modern scholars relate the word with Latin origins to mean "sub-position" or "placed below,"[79] the same wording used by Arnold Schoenberg (see the discussion in the chapter titled "Analysis" below). In our modern understanding of how ninth and eleventh chords are built, these extended chords are built by stacking an additional third on top of a seventh chord. Rameau held the principle that chord tones cannot exceed the distance of an octave from the root. Any chord tones that do are simply compounds of those within the octave. For example, an eleventh interval is a compound form of a fourth. For this reason, instead of adding a note above the seventh to create a ninth or eleventh chord, the note is added a third or a fifth below the root. The concept of supposition is adding a note below the true fundamental. For instance, an E ninth chord, according to Rameau, is

[75] Cohen, *La Supposition,* 68.
[76] Cohen, *La Supposition,* 68.
[77] Howard, *Decoding Rameau,* 208.
[78] Christensen, *Cambridge History,* 764.
[79] Howard, *Decoding Rameau,* 208.

actually a G seventh chord with the bass note E added a third below.[80] It is important to note that the E ninth chord mentioned by example is not a dominant ninth chord as we would understand it. The ninth chord in this instance is what we would call a minor ninth. However, due to Rameau's rule of not exceeding an octave above the true fundamental, he would not view the E as being the root of the chord. In Rameau's view, the G is still the root while E is the supposed bass. Supposition applies to all types of ninth and eleventh chords. Figure 5 below shows the E minor ninth chord explained earlier. Rameau occasionally used supposition to explain suspensions, a view held by some scholars in an attempt to downplay the harmonic use of supposition. Suspensions, as understood, are nonharmonic tones that rest in an unstable position above a harmonic chord. These non-harmonic tones need to be resolved, usually downward, to stable harmonic tones. Occasionally supposition would be used to explain these resolutions.[81] However, Rameau's primary discussions regarding supposition involved verticalities or harmonic relationships between two or more sounding notes.[82] His explanations on supposition gave the impression that he coined a new category of verticality.[83]

I suspect that the above explanations may have given rise to the controversy surrounding supposition in the ongoing harmony versus suspension discourse that was addressed in the previous chapter. The term "supposition" was not original or coined by Rameau, but his theory of supposition is unique in terms of harmonic understanding. Moreover, his idea of supposition did not appear in a vacuum, for preexisting concepts,

[80] Christensen, *Rameau and Musical Thought,* 99.
[81] Christensen, *Rameau and Musical Thought,* 100.
[82] Christensen, *Cambridge History,* 764.
[83] Christensen, *Cambridge History,* 764.

such as the thoroughbass and the fundamental bass, were extant. Yet other concepts were of his own original coining. Rameau's theory of supposition could be used to explain both harmonies and suspensions.

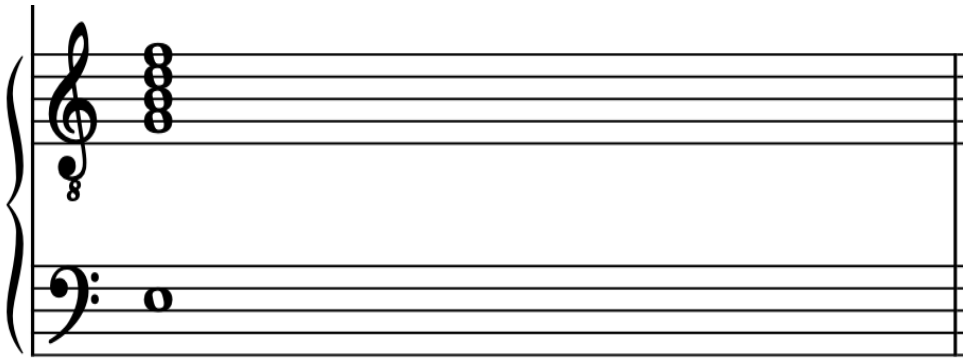

Figure 5: E minor ninth chord created by supposing an E bass note below a G7 chord.

However, the primary use for supposition is to explain harmonies. The primary indicator of whether a supposed chord is used harmonically or as a melodic suspension, in my opinion, is the motion or activity of the notes in question, which will be shown later in this chapter in the analysis of Couperin's second prelude. The stacked block chords and ornamentations are indicators of harmonic tones and nonharmonic tones, respectively.

Harmony vs. Melody:

Many views of enlightenment in music and science centered around Rameau's theoretical works. During the latter half of his life (1722 – 1764), Rameau had become both a celebrated and controversial figure, earning the title of "lawgiver of music" from

his reviewers.[84] Naturally, his name drew the attention of such discourse and support among scientists and philosophes, during a time when nature was believed to have "a rational order and mechanical basis."[85] His explanations of complex empirical practices through a single natural principle was regarded as a remarkable achievement. He was dubbed "the Newton of Music" by many of his contemporaries.[86] Other individuals, such as Jean-Paul Grandjean de Fouchy, the perpetual secretary of the Académie of Royale des Sciences, stated that Rameau, "has endowed his musical system with all the truth that Newton has provided for optics."[87] Rameau viewed his own theory of the fundamental bass as Cartesian in nature.[88] Cartesian philosophy uses mathematics to deduce elements.[89] In like manner, Rameau used mathematics to deduce all the elements of musical practice, or at least attempted to do so.[90] In a passage from the *Traite*, Rameau stated, "Music is a science which should have certain rules; these rules should be drawn from an evident principle; and this principle cannot really be known to us without the aid of mathematics."[91] Overtime, Rameau continued to refine and develop his theories with other principles such as those of Locke and Newton.[92] The evolution in his theories were most likely due to the controversy and backlash he faced from different schools of thought. His Cartesian views were often met with hostility from a Newtonian

[84] Howard, *Decoding Rameau,* 9.
[85] Christensen, *Rameau and Musical Thought,* 28.
[86] Christensen, *Rameau and Musical Thought,* 7.
[87] Christensen, *Rameau and Musical Thought,* 8.
[88] Christensen, *Rameau and Musical Thought,* 12.
[89] Christensen, *Rameau and Musical Thought,* 11-12.
[90] Christensen, *Rameau and Musical Thought,* 12.
[91] Christensen, *Rameau and Musical Thought,* 12.
[92] Christensen, *Rameau and Musical Thought,* 12-13.

environment.[93] Rameau's theory of the fundamental bass would, from time to time, be cast in the rhetorics of Neoplatonism, Cartesian mechanism, Newtonian gravitation, and Lockean sensationalism.[94]

Not only was Rameau the subject of discourse and controversy, he was also a participant in it. His participation involved engaging in polemical duels with rivals like Rousseau, pursuing his arguments relentlessly and with considerable zeal. At the same time, he continued to develop his theories in ways that were both intellectually stimulating and profitable to others. All the philosophes, including his later rival Rousseau, were initially admirers of Rameau's music and theory.[95] His works were rather innovative for the period and had changed French opera. As mentioned earlier, he was seen as the Newton of Music. Because the philosophes, some of whom being essentially Newtonian and others Cartesian in thought, favored the epistemology of Locke and the science of Newton, they held favorable views of Rameau.[96] As a composer, Rameau had a daring use of dissonance which gave his compositional works a range of human passions and text painting.

As mentioned earlier in this chapter, Rameau's idea of the fundamental bass is largely considered his original idea. However, many critics of Rameau suggest that this is not the case. For example, one critic wrote that German scholar, Athanasius Kircher (1602 – 1680), was the pioneer of the concept of the fundamental bass.[97] Another claimed

[93] Christensen, *Rameau and Musical Thought,* 13.
[94] Christensen, *Rameau and Musical Thought,* 13.
[95] Christensen, *Rameau and Musical Thought,* 14.
[96] Christensen, *Rameau and Musical Thought,* 10-11.
[97] Christensen, *Rameau and Musical Thought,* 43.

that thirty years prior to Rameau's earliest theoretical works, the fundamental bass was already common knowledge.[98] Moreover, according to these critics, some prefigurations of the fundamental bass were present in several treatises of composition and thoroughbass written by predecessors of Rameau.[99] These claims that the fundamental bass is not Rameau's original idea are all points used by opponents of Rameau to downplay his usage of the fundamental bass. The irony to the last claim is that, according to the source *Rameau and Musical Thought*, these predecessors remain unnamed. Because the claim that the fundamental bass predates Rameau's theoretical works lacks evidentiary support, the assertion is nothing more than an unsupported view to discredit Rameau's coining of the theoretical concept. Based on all the substantial historical evidence, the fundamental bass remains Rameau's original idea.[100]

Also, as previously addressed, Rameau's engagement in eighteenth-century philosophy heavily involved his discourse with the philosophe Jean-Jacques Rousseau (1712 – 1778). The central focus of their controversy and ongoing debate concerned whether melody or harmony held primacy in music. Rameau held the view that harmony had primacy while Rousseau believed in the supremacy of melody.[101] One significant issue that arose from this debate over the supremacy of melody or harmony revolved around a musical passage in Gluck's opera *Orfeo ed Euridice*. The opening scene of Act II features Orfeo who, after descending into the underworld, pleads with the furies for mercy so that his lover Euridice might be released from Hades. A spirited colloquy

[98] Christensen, *Rameau and Musical Thought,* 43.
[99] Christensen, *Rameau and Musical Thought,* 43.
[100] Christensen, *Rameau and Musical Thought,* 43.
[101] Howard, *Decoding Rameau,* 5.

ensues between Orfeo and the furies in which he attempts to persuade the spirits of the underworld to let Euridice go, but the furies respond with a harsh refusal saying, "no," until they finally relent.[102] Figure 6 below is a transcription of an excerpt from the passage, showing enharmonics between the two voices.

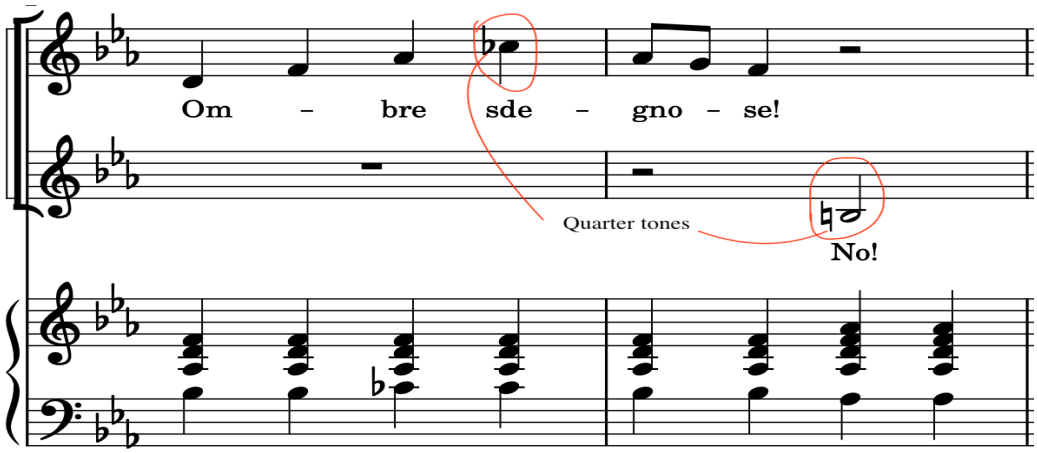

Figure 6. Quarter Tones in *Orfeo ed Euridice*

On one side of the debate, Rousseau, being the proponent of melodic supremacy, believed that the two separate voices, Orfeo and the furies, engaging in a contrasting call and response, and not the harmonic content, ultimately carries the passage.[103] The dissonance between the two parts pull the music in different directions, which may be the result of the flexibility of singing voices (i.e. just intonation) that cannot be effectuated on fixed pitched or equally tempered instruments.

[102] Alexander Rehding, *Rousseau, Rameau, and Enharmonic Furies in the French Enlightenment,* (Journal of Music Theory, 2005), 142-145.
[103] Rehding, *Rousseau, Rameau,* 146.

Rameau would have, in some respects, agreed with Rousseau's fundamental principle as an explanation, but with some nuance. He believed that the enharmonic usage of the voices in the passage goes beyond what is acceptable to the listener by being aurally confusing.[104] Rameau's belief seems to complement Rousseau's assessment of this phenomenon rather than contradict it. However, Rameau viewed the enharmonic category as a product of the harmonic quintuple proportion, in which microtones such as quarter steps are present. He argued that some of the chords generated more complex tonal relations than diatonic chords.[105] A well-trained ear, according to Rameau, would be a requirement in order to appreciate these complex relations.

What this debate reveals in relation to Rameau's understanding of supposition is his use of harmony as the foundation of music. Rameau's approach to this opera highlights his view of harmonic supremacy. Returning to the content in the first chapter in this thesis, this debate is a clear indicator as to why his theory of supposition is not primarily, and certainly not exclusively, used to explain melodic suspensions. If Rameau believed in harmonic primacy, then why would he explain extensions or supposition as merely melodic suspensions? Rameau occasionally used supposition to explain suspensions. Contrary to Christensen's claims earlier in Chapter 1 of this thesis, Rameau's primary usage of supposition is to explain harmonies and chord tones.

With the quintuple proportions, as shown below in Figure 7, Rameau ventured out of equal temperament and into the world of microtones. His core view on the matter is that no single pitch exists for itself but is the consequence of harmonic events.

[104] Rehding, *Rousseau, Rameau,* 146.
[105] Rehding, *Rousseau, Rameau,* 147.

Hence, unlike Rousseau, the concept of no single pitch existing on its own explains why he believed in the primacy of harmony. In addition, this furthered his view of music theory as a natural science through mathematical intricacies.[106] Rameau also believed that the semitone is the smallest usable interval in a harmonic context. Although intervals smaller than the semitone exist and are discernable on their own, they are not perceptible within a chord. The use of semitones as the smallest usable interval is crucial because this interval gives way to equal temperament being used for harmonic progressions and chord structures.

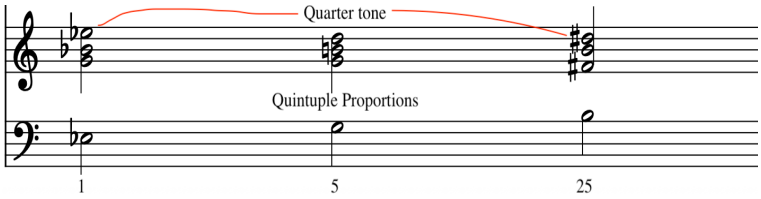

Figure 7. Quintuple Proportions as understood by Rameau. The E flat and D sharp at the top of the first and third chord are not enharmonic equivalents, but are microtonally different.

Another significant issue which came from the ongoing debate on harmony versus melody holding primacy is the relationship between text and music. In this period, the Late Baroque/Early Classical Period, music was expected to serve the text, ensuring that words remained audible above the accompaniment.[107] To ensure that the music serves the text is similar in concept to text painting, but this is more so like text setting.[108] Rameau sought to rectify what he believed to be a problem in the approach of composers to

[106] Rehding, *Rousseau, Rameau,* 148.
[107] Howard, *Decoding Rameau,* 12.
[108] Howard, *Decoding Rameau,* 12.

text setting, which was not being able to invigorate mediocre text. His approach was to utilize the compositional material to enliven the text, no matter the libretto's content,[109] as opposed to relying primarily on the proficiency of the librettist. Instead, the composer's harmonic craft can elevate even a mediocre or poor libretto, thus affirming Rameau's view of harmonic supremacy.

One of Rameau's influences, French polymath Marin Mersenne (1588 – 1648), wrote in his treatise, *Harmonie universelle/Universal Harmony* (1636), "the composer's insight enables him to express the sense and intention of the words, and subject in order to accentuate them [the words]."[110] This concept in Mersenne's treatise influenced Rameau's view that words suggest musical figures, styles, harmonies, chord progressions, and modulations to enrich the performance and expression of any piece. The use of harmonies as a means of enriching the text was already an important aspect of the *Code's* reception. Rameau and Rousseau debated whether chords in a figured bass needed to be fully realized. Rameau argued for a full, harmonically rich accompaniment while Rousseau preferred a light, harmonically restrained accompaniment that stayed out of the melody's way.[111] The latter was an archetype of Rousseau's aim to make melody the primary expression of musical composition. Rameau attacked Rousseau's position by stating that a fuller, more harmonically complex music or composition carries more value.[112]

[109] Howard, *Decoding Rameau,* 12.
[110] Howard, *Decoding Rameau*, 13.
[111] Howard, *Decoding Rameau,* 14.
[112] Howard, *Decoding Rameau,* 14.

In some respects, Rameau's view of harmonic supremacy became the reflection of national pride because it aided the merits of French *tragédie lyrique* contesting those of Italian *opera buffa*. The reason why harmonic supremacy is important is because it became a precursor to an ongoing debate between French and Italian composers that erupted over a century later. The revival and rediscovery of Rameau's theoretical concepts by Claude Debussy (1862 – 1918) and Maurice Ravel (1875 – 1937) emerged in the nationalistic movement fueled by anti-Wagnerian sentiments of the time.

Couperin:

There are compositions by one of Rameau's predecessors containing extended chords that might have inspired him to write his treatise on supposition[113] and interpret the function of these tones as he does. This composer is François Couperin (1668 – 1733).[114] David Tunley draws a connection between Rameau and Couperin compositionally and historically. Although Couperin came slightly before Rameau (1683 – 1764), Couperin's influence is seen in Rameau's initial exposure to these concepts. Tunley tells us that, "Couperin's name is often linked with that of Rameau, but the latter was of a slightly later generation, his compositions bearing the imprint of the innovations already introduced by Couperin."[115] The connection between Couperin and Rameau can be seen by analyzing a small section from one of Couperin's pieces.

The following analysis of Couperin's second Prelude from *L'Art de toucher le clavecín*/*The Art of Playing the Harpsichord* (1716) seeks to establish a compositional

[113] Rameau, *Traité*, 292.

[114] David Tunley. 2013. *François Couperin and "the Perfection of Music."* Ashgate Publishing.

[115] Tunley, *The Perfection,* 1.

connection between the two composers, serving as a practical example of ninth chords via supposition discussed in Rameau's treatise. This Prelude is significant because it also has educational purposes, giving us an indication of how composers of the time conceptualized their own music in terms of composition and technique. French Musicologist and scholar Marie Demeilliez (PhD 2010) shows that, in addition to notation and music theory, one of the main purposes of this work, not just the prelude, is to be able to play the clavier well and develop good technique. Demeilliez writes, "Couperin's emphasis on his own music is reinforced by the inclusion of eight previously unpublished preludes and an allemande, with performance indications, ornaments and fingerings, as well as fingered extracts from the first book of *Pièces de clavecin.*"[116] The use of ornamentation indicates nonharmonic tones and will set the chords of interest apart with ornamentation or lack thereof.

The second prelude from *L'art de toucher le clavecin* is in the key of D minor and is nineteen measures long. The focus here will be on measures 14 and 15, seen below in Figure 8 with a chordal reduction, where there is a clear example of a major ninth sharp five chord. On the downbeat of measure 14, there is a block chord that, in modern theoretical terminology, constitutes a G minor ninth chord. On the second beat of measure 14, there are several eighth and sixteenth note ornamentations distinct from the preceding chord. These ornamentations are followed by a broken inverted C sharp diminished seventh chord on beat three. The A (the ninth) of the G minor ninth chord resolves downward to G of the C sharp diminished seventh chord. This downward

[116] Marie Demielliez, *Context for Couperin's L'art de toucher de clavecin.* (Early Music, 2020), 336.

movement is indicative of the functional tendency of the extension. The C sharp fully diminished seventh chord on beat three leads into another chord of interest on the downbeat of measure 15, an F major ninth sharp five chord mentioned earlier. (In the context of this piece, it is spelled F in the left hand, G, A, C#, and E in the right). The F in the left hand is the supposed bass below the A seventh chord in the right hand. On the second beat of measure 15, a descending scalar run from G down to C#, following the F major ninth sharp 5 chord, is clearly a sign of ornamentation while the extensions in the dominant-tonic chord are harmonic. On the third beat, the C# and the dominant-tonic chord resolve to a D minor triad in first inversion. The unornamented texture of these chords is a strong indication that these extensions are part of the harmonies. In addition, when approached with traditional Roman numeral analysis, these chords form a iv vii° III+ I chord progression in the key of D minor. Figure 8 shown below shows measures 14 and 15 with a chordal reduction placed below.

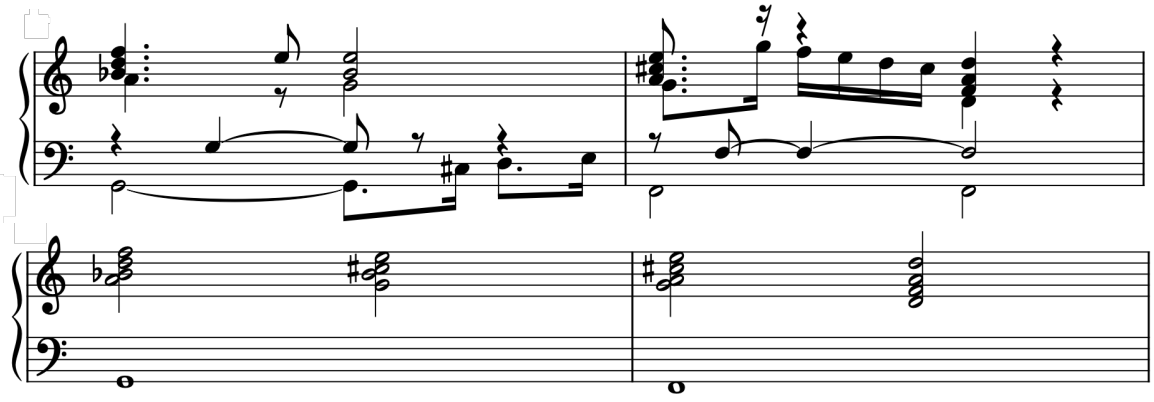

Figure 8: Second Prelude from Couperin's *L'art de toucher le clavecin* measures 14 and 15. (top system): the excerpt as written; (bottom system): chordal reduction of the passage.

Although Couperin used the same ninth chords described by Rameau in the *Traité* under supposition, Couperin likely did not refer to these chords as ninth chords or augmented

five chords. Rather, I suspect that these were chords that Couperin employed intuitively in his compositions and later inspired Rameau to write about decades later. Thus, the names of the chords Rameau coined through his theory of supposition were descriptive terms of preexisting harmonies.

CHAPTER 3: ANALYSIS

After his death in 1764, Rameau's works were largely forgotten by the public. It was not until the end of the nineteenth century that he was posthumously recognized for his theoretical and compositional achievements.[117] Several composers, especially French composers, took a great interest in Rameau and acknowledged him as an influence.[118] Moreover, other composers and theorists outside of France, like Arnold Schoenberg (1874 – 1951), also utilized Rameau's theoretical and harmonic principles, but the majority of composers from the Romantic and Impressionistic period who followed Rameau were French, like Claude Debussy (1862 – 1918) and Maurice Ravel (1875 – 1937).

The following discussion examines three composers who drew on Rameau's legacy: Marice Ravel (1875 – 1937), and Claude Debussy (1862 – 1918) from the late Romantic period, and Arnold Schoenberg (1874 – 1951) from the twentieth century. Ravel is renowned for his use of thick and adventurous harmonies, making him an important figure amongst Neoclassical composers. The term "neoclassicism," although now a familiar term, carries considerable ambiguity in meaning and classification.[119] When the term first emerged in the late nineteenth and early twentieth century, it was used in a pejorative or derogatory manner.[120] Neoclassicism often was used to describe nineteenth-century composers who bolstered forms popular in the eighteenth century but

[117] Paul, *French* Nationalism, 46.
[118] Paul, *French Nationalism*, 46-47.
[119] Messing, Neoclassicism, 481-482.
[120] Messing, *Neoclassicism,* 482.

lacked originality and musical substance for imitation's sake.[121] The term, ironically, was used by French writers and, motivated by nationalism, to disparage German composers. Ravel was a product of this neo-classical French tradition and, for this reason, was heavily influenced by Rameau. The link between French composers of this era and Rameau is heavily nationalistic, which inevitably influenced the harmonic language of the composer.

Ravel:

Ravel's *Ballade de la reine morte* from 1893 will be examined to demonstrate some examples of supposition or sub-position. The opening begins with what is commonly known as a B half-diminished seventh chord. Although this is not an extended chord, the way this chord is structured appears to follow the general principle of supposition. The upper voices play a D minor triad in first inversion, while the bass plays a B below that. The purpose of these opening chords is merely to add color rather than function. It is worth noting that the written key of this piece is C major, and, within the context of C major, the opening chord functions as a vii half-diminished seventh chord. However, the reason these chords lack harmonic function is because there is no proper resolution that follows into a proceeding chord. Therefore, this B half-diminished seventh chord is not a vii half-diminished seventh chord, but rather a functionless color chord. The B half-diminished seventh chord continues into the next measure with two melodies playing in contrary motion on the outside of the chord. Figure 8 below shows measures 2 and 3 from Ravel's *Ballade*.

[121] Messing, *Neoclassicism,* 482.

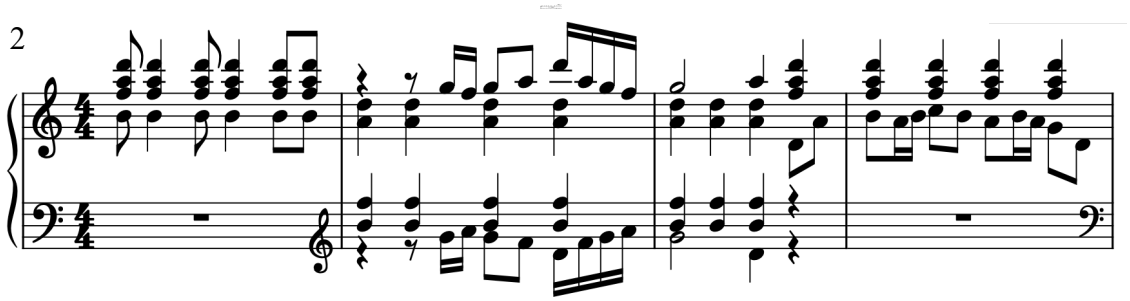

Figure 9: Measure 2 through 5 from Ravel's *Ballade*. D minor triad above a supposed B.

Another example of supposition, and arguably a better example, from the same piece is the chord in measure 17. Throughout this measure, the right hand plays B, F, A, D, a B half diminished seventh chord. In the left hand, on beat 2, a G is being played. Altogether, this creates an G9 chord. The texture and structure of this harmony is a strong example of supposition being used. Looking at this chord, the bass in the left hand is supposed a third below the lowest note of the chord in the right hand. Although the chord in Figure 10 below spells out a dominant ninth chord, this chord, like the B half-diminished seventh chord at the beginning of the piece, does not serve a dominant function. Instead, it serves as a functionless color chord amidst more ornamentation.

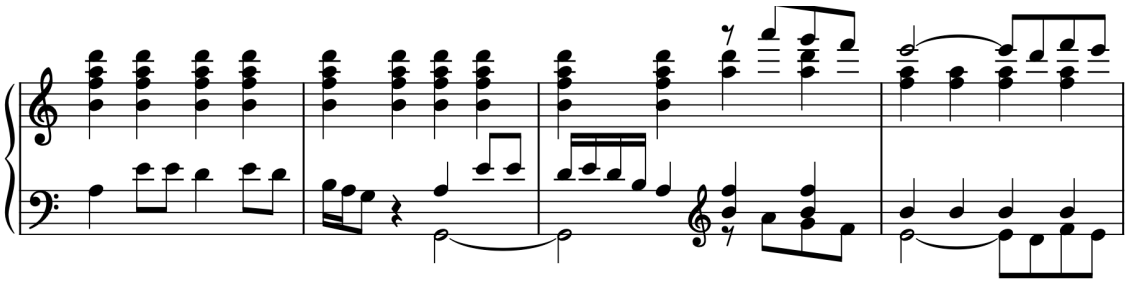

Figure 10: Measures 15 – 18 from Ravel's *Ballade*. B half diminished 7th chord above a supposed G bass note.

A third example of supposition comes from another one of Ravel's compositions, *L'indifférent* from his short, three-song song cycle *Shéhérazade.* On measure 14 of this

song, the strings play a C sharp minor seventh chord against the soprano soloist who sings a D sharp. (In the cello, viola, and two violins, the notes from lowest to highest are G sharp, C sharp, B, E sharp, G sharp, and C sharp. Below all this, the double bass is playing a low C sharp.) The soprano's D sharp turns this chord into a C sharp ninth chord. Pictured below in Figure 11, a piano reduction of these parts is presented. The chord in Figure 11 supports the soprano's melody, in which she sings very recitative like.

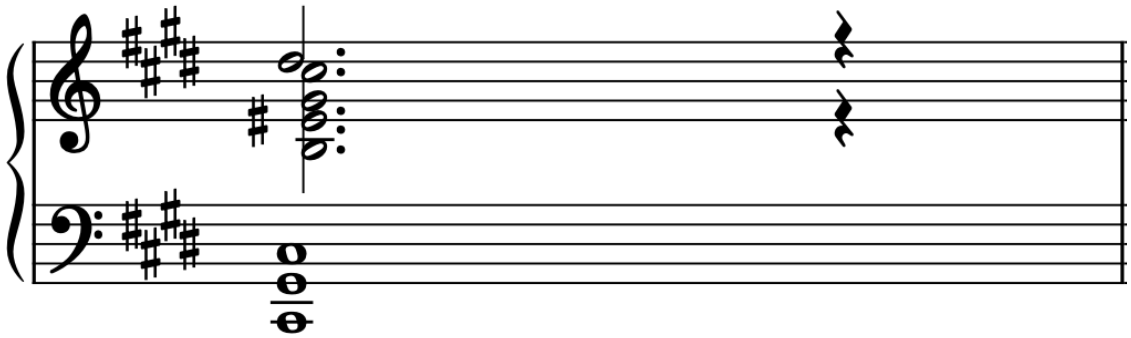

Figure 11: Measure 14 from Ravel's *L'indifférent*. A C Sharp 9th chord on the downbeat from the strings, harp, and solo soprano.

One final example, and arguably the strongest case for supposition, is from Ravel's *Placet futile* (1913). The passage examined is on measure 4 of the piece. On the downbeat of measure 4, the upper strings and the flute together make an F major seventh chord. On the second beat, the harmonies from the strings and the woodwinds quickly change to an F sharp half diminished seventh chord. All these harmonic changes occur over a sustained D bass note in the cello. The chords created from these supposed harmonies are a D minor ninth chord on the downbeat, and a D9 chord on beat 2. Orbiting these harmonies are constant ornamental melodies. Like all the previous excerpts from Ravel, these extended chords by supposition are not conventionally functional, but rather act as color chords beneath the ornamentation. Figure 12 below is a transcription of measures 4 and 5 of Ravel's *Placet futile*.

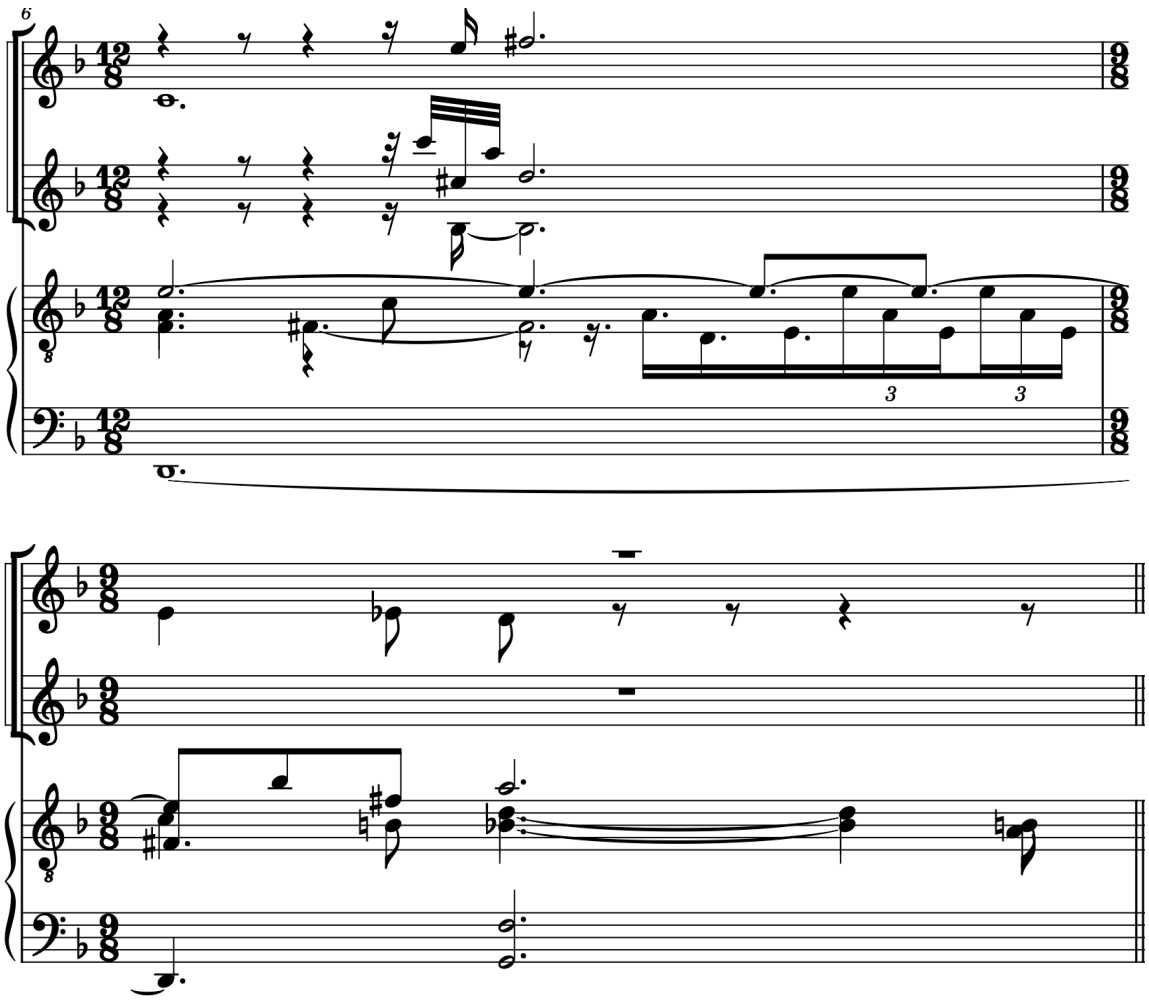

Figure 12: Measures 4 and 5 from Ravel's *Placet futile* (1913). An F sharp half diminished seventh chord appears on beat 2 of measure 4 above a sustained D bass.

Given all of the examples from Ravel's works, it appears that Ravel departed from Rameau's theory of supposition in terms of function and tendency. However, because these extended chords in Ravel's pieces do not resolve anywhere, they hold to Rameau's principle of supposition as harmonic tones. In all the examples provided, true to Rameau's rule of supposition, the supposed bass is added a third below the upper chord, making the resulting chords ninth chords of some sort. Additionally, it is unclear whether Ravel abides by Rameau's view of extensions being added below the chord

rather than above to avoid exceeding an octave above the root. The excerpts from Ravel's pieces containing extended chords complies with Rameau's theory of supposition, but the extended chords also depart from the theory.

Debussy:

Another composer, known for his use of extended chords, who was influenced by Rameau, was Claude Debussy (1862 – 1918). Some surmise that Rameau's influence over Debussy is due to the fact that both men were French nationals. Hence, the nationalistic pride in Rameau's influence over Debussy. Debussy's claim of influence from Rameau was likely drawn for political reasons; his motive was to avoid marginalization by the public in the musical and social world.[122] One particular work by Debussy that reflects Rameau's influence is the opera *Pelléas et Mélisande.* When the opera premiered in 1902, it drew mixed reactions from the audience. After the performance, many in the audience clapped excessively and proclaimed that the opera was a "total work of triumph."[123]

An analysis will be done on an excerpt from *Pelléas* to show examples of ninth and eleventh chords and intriguing harmonic passages to suggest the usage of supposition as a means of building the extended harmonies. In Act 1 Scene 1, at measure 37, an F is in the bass of the accompaniment, while the upper voices contain a G augmented triad, all in the key of F major. These harmonies all occur underneath a recitative melody. If we examine the voicing of these harmonies, the upper voices spell an E flat augmented triad.

[122] Suschitzky, *Debussy's Rameau*, 400.
[123] Jann Palser, *Pelléas and Power: Forces Behind the Reception of Debussy's Opera,* (19th Century Music, 1987), 244.

The bottom note on an F is supposed below this triad. Although this chord is not a chord of supposition in the traditional sense that Rameau understood supposition to be, it still follows the idea of adding a bass note below a chord. Additionally, the F below the augmented triad (and voiced much lower than the triad itself) is a characteristic of a supposed bass note. This augmented chord is approached with an A flat minor triad in measure 36, and is proceeded by a G flat augmented triad above an E bass (the exact same chord by supposition a half step down). The unusual spelling of a chord by supposition also shows how supposition as a harmonic concept has developed since its inception by Rameau.

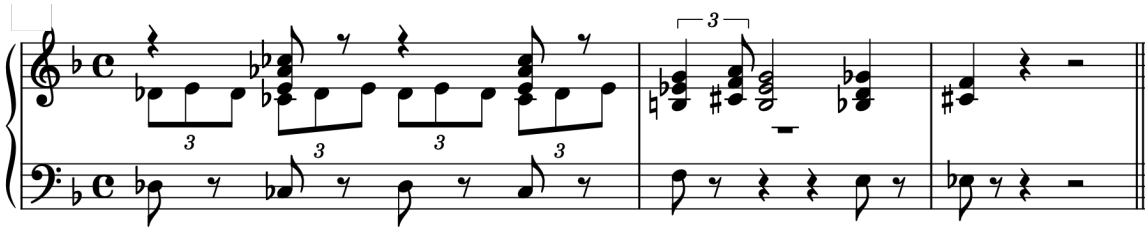

Figure 13: Measures 36, 37, & 38 from Debussy's *Pelléas* Act 1 Scene 1. B augmented triad above a supposed F bass creating an F 9th sharp 11th chord.

Measure 67 in the same piece also contains a chord of interest. Figure 14 is a piano reduction of the excerpt. The chord here is a G sharp half diminished seventh chord. Over a bass note E, turning this into an E ninth chord. Above the E ninth chord, a baritone singer sings a recitative melody. This is a clear example of extended chords being employed in Debussy's opera.

A third example of extended chords in the same opera is in Scene 1 of Act 2. The opening chord in this passage, in measure 3, shown below in Figure 15, follows a two-measure flute melody. This chord is played by the strings and a harp, playing an F sharp

minor seventh chord. Below this chord, the lower strings both play a B. (This is a prime example of supposition) creating a B eleventh chord. This chord is isolated aside from the

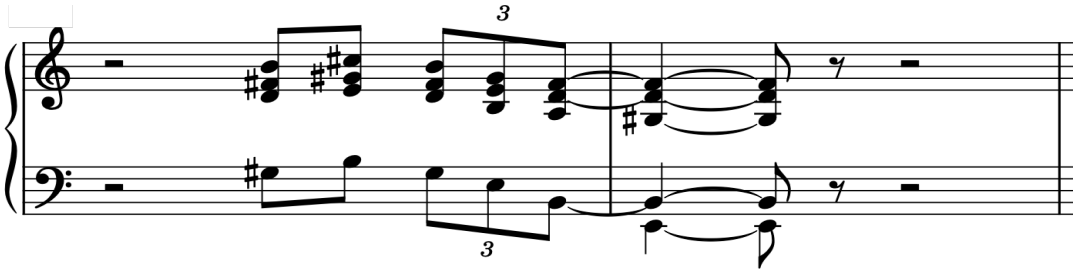

Figure 14: Measures 66 & 67 from Debussy's *Pelléas* Act 1 Scene 1. G sharp half diminished chord above a supposed E bass.

two-measure flute melody that precedes it. Figure 15 shows measure 2 of the preceding flute melody. The B eleventh chord, like some of the previous examples from this chapter, is a nonfunctional color chord.

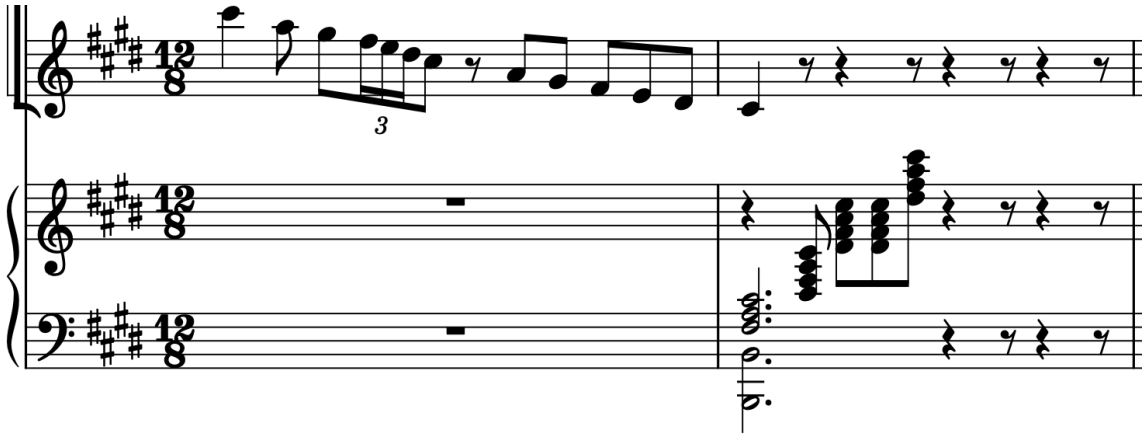

Figure 15: Measures 2 and 3 from Debussy's *Pelléas* Act 2 Scene 1. F sharp minor seventh chord above a supposed B bass, creating a B 11th chord.

Schoenberg:

Another theorist and composer of a later period who drew influence from Rameau was Arnold Schoenberg (1874 – 1951). Schoenberg was noted for utilizing dissonance, post-tonal music, and complex harmonies in his compositions. One interesting thing to

take note about Schoenberg is that he, unlike Ravel, Debussy, and Rameau, was not a Frenchman. Instead, he, ironically, was German. In 1943, he wrote a book, *Models for Beginners in Composition*. One section of interest (Appendix 6) in this book is about harmonic notation, which was later revised by Dr. Gordon Root in 2016. (Root is an Associate professor at the State University of New York at Fredonia. His date of birth is unknown.) In this book, Schoenberg would write all chords with uppercase roman numerals, regardless of whether the chord is major, minor, augmented, or diminished.[124] One of these chords, labeled as ~~II~~, is rootless. However, the omitted E in this chord is heavily implied. The implied bass is a concept that Schoenberg built off of Rameau's theories.[125] This chord, an E9 chord with the implied root, is shown in Figure 16. The interpretation given by Schoenberg holds that all fully diminished seventh chords are ninth chords with the fundamental omitted, which is on par with Rameau's theory of supposition.

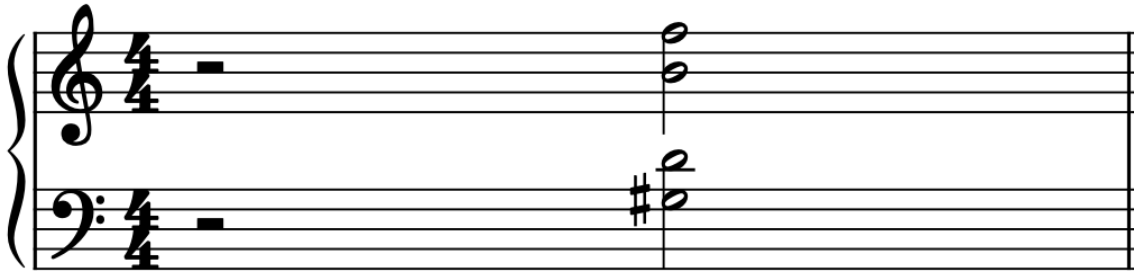

Figure 16: Fully Diminished Seventh Chord (rootless ninth chord) written as ~~II~~ in Roman Numeral Analysis. In the original excerpt, a G major chord is present in the first two beats. For ease of reference, the G major chord is omitted with a half rest inserted in its place.

[124] Arnold Schoenberg, *Models for Beginners in Composition,* (Oxford University Press, 2016), 168-169.
[125] Schoenberg, *Models*, 168.

Understanding fully diminished seventh chords as incomplete ninth chords is a derivative of Rameau's theory of "subposition." Notably, Schoenberg uses the term subposition rather than supposition which are variant spellings of the same concept. However, although supposition and subposition are fundamentally the same theory, there is a subtle difference in the explanation of these two terms. Regarding the fully diminished seventh chord, Rameau views this chord, under supposition, as a dominant seventh chord with the root replaced by the sixth scale degree. Rameau refers to the fully diminished seventh chord as the "chord of the augmented second" viewing E, rather than G#, as the fundamental bass.[126] In other words, an E dominant seventh chord's root is replaced by an F (an augmented second away from G#). Figure 17 shows these two chords.

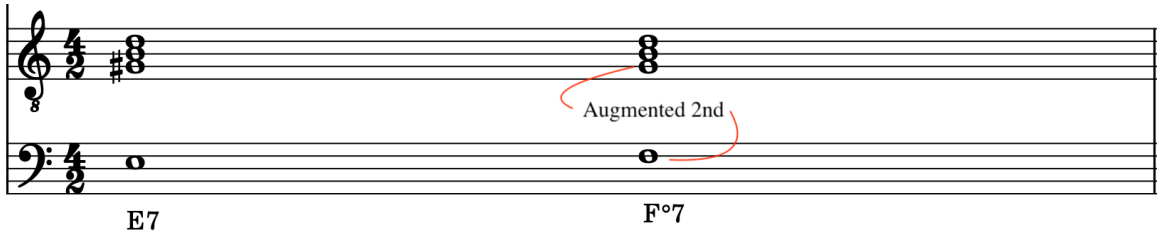

Figure 17: An E7 chord and chord of the "augmented second."

Schoenberg, in contrast, views G# as the fundamental bass, making the chord diminished in property rather than augmented. This is where Schoenberg differed from Rameau in his understanding of subposition or the fundamental bass.

[126] Schoenberg, *Models*, 178.

Schoenberg used subposition much like Rameau used his theory of supposition. However, there were some slight differences between the two terms and their understandings. One of the biggest differences is the understanding of which note is the fundamental bass of the chord. Rameau viewed the fundamental bass of a chord by supposition as the root of the seventh chord. Schoenberg, on the other hand, viewed the supposed bass note itself as the fundamental bass. As noted above, Schoenberg was not a Frenchman but was German. Could this have played a role in the nuance of Schoenberg's understanding of subposition? Possibly, but it is difficult to ascertain. Despite the subtle differences, we can see Rameau's theoretical influence on Schoenberg's use of subposition. Both supposition and subposition use a bass note added below a seventh chord, creating an extended chord of some type. Schoenberg's view of subposition is an explicit use of Rameau's theory of supposition serving as a catalyst for the development of extended chords.

CONCLUSION

This thesis demonstrates that it is reasonable to conclude that Rameau's theory of supposition served as a catalyst for the development of extended chords. Rameau's theory of supposition, a ninth or eleventh chord created by adding a bass note a third or fifth below a given seventh chord, is a complex concept that developed from other theoretical concepts such as the fundamental bass and thoroughbass. All of these musical ideas were shaped by opposing philosophical forces, as well as cultural and nationalistic tensions. During his lifetime, and into the present, Rameau's theory of supposition has caused debate over its interpretation among theorists and philosophes alike. Despite his theories being at the forefront of discourse as the decades passed, Rameau's theoretical and compositional ideas were "largely forgotten…and, if remembered at all, misinterpreted and misunderstood."[127] It was not until nearly 130 years later, in the late Romantic period, that interest in his theoretical works saw a revival.[128] But the reemergence of Rameau's theories, particularly the *Traité*, and his unique harmonic language, has now become orthodox in that his theory of supposition is now recognized as part of the Western theoretical canon.

While this thesis demonstrates the connection between Rameau's theory of supposition and the extended harmonies of later composers, the full extent of Rameau's influence on music since Debussy remains an open question. Indeed, the breadth of Rameau's influence raises questions that beg for further research. Between Rameau's passing and Debussy's debut of *Pelléas*, were there many composers who used Rameau's

[127] Paul, *French Nationalism*, 46.
[128] Paul, *French Nationalism*, 46-47.

theory of supposition in their works? Today, the use of dissonant and extended harmonies is common practice in contemporary pieces. Are modern composers intentionally studying and implementing Rameau's theories? Or, are his methodologies so woven into the fabric of music that the source is not formally recognized? These questions are inquiries ripe for future research.

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VITA

The author of this thesis is Iian C. Snider. “Iian” is his legal name, but he goes by “Ian” as a preferred name. Snider was born on September 25, 1997. In the Fall of 2023, he obtained his Bachelor of Music degree at Azusa Pacific University. In the Spring and Summer of 2026, he wrote a thesis and subsequently graduated from the University of Tennessee in Knoxville. During his last year of my Master’s, he taught three levels of ear training at the University of Tennessee in Knoxville. In January of 2026, he received membership into the Honor Society of Phi Kappa Phi.