

Harmonic Techniques in Maurice Ravel's Opera
L'enfant et les sortilèges

by

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Many recent investigations concerning the music of Maurice Ravel have invariably resulted in attempts to unmask the enigmatic figure behind the music.¹ While this research has been incredibly fruitful, the desire to uncover more about this mysterious individual may distract us from a rigorous analysis of his ingenious music itself. Undoubtedly, Ravel led a secretive and solitary life, and much is left to unearth about this unusual composer. Ravel is nothing, however, without his music—we would have no interest in the man if not for his compositions. And while it is true that the biography of a composer may provide insight into his or her music, it is inversely the case that the study of the music itself may provide concealed information about the life of its composer and the methods behind its composition. This study will therefore uncover the techniques used by Ravel, specifically in the first half of his opera *L'enfant et les sortilèges*, and, in doing so, provide a springboard for new perspectives on both Ravel and his music.

L'enfant et les sortilèges represents some of Ravel's most adventurous work and contains some of his boldest harmonic experiments. Though he received the completed libretto in 1918, Ravel did not supply the music until seven years later, delaying the opera's premiere to March 21, 1925.² During these post-war years, two primary streams of influence added to the already-rich harmonic lexicon that Ravel had developed early in his career: the group of French musicians collectively known as Les Six, and jazz music, which gained a significant French following in the 1920s.

¹ The best example of this may be James Oliver's article "Appropriating biography of critical musicology: A psychobiographical case study of Maurice Ravel and *L'enfant et les sortilèges*"

² Orrin Howard, "*L'enfant et les sortilèges*," LA Philharmonic. Accessed 29 Feb. 2016.

At the start of the decade, long after Ravel had already established himself as one of France's greatest living composers, a group of six French composers emerged in response to the impressionism of Ravel and his elder Claude Debussy. Les Six criticized Ravel's music, which they viewed as an excessively Romantic misrepresentation of French music. Erik Satie, though not a member of Les Six, served as a major source of inspiration for the group. Satie's perhaps bitter belief that "Ravel refuses the Legion of Honor, but all his music accepts it,"³ indubitably influenced Les Six's understanding and interpretation of Ravel's work. Satie's annoyance at Ravel's popularity and distaste for Ravel's perceived superficiality evidently influenced Les Six, as they similarly distanced themselves from Ravel.⁴

Despite media-fueled rivalry between Les Six and Ravel, the elder composer bore no ill will toward the younger composers. Ravel saw it fitting that the new generation of creative talents should distance themselves from established figures such as himself, once even noting that "if [Georges Auric] didn't knock Ravel he'd be writing Ravel, and there's quite enough of that!"⁵ Ravel championed Les Six and incorporated their innovations into his own music. The music and corresponding theories of Les Six member Darius Milhaud were especially influential not just for Ravel, but for French music as a whole. In 1923, Milhaud published two prominent articles titled "Polytonalité et atonalité" and "The Evolution of Modern Music in Paris and Vienna."⁶ In these articles, Milhaud catalogued and analyzed a harmonic

³ Nat Shapiro, *An Encyclopedia of Quotations About Music*. Garden City, NY: Doubleday 1978. 58

⁴ Modern scholars have, however, overstated the extent of the rivalry between Ravel and Les Six. Francois de Medici notes that Louis Durey, for example, wrote an article lauding Ravel in 1921.

⁵ Barbara L. Kelly, "History and Homage," in *The Cambridge Companion to Ravel*, ed. Deborah Mawer. 7-26. Cambridge, MA: Cambridge University Press. 24-5.

⁶ Francois de Medici, "Darius Milhaud and the Debate on Polytonality in the French Press of the 1920s," *Music and Letters* 86.4 (2005) 573-591. Oxford University Press. 573.

technique that had, according to him, grown in France parallel to the atonality of the Second Viennese School: polytonality, a harmonic system on par with tonality and atonality.

Polytonality presented an attractive opportunity for young French composers to differentiate themselves from both the traditional tonality of Common Practice music and the abrasive atonality of their German counterparts. Milhaud identified Igor Stravinsky's *Le Sacre du printemps* in particular as the source of a wave of research on polytonality.⁷ In 1920, Henri Collet first coined the term *Les Six*, identifying polytonality as the technique which unified the young composers.⁸ Collet's account of polytonality, however, is severely lacking and poorly defined. Prior to Milhaud's articles, the term *polytonality* had not reached mainstream understanding, and theorists often erroneously interchanged the term with *atonality*. Even Charles Koechlin, born in 1867 and by most accounts the oldest composer to associate himself with polytonality, bore a perception of polytonality that was likely too broad, evidenced by his interpretation that Arnold Schoenberg's *Pierrot Lunaire* contained polytonality.⁹

Garnering both allies and adversaries, a significant degree of critical attention focused itself upon polytonality in France during the 1920s. Alexis Roland-Manuel, one of Ravel's dearest pupils and closest friends, stated that he doubted its very existence¹⁰ —as Ravel's student was aware of the technique, Ravel would surely

⁷ Darius Milhaud, *Entretiens avec Claude Rostand* (2nd ed., Paris, 1992), 48-9.

⁸ Henri Collet, "Un livre de Rimski et un livre de Cocteau. Les cinq Russes, les six Français et Érik Satie," and "Les Six français: Darius Milhaud, Louis Durey, Georges Auric, Arthur Honegger, Francis Poulenc et Germaine Tailleferre," both printed in *Comoedia* in Jan. 1920.

⁹ de Medici 574, 577.

¹⁰ Ibid 579.

have been well aware of polytonality as well. Music historian Barbara L. Kelly suggests that measures 52-55 of Ravel's Concerto in G indicate that "Ravel knew Milhaud's *La Création du monde*."¹¹ Ravel's *L'enfant et les sortilèges*, a fantastical opera with singing objects and animals, may have presented the perfect setting for Ravel's own foray into polytonality, though he never recorded his own thoughts about the technique.

To this day, polytonality remains the subject of vehement debate. Many theorists cast strong doubts regarding its existence. Music theorist Peter van den Toorn expresses what is likely the most forceful argument against the existence of polytonality, asserting that

The 'bitonality' or 'polytonality' of certain passages in [Stravinsky's music] can no longer be taken seriously.... Presumably implying the simultaneous... unfolding of separate 'tonalities' or 'keys,' these notions—real horrors of the imagination—have widely (and mercifully) been dismissed as too fantastic or illogical to be of assistance.¹²

Van den Toorn's opposition to polytonality is rooted in his assertion that the term contains an analytic contradiction. *Tonality* necessarily implies certain hierarchical pitch structures in which every note bears a specific relationship to the tonal center. *Polytonality* thus requires the ability to hear and process every pitch in relation to two tonal centers simultaneously, a skill which would require great training or an unusual inherent ability. As such, it may be wisest to simply rename the technique used by Milhaud and the other members of Les Six. Although these composers undoubtedly intended for their music to be polytonal, a more accurate term than *polytonality*

¹¹ Kelly, "History and Homage," 25.

¹² Peter Van den Toorn. *The Music of Igor Stravinsky*. New Haven, CT: Yale University Press, 1983. 63-64.

represents the phenomenon. Music theorist Dmitri Tymoczko proposes that the “simultaneous use of musical objects which clearly suggest different source-collections” be called *polyscalarity*, or *polyscalar superimposition*.¹³ These terms both acknowledge the techniques used by Les Six while sidestepping the theoretical debate surrounding the perceptibility of polytonality. Through score analysis, one can identify polyscalar superimposition as the method of composition, whether it is audible or not.

In the years following World War I, Paris experienced a more conspicuous cultural change as well. While jazz swept over the city, France’s finest composers began to explore the foreign style within their own pieces. Milhaud explored jazz harmony in his *La Creation du monde*, which he composed after his 1922 trip to the United States. Ravel had been aware of the genre for much longer than Milhaud, however, as ragtime recordings had started trickling into Europe by 1900.¹⁴ Ravel demonstrated that his knowledge ran much deeper than many of his fellow composers, crafting newspaper articles which demonstrated a scholarly understanding of the jazz music which was so newfound to his peers. He wrote that

Jazz music is not a twentieth-century product; its beginning dates much earlier. The old Scotch melodies possess the elements of the modern blues; the French-Italian melodies of 1840 (for example, the ballet, *Griselle*, by Adam) also contain elements of present jazz music. The music of Gottschalk, the Creole composer at the time of the Second Empire, was possibly the ancestor of Blues and Charleston rhythms.¹⁵

¹³ Dmitri Tymoczko. “Stravinsky and the Octatonic: A Reconsideration” *Music Theory Spectrum* 24.1. 68-102. 84

¹⁴ Robert Rogers. “Jazz Influence on French Music.” *The Music Quarterly* 21.1 (Jan 1935) 53-69. Oxford University Press. 56, 62

¹⁵ *Boston Evening Transcript*, Music Section, Apr. 21 1929.

Although Ravel expressed a greater fascination with jazz rhythms than with jazz harmony, the musical tradition had a noticeable impact on his music. Ravel even titled the second movement of his Violin Sonata No. 2 *Blues*, placing the piece in conversation with the contemporary jazz of his time.

The harmonic perplexities of *L'enfant et les sortilèges* do not lend themselves to singular unequivocal analyses; many passages of the opera present harmonic ambiguities that can be interpreted as one or more of: 1) rich chromaticism within the tonal tradition, typical of Ravel's early work; 2) polyscalar superimposition, typical of Les Six and other younger contemporaries of Ravel; 3) melodic inflections, or *blue notes*, typical of the jazz tradition. Some passages in the opera only ascribe themselves to one of the three possibilities, while others combine the multiple methods in differing ways. For example, during the Child's tantrum near the beginning of the opera, Ravel utilizes rich polychords to form the accompanying harmonies, but maintains a tonal macrostructure by preserving the function of these harmonies and their tonal relationships. In other words, Ravel's unusual dissonances do not replace tonal harmonic relationships within the opera; instead, Ravel merely creates the illusion that the harmonic content is non-functional or non-tonal.

The overture of *L'enfant et les sortilèges* begins with two oboes moving in parallel fourths and fifths—characteristic of medieval organum, a harmonic planing technique that had been revived at the end of the 19th century.¹⁶ Interestingly, Ravel recontextualizes this harmonic technique by changing the time signature of each measure, melodically slurring the oboes and varying their phrase lengths. At rehearsal

¹⁶ Steven Kronauer. "Performance Practice in Maurice Ravel's Lyric Fantasy *L'enfant et les sortilèges*," (PhD diss., University of California, 2006.) 11

[1], a single contrabass enters, playing a gently dissonant melody using harmonics on its G string. The melody contains only one accidental: F \flat . This note, however, is the first of each melodic segment, and therefore firmly establishes itself as part of the harmonic content. While one could understand the F \flat as a layering of the minor second (or $\flat 9$) scale degree over an E Aeolian modal backdrop, the singing nature of the contrabass's melody implies that the F \flat may instead be acting as an independent and secondary tonal center from which a pentatonic scale emerges. One could also interpret this note as the minor seventh (or $\flat 7$) of G. This scale degree most closely approximates one of the melodic inflections common to American jazz, which frequently makes use of the Mixolydian mode. Because Ravel avoids the explicit dissonance of the F \flat and the F \sharp , one could likewise interpret this section as the subtle shift to an Eastern pentatonic key, with the F \flat becoming its minor third—possibly meant to approximate the *blue note* of American jazz. The *blue note* is a melodic inflection that is slightly flatter than equal-tempered pitches. *Blue notes* specifically refer to the $\flat 3$, $\flat 5$, and $\flat 7$ scale degrees.

At rehearsal [2], the Child enters the scene complaining about his homework and expressing what things he would most prefer to do instead. The unnamed Child's mother enters shortly after rehearsal [3], addressing the Child's insubordination and laziness. At rehearsal [7], the orchestra enters at full force for the first time in the opera, marking the beginning of the Child's temper tantrum. The jarring harmony at the beginning of this section includes the notes F–A–C \sharp –E in the woodwinds,

implying an Fmaj7#5.¹⁷ The strings, playing pizzicato, subtly introduce two notes not belonging to the harmony set forth by the woodwinds: B \flat and D. The disparity in volume between the pizzicato strings and the blasting woodwinds result in the B \flat and D of the strings carrying relatively little impact in defining the harmony, merely adding color to the Fmaj7#5 chord. These two notes, however, can be heard as the root and major third of a harmony that is rooted on B \flat , the perfect fourth of F which then functions as a secondary tonal center. While it is possible that Ravel conceived of the orchestra as one cohesive harmony, it is more likely that this harmony represents two independent sections of the orchestra, implying two distinct tonal centers in order to create a jarring effect representative of a child's temper tantrum.

The whirring music that accompanies the Child's tantrum is highly chromatic and contains cascading triplet figures. The music corresponds with the Child's mischievous behavior, which includes pulling a cat's tail, haphazardly brandishing a fireplace poker, and slicing his homework into pieces. After rehearsal [15] the passage reaches a climax, settling on a particularly unstable harmony, and ending before resolving, much like a half cadence.

This harmony is, in fact, a half cadence with a heavily altered V chord. This V chord is a polychord—two separate chords layered together. Most of the instruments in the orchestra play one of three notes: E \flat , G, and B. The addition of a D \flat in the third trombone suggests that this is an altered E \flat 7 harmony, or an E \flat 7#5. Six of the instruments—four horns and two trombones—ring out an entirely independent

¹⁷ For chords lacking specific nomenclature, this document will adopt the naming conventions of jazz notation.

harmony. These instruments together combine to form an A minor seventh chord, which serves to further destabilize the already unstable Eb7#5 harmony.

At rehearsal [17], the opera begins its transition into childlike fantasy. The armchair and sofa, mere props until this point, become animated figures, singing about the behavior of the tempestuous Child. The music accompanies this transition with a short interjection by the bassoon, and then a highly chromatic and bizarre piano ostinato. While this ostinato contains a rather typically tonal alternation between the key center and its dominant, Ravel presents several perplexing harmonies within this framework. The first chord, containing a G and D in the left hand and Bb, Eb, and F# in the right, is a GmM7¹⁸ chord belonging to G harmonic minor. Because of the prominence of the Eb, however, a listener may mishear this tone as the augmented fifth of G, rather than its minor sixth. The indiscernibility of this note supplies the chord with a mysterious and augmented flavor.

The obscurity of the harmony rooted on the dominant is similarly puzzling. With D in the bass, the right hand first plays Eb–A–C#, or the b9, 5, and 7 of D, respectively. On the upbeat, the right hand planes a minor third upward, sounding E–F#–C. This latter harmony contains, in addition to the major third, the 9 and b7 of D. Despite the consonance of the latter harmony's intervals, the upward planing of the minor third causes this harmony to sound similar to a diminished seventh chord. Upon close analysis one discovers that all six tones belong to an Eb half-step–whole-

¹⁸ Throughout this document, minor-major seventh chords will be referenced using standard jazz notation

step octatonic scale, resulting in the diminished sound of the two harmonies. Oddly, the octatonic scale to which these notes belong does not contain a D, the root of the harmony.

The third and fourth measures after rehearsal [17] create a dreamy atmosphere similar to the prior. Rather than containing harmonies belonging to a specific key, both measures seem instead to be effective due to a combination of smooth voice leading, common tones shared between consecutive triadic harmonies—though several of these harmonies are only triads if spelled enharmonically—and repetition of the short pattern which these triads follow. The harmonic material ascends in the third measure after rehearsal [17], and in the following measure descends in a parallel fashion.

While these harmonies occur, the armchair and couch begin a duet accompanied by the piano. The two pieces of furniture sing in G melodic minor, but Ravel creates ambiguity by freely using the raised seventh scale degree, F♯, without it leading to G. The result is harmonically ambiguous melodies which, in certain moments, sound more like the key of G major than G harmonic minor. As a result, the two voices sometimes sound as if they are singing in a different key than the piano. As thusly evidenced, *L'enfant et les sortilèges* is largely based on systems of tonality subtly disguised as polytonal or synthetically-derived chromaticism.

After a colorfully orchestrated instrumental passage, the armchair and couch finish their duet. This number leads directly into the next, sung by a Grandfather Clock previously broken by the Child. Due to its driving and staccato quarter note rhythm, as well as its syncopated hits by the orchestra, this composition bears an

incredible sonic likeness to the famous “Augurs of Spring” passage in Igor Stravinsky’s *The Rite of Spring*—if placed within a totally unrelated operatic setting. Similar to many sections in the *Rite*, the harmony shifts at each rehearsal number, meaning a single pounding chord will persist for several measures before abruptly shifting to another, often tonally-related, harmony.

Initially, these orchestra hits merely contain five tones, D–E–F♯–A–C♯, all belonging to the D major scale. The contrabass and trombone both also play the D as bass note, reinforcing it as the root of this rich harmony. At rehearsal 24, however, a subtle yet remarkable transition takes place. While the D remains in the bass, the harmony above it changes to a new hexatonic collection of notes, A–B–C–E–F–G♯. Though the harmony is transposed upwards by a fifth, an insistence of the low D dominates the harmonic content. This harmony suggests that the music has quietly shifted to A harmonic minor, with the G♯ representing the raised seventh. The Grandfather Clock, already freely singing F♯, now begins to sing G♯, rather than G♯. This transition suggests a shift to A melodic minor in the vocal part, corresponding to the harmonic shift to A harmonic minor. Despite the advanced rhythmic material of this piece, its harmony remains firmly entrenched in a tonal structure with D as the tonic and A as the dominant, a structure to which the piece modulates at rehearsal 24.

Rehearsal 25 sees the violins assume the role of harmonic support, accompanying another subtle harmonic shift. The main harmony for this section contains the collection of notes G♯–B♭–C♯–D–F, spelled with a G♯ in the bass. One could interpret this collection of pitches in varying ways. Together, these pitches could be understood as an enharmonic spelling of the third inversion of B♭7♯9, which

includes both the major and minor thirds of B \flat . This minor third or $\sharp 9$ approximates the *blue note*. It could also be heard as a Dmaj7 $\sharp 5$ chord rooted on the $\sharp 11$ (or tritone) of the chord. G \sharp is not only the root of the chord, but also the only tone that is doubled, lending it significant weight in this harmony. This chord should therefore be understood as an unstable cluster of tones relating to G \sharp .

The harmony does not shift again until rehearsal [26](#), at which point it returns to A minor. Above the bass, which likewise returns to A, the orchestra transitions as well, playing C–E \flat –G–F, suggesting a shift to an A half-diminished seventh chord. The piccolo plays a short B major arpeggio that is superimposed over the A half-diminished harmony. While this short phrase may be understood as a polytonal interjection that is not incorporated by the mind as a part of the rest of the harmony, the prominence of the B \natural could trick the ear into interpreting the tone as a member of the harmony. One could then falsely identify the harmony as an A half-diminished with the 9, implying it belongs to the A half-diminished mode, the sixth mode of C melodic minor.

The A-rooted harmony continues to persist for the entire 12 measures between rehearsal [26](#) and [27](#), though a B \flat is added to the harmony in the tenth measure after rehearsal [26](#), incorporating B \flat into the harmony, while the B \natural in the piccolo has until this point implied a secondary tonal center.

At rehearsal [27](#), the orchestra explodes, playing the most climactic and unstable harmonies of the composition. For the first three beats of each measure, the orchestra plays the notes G \flat –B \flat –D–F, rooted on F, spelling the third inversion of

G \flat maj7 \sharp 5. On the fourth beat, the harmony changes to the notes D–F–A–C \sharp , still rooted on F, spelling the first inversion of DmM7. These two extremely unstable harmonies alternate for the remainder of the climax, contributing to the section's energy and power. As the number ends, instruments are incrementally removed from the harmony, leading to the next pair of numbers, respectively a solo by a Wedgewood Teapot and a duet in which he is joined by a Chinese Teacup.

Of all of the musical numbers in *L'enfant et les sortilèges*, the duet between the Teapot and Teacup represents the surest example of polytonality. The Teapot, whose accompaniment is a ragtime, enters first, set in the key of A \flat minor. Here Ravel again switches freely between melodic and harmonic minor within his melody, using F \flat (the minor sixth) while ascending to G (the raised seventh), and then descending from the raised sixth to the perfect fifth. While the harmony behind the Teapot's solo moves predictably amongst the ii, V, and I chords, the orchestra plays particularly colorful harmonies through the typical tonal progression. In the fifth measure after rehearsal 29, over the E \flat 7 chord in the piano, the orchestra plays both D \flat and D (the \flat 7 and 7 of E \flat , respectively). In other words, the V7 chord contains a major seventh as well as a minor seventh. This dissonance, aided by the vibrant and exciting instrumentation, corresponds in its comicality with the silliness of the Teapot character. Two measures later, the harmony shifts to an A \flat minor triad, with its tritone prominently presented aside the perfect fifth of the chord. While dissonance occurs between D and D \flat in the former harmony, the dissonance returns in the latter harmony one pitch higher, between E \flat and D. Underneath it, the bass shifts

expectedly from Eb to Ab, establishing an underlying tonal structure. After implying a shift of the tonal center to C for several measures, Ravel establishes a C7 harmony two measures before rehearsal [31] in evident preparation for the shift to F major during the Teacup's short solo.

The Teacup, meant to caricaturize all East Asians, sings only in an F pentatonic scale stereotypical of Chinese music while the gentle orchestral accompaniment gently reinforces the key of F major. At rehearsal [33], the Teacup's solo ends as the following instrumental section bridges together the two solos with the duet. Ravel combines the orchestral accompaniments of the Teapot with the melody of the Teacup during this instrumental section, wherein a trombone plays the Teacup's melody. Having heard the original two solos, a listener would likely associate the Teacup's melody with the key of F major, which Ravel uses to his advantage in order to develop a strong contrast between the F pentatonic melody and the Ab minor ragtime accompaniment. Shortly thereafter, the Teapot's accompaniment ceases; in its place, the Teapot joins the Teacup, both now in F major, and the two leave the stage while singing together. After the duet, a short scene occurs in which the Child laments over his "*belle tasse chinoise*," his beautiful Chinese teacup. The accompanying celesta moves in parallel fourths, simultaneously stretching the music of the Teacup and recalling the opening scenes of the opera. The music here represents a turning point for the Child, who seems to feel remorseful about his violent tantrum.

As the Child seeks the warmth of the fireplace, the Fire suddenly and dramatically comes alive, warning the Child to stay away lest the Fire burn the

wicked boy for coming too near. At rehearsal [39](#), the piano begins to play rapid runs, outlining the C# diminished-whole tone scale, the seventh mode of D melodic minor, otherwise known as the C# altered scale. The strings slowly swell underneath the Fire's voice and piano's accompaniment before joining the whole orchestra in resolving to a clear and authoritative C major triad at rehearsal [40](#). Of all of the scenes in *L'enfant et les sortilèges*, here one finds the surest example of traditional tonality. Most of the chords accompanying the Fire are simply triadic or unaltered seventh chords, often in root position. Although the key center moves from C to D to E, the harmonic movement is not unusual—it's merely symptomatic of the operatic. This number is meant to showcase vocal acrobatics, as rather than employ dissonant and clustered harmonies, Ravel uses simple harmonies in order to provide the singer with an accompaniment conducive to an accurate performance of the vocal part.

In the next scene, one of the most haunting of the opera, the tiny Shepherds and Shepherdesses printed on the torn wallpaper of the Child's bedroom begin to sing in four-part harmony. The scene begins with a soft drone and ostinati on both the small timpani and the piano. The drone, consisting only of the notes A–D–E, creates an ethereal, suspended sound in order to effectively obscure the tonal center, though the bass consistently remains on A. At rehearsal [52](#), Ravel inventively instructs the tenors (and bassoons) to sound parallel major seventh intervals. They begin by sounding both G# and Gb, then F# and Fb, before resolving to G# and E. The distinct separation between the two voices creates a peculiarly crunchy effect, which greatly resembles the polytonal compositions of Milhaud. Intent listening to this passage will reveal to the listener that the lower voice sounds as if it were singing in a totally

different key—perhaps the key of E major, in which the G \sharp and F \sharp are the major third and major second, respectively. The audible distinctness of the lower voice from the others hints that the lower voice is meant to be heard as the superimposition of a foreign key over the A minor drone.

At rehearsal [53](#), the harmony begins to migrate tonally, moving first to the subdominant D minor. Ravel subtly alternates D minor and D major at each measure by raising or lowering the third of the chord, which only appears in the basses and the piano. After six measures, the harmony shifts to the dominant before quickly returning to the tonic, A minor, at rehearsal [54](#). The harmony transitions from A minor to C major, which Ravel then uses as a pivot for transitioning to F major at rehearsal [55](#). The harmony quickly returns to A minor after passing through its subdominant and dominant chords once more. At rehearsal [56](#), the composition transitions to its striking B section, which does not deviate from A major, the parallel major of the original key. At rehearsal [57](#), another possible case of polytonality occurs. The petite clarinet plays an odd melody, which prominently includes a D \sharp . Because it begins with the first three notes of B major, the melody sounds strangely out of place from the beginning. As the melody develops, it settles into the key of E major, allowing it to assimilate into the A major harmony established by the rest of the orchestra.

After a duet by two of the Shepherdesses, the composition returns to A minor at rehearsal [60](#), then transitions to the A` section at rehearsal [61](#). As the scene draws to a close, the parallel major seventh intervals figure prominently. The bass clarinet continues to alternate between the out-of-place G \sharp and F \sharp , even after the rest of the

instruments and singers—with the exception of the contraltos—have exited. In support of the polytonal interpretation of the parallel major sevenths, this continued alternation divides its playing into melody fragments from two separate tonal centers.

After hearing the lament of the Shepherds and Shepherdesses, the Child, recognizing the impact of his tantrum, begins to weep. Meanwhile, a beautiful princess emerges from one of his fairytale books. A harp accompanies her materialization, playing sweeping 32nd note arpeggios. At first, the harp does not deviate from the notes F–A \flat –B–C–E. This set of notes could represent an FmM7 with the $\sharp 11$ (or tritone). If the A \flat is respelled as G \sharp , the harmony could also be understood as a Cmaj7 $\sharp 5$ with the $\natural 11$ (or perfect fourth). The contrabass here holds an F, evidencing that the former interpretation is likely the more reliable of the two. Regardless, the ethereal harmony transitions into a harmonically ambiguous counterpoint between the Princess and the flute. Despite being written with an E \flat major key signature, the flute avoids establishing an unequivocal tonal center, though several of the Princess's melodies end on the note C, suggesting that she may be singing in C minor. The fourth scale degree of E \flat major, occasionally rises to A \natural , representing a momentary shift to E \flat Lydian (or C Dorian).

At rehearsal 65, the key signature changes to E major for all of the instruments—with the exception of the bass clarinet, strangely set in the key of concert F. The woodwinds then trade virtuosic 32nd note arpeggios. The bass clarinet begins by outlining a first inversion F major triad for two beats, after which the bassoon enters, outlining a root position G \sharp half-diminished seventh chord on the

third beat, and then a second inversion C \sharp triad on the fourth. This peculiar sequence of chords, which is repeated in the next measure, contains an unusual but seemingly tonal sequence that quickly gives way to a more typical resolution. The sequence travels from a D major triad to a G minor triad. Over this G minor harmony, which thereafter transforms into a Gm7, the Princess sings the series of notes C \sharp -G \sharp -F \sharp , the $\sharp 11$, $\flat 9$, and 7 of G, respectively. Unless these non-chord tones are disregarded, or considered unresolved appoggiaturas, there exists no clear explanation for this harmony. In the second half of the final measure before rehearsal 66, the clarinet outlines a G half-diminished chord, after which two alternating and virtuosic flutes assume the role of accompaniment. These flutes mimic the harmonic sequence first established by the bass clarinet and bassoon, outlining a C major triad, followed by an E half-diminished seventh chord and A7 chord. Though the C chord is the perfect fifth of the F major triad, the E half-diminished and A7 chords are both transposed down by a major third from the earlier sequence.

The clarinet rejoins the flutes at rehearsal 67, at which point the instruments trade arpeggios with each beat. To maintain clarity, the harmonic movement temporarily diminishes, remaining in D Dorian for three measures. At rehearsal 68, a dramatic textural shift occurs. Several instruments, including the petite flute, petite clarinet, oboes, bassoons, and violins, enter and play long tones. Meanwhile, the two flutes arpeggiate D half-diminished, while the contrabass and cellos continue to play D as well. While the harmony has subtly shifted from Dm7 to D half-diminished, many of the entering instruments highlight A \flat -C-G, implying an A \flat maj7 chord superimposed over this D half-diminished seventh chord. Because these chords share

two chord tones, their harmonies remain difficult to differentiate from one another. A clear shift in mood occurs, attributed to the prominence of the major third interval between A \flat and C. Two measures later, the harmony shifts to Gm7, though the D remains in both the bass and in the vocal part of the Child.

At rehearsal 69, the orchestral texture thins. The flutes begin to arpeggiate a C minor triad, then Cm7, before returning to Dm7. In the third measure after rehearsal 69, the harmony resolves from Cm7 to Fmaj7. This resolution is atypical of tonal music. While dominant-to-tonic movement in tonal systems is typically based on the resolution of the tritone in the dominant 7th chord, Ravel's Cm7 chord here resolves without building any harmonic tension. The Fmaj7 then transitions to the first inversion of the D half-diminished seventh chord, which could also be understood as an Fm6 chord.

At rehearsal 70, the counterpoint section between the flute and Princess returns. The Princess's vocal melody in the later counterpoint section, however, is far more harmonically ambiguous than in the former. In the last two measures before rehearsal 71, the flute plays a descending C major triad arpeggio, which leads into the return of most of the orchestra.

This final section of the Princess's song accompanies her departure, which greatly upsets the Child. The return of the orchestra coincides with the most eerily adventurous harmony of the scene. Although this chord, containing F–A \flat –B–C–E, has already appeared in the opera with the entrance of the Princess, the unusual spelling of the chord and the shifting texture of the orchestra contribute to its now-haunting quality. While the F remains in the bass, suggesting that this chord is an

FmM7 with the tritone added, the seventh of the chord figures more prominently, appearing in both the first trombone and the horn. The doubled seventh slightly destabilizes the chord, and creates added dissonance with the root of the harmony. Although the harmony does not change again until rehearsal 72, the texture of the orchestra shifts with the following entrances of the clarinets, violins, and violas.

At rehearsal 72, a brief but dramatic orchestral intensification takes place. The flutes, oboes, horns, trumpets, and violins all reenter, and then exit, within the rehearsal number's first two measures. The harmony of the orchestra during these two measures is best understood as a vertical representation of a scale, rather than as a triad or seventh chord. Each note of the scale, which consists of the notes C–D–E–F–G–A^b–B (with the A^b sometimes enharmonically spelled as G[#]), sounds within the measures. The scale, which composer Nikolai Rimsky-Korsakov first identified as the harmonic major scale,¹⁹ completes the harmony that is outlined by the harp at the first entrance of the Princess. This climactic musical event also accompanies the final—and highest—note sung by the distraught Princess, who, upon imperative return to her book, begs the Child to help her remain with him.

The harmonic movement during the entirety of the Princess's scene is remarkably tonal. Rather than shift with each rehearsal number, as is the case in the previous scenes, the harmony in this scene shifts frequently, usually every two beats. Triads and seventh chords dominate the harmonic material. Although there are several unusual harmonic events in the scene, such as the use of the harmonic major scale and the unusual G minor chord containing C[#]–G[#]–F[#], the movement of the

¹⁹ Rimsky-Korsakov

harmony is fairly traditional. Ravel frequently makes use of dominant-tonic relationships, utilizing a variety of techniques to obfuscate the tonal relationships of his harmonies.

The Child, powerless to save her, despairingly watches the Princess leave. A chamber-like ensemble composed of two clarinets, a bassoon, and three violins accompany the Child in his lament. At the beginning of this brief song, the most impressionistic of the opera, the trio of violins plays a series of three-note pitch collections over the pedal tones G and B \flat held by the clarinets and the bassoon, respectively. The violins clearly establish E \flat major as their tonal center, which operates over the bassoon's B \flat bass note. From the first E \flat triad played by the violins, the trio only ventures to F suspended (with the notes F–G–C) and G minor for the first four measures after rehearsal [73]. The harmony continues to shift subtly and alternate between triads and suspended chords. Meanwhile, the Child rarely wavers from B \flat as well, only resolving downward to E \flat at the end of the seventh measure. All of these elements contribute to the initially impressionistic texture, which emerges due to Ravel's brilliant orchestration.

The solo oboe and solo horn enter, coinciding with the climax of the Child's vocal line. The beauty of this climactic moment cannot be reduced to its harmonies, which are typical of Ravel's early works. Ravel relies on the heartfelt performances of the Child, the clarinetist, and the hornist to convey the emotional significance of the scene. Four measures before rehearsal [75], the bassoons, clarinets, and oboes interrupt with a sour E \flat augmented triad. The Child sings his final line, bemoaning

the cruel lessons he has received, and the harp strikes the final chord, a fully-resolved E \flat major triad.

This resolution is short-lived. A significant portion of the winds, as well as three trumpets, return at *fortissimo* only an eighth note after the final pluck of the harp. These wind and brass instruments are instructed to play *tremolo dental*, a technique also known as *flutter-tonguing*. In addition to these startling elements, the chord contains the notes A–C–C \sharp –D \sharp –F–G. Without the trumpets, the woodwinds would be limited to an F major triad with an added 9. The trumpets, however, redefine this harmony, forcefully adding C \sharp and D \sharp to the sonority. Although no bass note can be distinguished from this collection of pitches, the chord is clearly an altered dominant seventh chord rooted on A. The trumpets blast A–C \sharp –D \sharp , the root, major third, and enharmonically-spelled $\flat 5$ of the chord. In the woodwinds, C is the $\sharp 9$, F (or E \sharp) the $\sharp 5$, and G the $\flat 7$. With the $\sharp 9$, $\flat 5$, and $\sharp 5$, this A7 chord reinforces the dynamics and articulations used in its creation.

This startling chord, along with the crash of a cymbal, accompanies the entrance of the next character, the Mathematician, who begins to sing four measures after rehearsal 75. The piano begins with a rather innocuous two-beat ostinato establishing B major. (Interestingly, if the previous altered dominant chord is understood as resolving to the B major played by the piano, the former chord would be the $\flat VII$ resolving to I in the key of B, in which case, it would be more accurate to call the A7 an altered *subtonic* seventh chord.) The Mathematician rapidly spurts out segments of mathematical word problems from the Child's textbook. A pattern made up of crashing and percussive hits pervades the scene. One measure before rehearsal

[76], the piano and harp together strike 12 strings total, all sounding either C# or G#. This unusual stacking of one note and its perfect fifth is followed by a hit from the trombones and tuba, all of which play C#. At rehearsal [76], the harmony moves to G7, which is played by the violas and cellos. One measure before rehearsal [77], the woodwinds play a short fill, elaborating the G7 by adding a C#, the #11.

Rehearsal [77] has the strings, piano, and harp all play a thicker ostinato. The instruments together sound every note of the F# melodic minor scale (also known as the B Lydian dominant scale when rooted on B). The ostinato continues for seven measures, after which the trombones and tuba respond by playing two brief hits—a first inversion Amaj7#5, followed by a third inversion Bmaj7. These chords, though brief, represent the beginning of a pattern of increasing harmonic complexity.

At rehearsal [78], the contrabassoon takes over, playing two alternating quarter notes a minor ninth apart, D# and E. This minor ninth interval becomes an important motif developed by Ravel in this scene. The bassoons, clarinets, and horns each take a turn continuing the ostinato developed by the contrabassoon. A chorus of numbers joins the fray, repeating every phrase sung by the Mathematician. A short instrumental interlude takes place at rehearsal [79]. For the first two measures, the woodwinds are limited to D# and A#. The trumpets, meanwhile, play a startling minor second interval between D# and E. The jarring minor second dissonance is another important motif in this scene. The woodwinds and harp then play a sweeping descent, followed by a *glissando* ascent in the piano.

Rehearsal [80] has the Mathematician continue reciting arithmetic problems. The harmony begins to change each measure, alternating between G minor and first E

major, then C# minor. At rehearsal [81](#), the harmony moves to a first inversion Ab7#5 chord, which lasts two measures. The piano here assumes the role of sole accompanist, continuing the Ab7#5 harmony for four measures before resolving to Amaj7 for two measures. The minor second dissonance returns, as the piano strikes both G and G# at the same time on the first beat of each of the last two measures before rehearsal [82](#). The G and G# represent, respectively, the b7 and 7 of the A major triad, creating an unusual harmonic effect that also appears in the accompaniment of the Teapot earlier in the opera. Ravel understood the ability of a major triad that contains both the b7 and 7 to convey humor, particularly physical humor.

As the opera enters into rehearsal [82](#), the harmony becomes slightly more ambiguous. The harmony moves between C# major and E major for the most part, occasionally shifting to B half-diminished or Bb7. One measure before rehearsal [83](#), Ravel uses another dominant seventh chord with a playful minor second dissonance. In this instance, he uses the more typical E7#9, which includes both G# and G. A dramatic shift then takes place as the accompaniment stops completely. The Mathematician then begins to list the names of incrementally larger and larger measurements and numbers. Although the piano begins by playing a consistent ostinato set in the key of C# major, the tempo and dynamics increase appropriately. Five measures after rehearsal [83](#), the cellos begin to alternate between two pitch collections: D#-F#-G#-A# and F#-G#-A#-C#. These two pitch collections alternate for eight measures, throughout which the pitches suffuse amongst the instruments.

At rehearsal [84], the minor second dissonance returns in the trumpets. The two trumpets, separated by one half-step, play the same melody simultaneously. This peculiar effect, while humorous when employed sparingly, becomes nightmarishly unsettling in its insistence. After a brief pause before rehearsal [85], the accompaniment becomes clearer. The trumpet harmonizes with the Mathematician, playing his melody a fifth higher. After five measures, the music reprises rehearsal [77], establishing B Lydian dominant for five measures.

The ascending minor ninth motif from rehearsal [78] reappears at rehearsal [86]. The music builds both in tempo and in volume, leading up to the entrance of the rest of the orchestra. At rehearsal [87], the harmony becomes almost deceptively simple. The growing intensity of the music and the prominence of the brass section together create the illusion of increasing harmonic complexity. With the orchestral texture becoming thicker and thicker, Ravel hides many major and minor seconds within different instruments of the orchestra. The music continues to *crescendo* and *accelerando* until the climax at rehearsal [92]. Most of the orchestra, playing at *fortississimo*, establishes a C# major triad, but several instruments contrast with this harmony. The trumpets superimpose a C augmented triad over the C# major, playing the minor third and major seventh of C# in addition to the already-present G#. At rehearsal [93], the viola, contrabass, and bassoon then begin a whirring chromatic motif that ultimately ends the song.

The previous scene relies on a small core of harmonic techniques to convey a wide variety of emotions. The minor second interval, for example, is first used to convey humor and absurdity, but then becomes central to the nightmarish mood of the

scene. Similarly, Ravel repeatedly depends on a small group of brass instruments, usually trumpets, to deviate from the rest of the orchestra. These trumpets are especially effective at conveying Ravel's intended minor second dissonances and triadic superimpositions. Whereas woodwinds and strings may blend together, these trumpets remain distinct, even when presented alongside neighboring pitches.

Although the opera contains no intermission or specified demarcation between its two halves, at this point in *L'enfant et les sortilèges*, a dramatic shift in both its plot and setting occur. The Child, transported from his bedroom to a garden, again faces the repercussions of misdeeds that he has previously done. While personified inanimate objects reproach the Child in the first half of the opera, talking animals confront him in the second half. In the first half, Ravel employs a variety of harmonic techniques, most significantly polyscalar superimposition, *blue notes*, and unresolved chromaticism. His unusual techniques, however, remain firmly entrenched in tonal macrostructures. Ravel preserves the functionality of his harmonies, even when superimposing foreign pitch collections over them. For example, he sometimes treats polychords as functionally dominant harmonies, as he does at rehearsal 15 of the opera.

The harmonic material in the first half of *L'enfant et les sortilèges* is surprisingly tonal and functional. Ravel frequently makes use of tonic-dominant relationships, even when subverting traditional tonal structures. Ravel consistently uses polyscalar superimposition as a method of hiding tonal structures, giving polychords flexibility in relation to their function. Although Ravel's techniques succeed in disguising his affinity for tonality, Ravel remained firmly entrenched in

tradition, only selectively applying the innovations of Les Six. Ravel's harmonic techniques demonstrate his awareness of both polytonality and jazz harmony, indicating that he continued to evolve and grow as a composer even after achieving international renown. Ravel, never complacent, continued to accumulate compositional tools and expand his sources of influence, even borrowing from younger contemporaries and the American jazz tradition.

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