AN ANALYSIS OF

OLIVIER MESSIAEN'S LAST PIANO SOLO WORK:

LES PETITES ESQUISSES D'OISEAUX

By

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A dissertation submitted to the Graduate Faculty in Music in partial fulfillment of the requirements for the degree of Doctor of Musical Arts, The City University of New York

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Abstract

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by

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Advisor: Professor Ruth DeFord, Ph.D.

This dissertation studies in depth Olivier Messiaen's last piano solo composition, *Les Petites Esquisses d'oiseaux*. The work, dedicated to Yvonne Loriod, features the song of birds of France: the robin, the blackbird, the song thrush and the skylark.

Chapter 1 introduces the circumstances in which this work was composed. Chapter 2 provides an overview of the compositional techniques employed by Messiaen in this work, including modes, color-chords, neumes and Greek rhythmic meter. Chapter 3 discusses the significance of birdsong in Messiaen's composition and its use in *Les Petites Esquisses d'oiseaux*. Some of Messiaen's rough sketches of the robin, the blackbird, the skylark and the song thrush, contained in the 200 *cahiers de notation* stored at the *Bibliothèque nationale de France*, are examined and compared to the published work *Les Petites Esquisses d'oiseaux.* Chapter 4 provides an overview of the whole suite of six movements. Chapter 5 compares the three movements of "Le Rouge-gorge" [The Robin]. Chapter 6 discusses the three contrasting movements: "Le Merle noir" [The Blackbird], "La Grive musicienne" [The Song Thrush] and "L'Alouette des champs" [The Skylark]. Finally, Chapter 7 synthesizes the results of analyses and the information gleaned from lessons and conversations with Yvonne Loriod to address performance issues and offer recommendations to future performers of *Les Petites Esquisses d'oiseaux*.

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ABBREVIATIONS

CCR	Chord of Contracted Resonance (Chapter 2)
CTC	Chord of Total Chromaticism (Chapter 2)
CTI	Chords of Transposed Inversions on the Same Bass Note (Chapter 2)
DS	Diatonic Scale (Chapter 2)
M3MC	Model Chord (Chapter 2)
PCS	Pitch Class Set (Chapter 2)
PS	Pentatonic Scale (Chapter 2)
SC	Set Class (Chapter 2)
TC	Turning Chords (Chapter 2)
T_n	Transposition of Interval n (Chapter 2)

CHAPTER ONE

Introduction

The purpose of this dissertation is to examine and study in depth Olivier Messiaen's last composition for piano solo, *Les Petites Esquisses d'oiseaux* (1985).[1] I first became acquainted with this work in 2005, when I was in Paris on a Fulbright Fellowship, studying piano with Yvonne Loriod, Messiaen's widow and foremost interpreter of her husband's works. One day, in a conversation during one of our lessons, Yvonne Loriod told me that there was a short piano suite – *Les Petites Esquisses* – that, unlike any of Messiaen's previous piano works and his longer works, was not well known, nor had it been frequently performed or studied in detail. Upon hearing that I was working on a dissertation on Messiaen's piano works, she suggested that an in-depth study of this work might make an excellent topic.

Les Petites Esquisses occupied a special place in her heart because Messiaen composed it for her as a gift. According to her, it was a very difficult piece to learn, but exquisitely ethereal and beautiful. She wanted to share with me her interpretive insights, based on performance guidance from Messiaen.[2] She even agreed to let me record on a mini disk the piano lessons I had with her at her apartment in Paris. She also gave me permission to copy for my research some of the rough sketches of birdsongs, notably

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[1] Olivier Messiaen, *Les Petites Esquisses d'oiseaux* (Paris: Alphonse Leduc, 1988).

[2] Yvonne Loriod, conversation with Quynh Nguyen in Paris, April 2005.

those of the robin, the blackbird, the skylark, and the song thrush, that are an important compositional element in this work.[3]

To understand the place of *Les Petites Esquisses d'oiseaux* in Messiaen's overall compositional output, it is first necessary to understand the major influences on his creative life.[4] Messiaen developed a highly individual and idiomatic compositional language: a synthesis and composite of several different interests and influences, all colored by his intensely religious belief.[5] He was also fascinated with bird songs and dedicated a major part of his life to collecting and transcribing them for use as compositional material. His other important influences include Greek meter, Hindu rhythm, and plainsong. In one of the articles for *Contrepoints* written in 1946, Messiaen discussed his philosophy of musical composition:

> I never "deliberately" used a sole writing process. I employ modes and rhythms in an automatic and instinctive way, without even understanding

---

[3] Olivier Messiaen, universally regarded as one the most important French composers of the twentieth century, is known for his innovation in harmony, melody and rhythm, his transcriptions of birdsong, and his contributions to organ and piano repertoires. He started collecting birdsong systematically from 1952 to 1991. The approximately two hundred notebooks of Messiaen's musical notation based on birdsong (*Cahiers de notation de chants d'oiseaux*) are stored on microfilms at the *Bibliothèque national de France*, Music Department, accessed with permission from Yvonne Loriod.

[4] Information about Messiaen's life and works are taken from many sources, particularly from Christopher Dingle, *The Life of Messiaen* (Cambridge: Cambridge University Press, 2007); Robert Sholl, ed. *Messiaen Studies* (Cambridge, UK: Cambridge University Press, 2007); Christopher Dingle & Nigel Simeone, ed., *Olivier Messiaen: Music, Art and Literature* (Burlington, VT: Ashgate, 2007); Peter Hill & Nigel Simeone, *Messiaen* (New Haven and London: Yale University Press, 2005); Catherine Massip, ed., *Portrait(s) d'Olivier Messiaen* (Paris: Bibliothèque national de France, 1996); Peter Hill, ed., *The Messiaen Companion* (London, Boston: Faber and Faber, 1995); Claude Samuel, *Entretiens avec Olivier Messiaen* (Paris: P. Belfond, 1967) trans. Felix Aprahamian (London: Staines & Bell, 1976); *Olivier Messiaen: Musique et couleur: nouveaux entretiens avec Claude Samuel* (Paris: P. Belfond, 1986) trans. E. Thomas Glasow (Portland, Or.: Amadeus Press, 1994); Robert Sherlaw Johnson, *Messiaen* (London: J. M. Dent & Sons Ltd, 1989); Nichols Roger*, Messiaen*, Oxford Studies of Composers, vol. 13 (London: Oxford University Press, 1975).

[5] Regarding his faith, Messiaen said: "I have the good fortune to be a Catholic; I was born a believer…. A number of my works are dedicated to shedding light on the theological truths of the Catholic faith. That is the most important aspect of my music…perhaps the only one I shall not be ashamed of in the hour of death." Roger*, Messiaen*, p. 8.

> that it can be different. And why ban this or that if I like to use the major [scale], mix it or oppose it to my modes? If I like to imitate the song of the birds or the Hindu ragas? If it pleases me suddenly to use the serial technique just because I need it suddenly? I have been working enough in harmony at the Conservatory, first as student, then as professor, to have the freedom to write according to my desire and according to necessities of the topics, the subject, the instrumentation, and the emotion of the moment.[6]

Many compositional techniques remained constant, although he continuously developed and expanded his varied repertoire.[7] He was not someone who would change styles following trends or fads.[8] Nevertheless, his personal and artistic life went through a series of crises that caused him to change direction several times.

Messiaen's first period begins with small pieces in the vein of Debussy, such as the *Préludes* of 1929, and ends with the completion of the *Turangalîla Symphony* in 1948. Many of the works of this period are characterized by lush sound, large form, voluptuous harmony, and passionate subject matter. In the second period, beginning

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[6] "Je ne me suis jamais servi 'volontairement' d'un procédé d'écriture. J'emploie modes et rythmes de façon automatique et instinctive, sans comprendre même qu'il en puisse être autrement. Et pourquoi banner ceci ou cela? S'il me plaît d'user du majeur, de le mélanger ou de l'opposer à mes modes? S'il me plaît d'imiter le chant des oiseaux ou les râgas hindous? S'il me plaît d'employer tout à coup la technique sérielle parce que j'en ai besoin tout à coup? J'ai assez travaillé l'harmonie au Conservatoire, comme élève, puis comme professeur, pour avoir la liberté d'écrire à ma fantaisie et selon les nécessités du thème, du sujet, de l'instrumentation, de l'émotion du moment. " Translated by the author. Olivier Messiaen, "Réponses à une enquête," *Contrepoints* 3 (1946):73-75.

[7] Messiaen discussed his harmonic language in many interviews and lectures, and wrote two major treatises about musical language. Having published his *Technique de mon langage musical* (Paris: Alphonse Leduc, 1944), a listing of his compositional techniques up until 1944, he devoted over forty years to the writing of another treatise, *Traité de rythme, de couleur, et d'ornithologie* (Paris: Alphonse Leduc, 1994-2002). The *Traité*, which includes materials from his forty years of teaching composition theory at the Paris Conservatory, was a summation of the major influences in his musical language—birdsong, Greek meter, Hindu rhythm, plainsong, modes and color-chords—with analyses of his works and those of other composers, from Mozart to Debussy and Stravinsky.

[8] "I haven't abandoned anything I've ever created…I abandon nothing!" Messiaen exclaimed in an interview with Almut Rössler on April 23, 1979, in Paris. Almut Rössler, *Contributions to the Spiritual World of Olivier Messiaen with Original Texts by the Composer* (Duisburg: Gilles & Francke, 1986), p. 75.

around 1949, he went into an experimental phase.[9] In the ensuing years, 1949-1952, he wrote a series of works for solo instruments and experimented with total serialism, in which many musical elements such as pitch, timbre, mode of attack, and rhythm are serialized.

In mid-1952, Messiaen became disillusioned with the mechanical aspects of the serial method and turned to nature and the songs of birds for inspiration. Although he had always been fascinated with birdsongs and had incorporated them into his music from early on, Messiaen began collecting them systematically only in 1952. His later works used this material more extensively. Between 1952 and 1959, he wrote some of his most important works based primarily on birdsongs.[10]

In the subsequent years, up to 1985, he composed music that combined several compositional techniques. The culmination of this period was the opera *Saint François d'Assise* (1975-83), which he considered the most ambitious project of his artistic life up to this point, and which took him eight years to complete. It was intended to be his magnum opus, the culmination of his artistic output. The opera is five hours long and contains eight tableaux, with a libretto written by the composer himself based on the deeply religious story of Saint Francis of Assisi, a Roman Catholic friar and, famously, the saint of animals and birds. The work is monumental, scored for a chorus of one hundred fifty and an orchestra including twenty woodwinds, sixty-eight strings, and five

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[9] He went into an experimental phase, partly to renew his musical language after the achievement of the *Turangalîla Symphony* and partly as a result of his emotional turmoil due to the perilous state of health of his first wife, Claire Delbos.

[10] Starting with *Le Merle noir* for flute and piano (1952), Messiaen continued to incorporate songs of hundreds of types of birds collected by recording and notation in compositions such as *Réveil des oiseaux (1953), Oiseaux exotiques* (1956), *Catalogue d'oiseaux* (1956-58), and *Chronochromie* (1959-60).

percussions. Messiaen combined and utilized all of his musical styles and compositional methods in this opera, writing a work that was at once harmonic and dissonant, richly colored and ecstatic. It was premiered under the baton of conductor Seiji Ozawa at the Paris Opera on November 28, 1983.

Convinced that the opera would be the last work that he would ever write, Messiaen was afraid that he would not live long enough to complete it. When the opera was finally completed, he was mentally and physically exhausted, and convinced that he would be unable to continue to compose. Yet, despite these morbid fears, he had a rejuvenation of inspiration and energy, and continued to compose until his death in 1992. *Les Petites Esquisses d'oiseaux* initiated his last period (1985-1992), which was characterized by a divergence from the grandiose style of *St. François d'Assise* to one that was more ethereal, exquisite, otherworldly, spare and diminutive in texture, melody, harmony.[11] During the next nine years (after the completion of the opera until his death in 1992), he composed his largest organ work, the eighteen-movement *Livre du Saint Sacrament* (1986), *Les Petites Esquisses d'oiseaux* for piano, and his final work, the eleven-movement orchestral *Regards sur l'au-delà* (1992).[12]

Les Petites Esquisses d'oiseaux, Messiaen's last solo piano composition, was written when the composer was seventy-seven years old. The suite is dedicated to Yvonne Loriod, who gently coaxed her husband out of his exhaustion and his difficulty composing by asking him to write for her a piano composition using the song of the

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[11] In addition to *Saint François d'Assise*, some of Messiaen's other "monumental" works are the *Poèmes pour Mi* (1936), the *Vingt Regards sur l'enfant Jésus* (1944), *Turangalîla Symphonie* (1946-48), *Harawi* (1945).

[12] *The Concert à Quatre* (1990-91) was left uncompleted when he died, and was later finished by Yvonne Loriod and George Benjamin.

robin—her favorite bird—as its main material.[13] Yvonne Loriod pointed out to him that although he had written several large works (including the *Catalogue d'oiseaux,*1956-58) featuring many types of birds, the robin had not yet been featured as a "soloist." Messiaen composed *Les Petites Esquisses d'oiseaux* secretly as a present for her. While he was at work on it, he told her that he was correcting proofs. Then, one Sunday morning, to Loriod's astonishment, he suddenly unveiled the new work.[14]

Messiaen was initially doubtful and diffident about his first piano composition since the completion of the opera.[15] However, his preface to *Les Petites Esquisses d'oiseaux* showed that, in retrospect, he was proud of the work:

> These six pieces are very brief. They are at the same time very similar and very different. Very similar regarding the harmonic style with evolving complexes of sounds as well as changing colors. It is the blues, reds, oranges, violets, and chords of transposed inversions that dominate. Chords of contracted resonance and chords of total chromaticism impart their more violent or more subtle colors. On the other hand, since each bird has its own aesthetic, the melodic and rhythmic movements differ from one piece to the other. The three pieces devoted to the robin include pearl-like, descending arpeggios, almost glissandos, followed by slower notes and more subtle outlines. The blackbird sings several cheerful strophes, fairly victorious. The song thrush distinguishes himself by his repetitions of charming incantation. Finally, closing the set is the skylark, whose alluring volubility encircles around a shrill dominant, punctuated from time to time by two slow and strong chords—all corresponding to the phases of the bird's flight. The piano writing is very sophisticated. The work, written in 1985, is dedicated to Yvonne Loriod.[16]

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[13] Yvonne Loriod, interview with Quynh Nguyen in Paris, April 2005.

[14] Hill and Simeone, *Messiaen*, p. 353.

[15] In an interview with Peter Hill, Loriod recounted: "He was very doubtful about the *Esquisses* and said, 'I'm tired, I can no longer write, and the pieces are not very good.' Well, I worked at them and told him, "They are marvelous, absolutely marvelous". Hill, *Messiaen Companion,* p. 301.

[16] "Ce sont six pièces très courtes. Elles sont à la fois très semblables et très différentes. Très semblables par le style harmonique où évoluent des complexes de sons aux couleurs changeantes. Ce sont les bleus, les rouges, les oranges, les violets, des "accords à renversements transposés," qui

Although this was a comparatively short work, its premiere was a real success. Messiaen offered the premiere of *Les Petites Esquisses d'oiseaux* to Pierre Boulez. The first performance, by pianist Yvonne Loriod, took place on January 26, 1987 at the Théâtre de la Ville de Paris as part of a concert by the noted Ensemble Inter-Contemporain, conducted by Boulez (who also led a performance of Messiaen's *Couleurs de la cité céleste*). Messiaen, seated between Mme. Chirac, the French First Lady, and Mme. Pompidou, wife of the French Prime Minister, characterized Loriod's playing as "marvelous and brilliant."[17] This achievement gave Messiaen the confidence to continue composing, and, in his last years, he wrote five more works: *Un Vitrail et des oiseaux* (1986) for piano solo, brass, wind and percussions and winds, *La Ville d'en haut* (1987) for piano solo, brass, wind and percussion, *Un Sourire* (1989) for orchestra, *Éclairs sur l'au-delà* (1988-1991) for orchestra, and the unfinished *Concert à quatre* (1990-1999) for four soloists: flute, oboe, cello and piano with orchestra.

Les Petites Esquisses d'oiseaux is a short work, lasting approximately fifteen minutes. There are six movements: 1. "Le Rouge-gorge" (The Robin); 2. "Le Merle noir" (The Black bird); 3. "Le Rouge-gorge" (The Robin); 4. "La Grive musicienne"

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dominent. Les "accords à résonance contractée" et les "accords du total chromatique" y ajoutent leurs couleurs plus violentes ou plus subtiles. Par contre, chaque oiseau ayant son esthétique propre, les mouvements mélodiques et rythmiques diffèrent d'une pièce à l'autre. Les trois pièces consacrées au Rouge-gorge contiennent des arpèges perlés, descendants, presque des glissandos, suivis de notes lentes, et de dessins plus raffinés. Le Merle noir chante quelques strophes ensoleillées, un peu victorieuses. La Grive musicienne se fait remarquer par ses répétitions à caractère incantatoire. Enfin, l'Alouette des champs, qui termine, possède une volubilité grésillante, tournant autour d'une dominante aiguë, ponctuée de temps en temps par deux notes lentes et fortes, le tout correspondant aux phases du vol de l'oiseau. L'écriture pianistique est très ouvragée. L'œuvre, écrite en 1985, est dédiée à Yvonne Loriod." Messiaen, *Les Petites Esquisses,* préface.

[17] Hill and Simeone, *Messiaen,* p. 357.

(The Song Thrush); 5. “Le Rouge-gorge” (The Robin); 6. “L'Alouette des champs” (The Skylark). Each movement features the song of one type of bird. The songs of the robin (nos. 1, 3, and 5) are interlaced with the songs of the blackbird (no.2), the song thrush (no. 4), and the skylark (no. 6). There are three distinct pieces for the robin’s song, which balances the songs of other birds.

Because of its beauty, value, and historical significance, *Les Petites Esquisses d’oiseaux* deserves to be the subject of a detailed study. The most important analysis of *Les Petites Esquisses d’oiseaux* was done by Messiaen himself, but he focused on only one of the pieces, the third movement, “Le Rouge-gorge.”[18] Measure by measure, he explains the chords, modes, colors, motives, pedal, and his intention for the sound of the music.

I will analyze *Les Petites Esquisses d’oiseaux* employing set class theory and using Messiaen’s own analysis of “Le Rouge-gorge” as a guide.[19] Chapter 2 will provide an overview of the compositional techniques employed by Messiaen in this work, including synesthesia, modes, color-chords, melody, Greek metrics and neumes. Chapter 3 will discuss the significance of birdsong in Messiaen’s compositional output and its use in *Les Petites Esquisses d’oiseaux*. Chapter 4 will provide an overview of the whole suite of six movements. Chapter 5 will compare and contrast the three movements of “Le Rouge-gorge,” and Chapter 6 will discuss the three contrasting movements: “Le Merle noir,” “La Grive musicienne” and “L'Alouette des champs.” Finally, Chapter 7 will synthesize the results of the analyses and the information gleaned from lessons, interviews, and conversations with Yvonne Loriod to address performance

[18] Messiaen, *Traité*, vol. 5, bk. 1, pp. 171-181.

[19] Ibid.

issues and offer recommendations to future performers of *Les Petites Esquisses d'oiseaux*. It is hoped that performances informed by scholarship will potentially yield interpretations closer to the intent of the composer.

CHAPTER TWO

Musical and Technical Language of Composition Relevant to *Les Petites Esquisses d'oiseaux*

This chapter is devoted to the examination of Messiaen's four compositional techniques used in *Les Petites Esquisses d'oiseaux*: modes, color chords, neumes, and Greek metrics.[20] The modes and the color chords concern harmonic aspects, while neumes indicate melodic contours and Greek metrics describe the rhythm and articulation of the music.[21]

I Harmony: Modes and Color Chords

In the following section, harmonic elements in Messiaen's music are analyzed and classified using set theory. Messiaen's writing about his modes and color chords are examined and studied in order to understand their genesis and functions. His explanations present a glimpse into his compositional process, elucidate how color and sound are linked in his mind, and how he conceives harmonies and their formation process. Messiaen's analysis of his color chords does not explain their harmonic functions nor their use in relation to each other or to tonal harmony. According to his explanations, the chords are identified as color chords only if they have very specific inversions and spacing between the notes, not merely by their belonging to certain pitch-class sets.

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[20] The materials presented in this chapter about Messiaen's compositional techniques, philosophic convictions and sources of inspiration are taken from various interviews, discussions, conference papers and treatises. Many of these have been published, notably *Conférence de Bruxelles* (Paris: Alphonse Leduc, 1960), *Conférence de Notre-Dame* (Paris: Alphonse Leduc, 1978), *Technique de mon langage musical* (Paris: Alphonse Leduc, 1944), and the seven-volume *Traité de rythme, de couleurs et d'ornithologie* (Paris: Alphonse Leduc, 1994-2002).

[21] Messiaen, *Traité*, vol.5, bk.1, pp. 171-181. In his own analysis of the third movement of the suite, "Le Rouge-gorge", Messiaen discusses the work in terms of modes of limited transposition, color-chords, neumes and Greek metrics.

According to Messiaen, the complexity of recreating birdsong timbre is a major source of color for his orchestration. He invented chords and harmonic complexes in order to recreate the timbre of birdsong, saying that "to translate these timbres, combinations of harmonics are absolutely necessary."[22] The richness of birdsong timbre enables its reproduction to become one of the sources of color for Messiaen's harmonies. His chordal complexes contain modal chords (chords which belong to the modes of limited transposition) and color-chords, as well as other harmonic combinations. Regarding the modes and the chords, he explains the following:

> These modes are neither melodic, nor harmonic: they are colors. The same applies to the chords: "chords of transposed inversions on the same bass note," "first chord of contracted resonance" and "second chord of contracted resonance," "turning chords". . and finally "chord of total chromaticism." All these chords are not really chords, nor complexes of pitches: they are colors.[23]

Because of his colored-hearing synesthesia, Messiaen saw colors whenever he heard or imagined music. An analysis of modes and chords used in this piece is therefore important not only in terms of harmonic functions but also in terms of colors.[24]

A Modes

Many chords conceived by Messiaen in *Les Petites Esquisses d'oiseaux* are derived from modes of limited transposition, which are transpositionally symmetrical

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[22] "… pour traduire ces timbres, il faut absolument des combinaisons d'harmoniques. " Claude Samuel, *Entretiens avec Olivier Messiaen* (Paris: Pierre Belfond, 1967), p. 113.

[23] "Ces modes ne sont ni mélodiques, ni harmoniques: ce sont des couleurs. Il en va de même pour les accords: "Accord à renversements transposés sur la même note de basse," "1er Accord à résonance contractée," and "2e Accord à résonance contractée," "Accords tournants". .et enfin "l'Accord du total chromatique": tous ces accords ne sont pas vraiment des accords, ce ne sont même pas des complexes de sons: ce sont des couleurs." Messiaen, *Traité*, vol.7, p.107.

[24] One can consider Messiaen's color-sound association as either irrelevant to the study of his music or critical in understanding his chord structure. I maintain that sound-color relationship is an important aspect of Messiaen's composition because every chord has been conceived in the language of sound and color.

collections mapping onto themselves under Tn (transposition for some non-zero value of n). Because of this symmetrical property, these modes can be transposed only a limited number of times (i.e., fewer than twelve) before reverting back to the original pitches. An early discussion of these modes in *Technique of my Musical Language* (1956) illustrates Messiaen's fascination with the modes:

> The impossibility of transposition [of the modes] makes their strange charm. They are at once in the atmosphere of several tonalities, *without polytonality,* the composer being free to give predominance to one of the tonalities or to leave the tonal impression unsettled. Their series is closed. It is mathematically impossible to find others of them, at least in our tempered system of twelve semitones.[25]

Messiaen was not the first to have found these modes or utilize them in composition, but he was the first composer to categorize them according to their symmetrical qualities and the number of their possible transpositions.[26] There are many possible modes of limited transpositions, but Messiaen lists only seven of them in his *Technique de mon langage musical* (1944). All of Messiaen's modes have a high degree of transpositional and inversional symmetries (six for Mode 1, four for Mode 2, three for Mode 3, two for Modes 4, 5, and 6). Of these seven modes, Modes 2, 3, 4 and 6 are

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[25] Messiaen, *Technique of my Musical Language*, vol.1, p. 58. "Leur impossibilité de transposition fait leur charme étrange. Ils sont dans l'atmosphère de plusieurs tonalités à la fois, sans polytonalité - le compositeur étant libre de donner la prédominance à l'une des tonalités, ou de laisser l'impression tonale flottante. Leur série est close. Il est mathématiquement impossible d'en trouver d'autres, au moins dans notre système tempéré à 12 demi-tons." Olivier Messiaen, *Technique de mon langage musical* (Paris: A. Leduc, 1944), p. 51. For a complete discussion of these modes by Messiaen himself, see Olivier Messiaen, *The Technique of my Musical Language*, trans. John Satterfield, (Paris: Alphonse Leduc, 1956), vol.1, pp. 58-63 and Messiaen, *Traité*, vol. 7. Yvonne Loriod mentions in footnote of page 107 of volume 7 of *Traité* that there are three epochs related to Messiaen's analysis of "Modes of limited transpositions." The first analysis is presented in *Technique* (1943), the second is formed around the period of composition of *Oiseaux exotiques* (1956), and the third study (from 1975 to 1990) is presented in *Traité*.

[26] The first mode of limited transposition, best known as the whole-tone scale, was used extensively by Debussy. The second mode of limited transposition, also called the octatonic scale, was utilized by Rimsky-Korsakov, Stravinsky, and Ravel, among others. Kahan, Sylvia. "'Rien de la tonalité usuelle': Edmond de Polignac and the Octatonic Scale in Nineteenth-Century France," *19th-Century Music* 29.2 (Fall 2005): 97-120.

used more often by Messiaen than the others because they have no inclusion relations between them. The rarely used Mode 7 (which contains Modes 1, 2, 4, 5, 6), Mode 5 (which can be found in modes 4, 6 and 7), and Mode 1 (whole-tone scale, which can be found in Modes 3, 6 and 7) were not considered in volume 7 of Messiaen's *Traité de rythme, de couleurs et d'ornithologie.*[27] Furthermore, Modes 2, 3, 4 and 6 are the only ones that were assigned color associations.[28] He did not give any specific color associations for Modes 1, 5 and 7. Presented below are the constructions of the seven modes along with their color associations (when available).[29] They are also classified according to pitch-class set theory.[30]

1. Mode 1 is a whole-tone scale, a collection of six pitches within an octave that has been divided into six equal segments, each consisting of a major second interval. It corresponds to set class 6-35 (02468T) with interval vector [060603].[31] Mode 1 is its

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[27] Messiaen, *Traité,* vol. 7, pp.97-116. For further discussions of Messiaen's use of modes, see Allen Forte, "Messiaen's mysterious birds," in *Messiaen Studies*, ed. Robert Sholl (Cambridge, UK: Cambridge University Press, 2007), pp. 101-118; "Messiaen's chords," in *Olivier Messiaen: Music, Art and Literature*, Christopher Dingle and Nigel Simeone, eds., (Burlington, VT: Ashgate, 2007), pp. 91-113; Christoph Neidhöfer, "A Theory of Harmony and Voice Leading for the Music of Olivier Messiaen," *Music Theory Spectrum* 27(1) (Spring 2005): 1–34; Vincent Benitez, "Aspects of Harmony in Messiaen's Later Music: An Examination of the Chords of Transposed Inversions on the Same Bass Note," *Journal of Musicological Research* 23(2) (2004): 187-226; Rosemary Walker, "Modes and Pitch-Class Sets in Messiaen: A Brief Discussion of 'Première Communion de la Vierge," *Music Analysis* 8 (March –July, 1989): 159-168; Donald Street, "The Modes of Limited Transposition," *The Musical Times* 117 (October, 1976): 819-823.

[28] Messiaen, *Traité,* vol.7, pp.117-134; Jonathan Bernard, "Messiaen's Synesthesia, the Correspondence between Colour and Sound Structure in his Music," *Music Perception* 4(1) (1986): 41-68.

[29] Messiaen, *Traité,* vol. 7, pp. 50-51, 117-134.

[30] Allen Forte, *The Structure of Atonal Music* (New Haven: Yale University Press, 1973, 1977); Joseph Straus, *Introduction to Post-Tonal Theory*, 3rd ed. (Upper Saddle River, NJ: Prentice Hall, 2005).

[31] As can be derived from the interval vector [060603] of Mode 1 (6-35), the number of tritones (interval-class 6) of this set is three, the maximum for set of cardinality 6. All of Messiaen's Modes have maximal (four for Mode 2, Mode 4 and Mode 6 of cardinality 8, three for Mode 1 and Mode 5 of cardinality 6, five for Mode 7 of cardinality 10) or near maximal number of tritones (three tritones for Mode 3 of cardinality 9).

own complement (that is, the missing notes are just another whole tone scale). Degrees of transpositional and inversional symmetries are six. Mode 1 can be found in both Mode 3 and Mode 6.

2. Mode 2 is an octatonic scale, a collection of eight pitches within an octave that has been divided into four segments containing a semitone plus a whole tone. Mode 2 belongs to set class 8-28 (0134679T) with interval vector [448444]. The complement of Mode 2 is set class 4-28 (0369), a diminished seventh chord. Degrees of transpositional and inversional symmetries are four.

3. Mode 3 – Messiaen's favorite – is an enneatonic scale.[32] It can be described as any three augmented triads (with the fourth augmented triad as complement).[33] It corresponds to set class 9-12 with interval vector [666963]. The complement of Mode 3 is set class 3-12(048), the augmented triad. Degrees of transpositional and inversional symmetries are three. Mode 3 also contains Mode 1.

4. Mode 4 is a collection of eight pitches within an octave which has been divided into two equal segments (at the tritone), each consisting of two minor seconds followed by a minor third and ending with another minor second. It corresponds to set class 8-9 (01236789) with interval vector [644464]. The complement of Mode 4 is set class 4-9 (0167), a T-symmetrical tetrachord. Degrees of transpositional and inversional symmetries are two. Mode 4 also contains Mode 5.

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[32] Messiaen assigned separate color associations to each of the four transpositions of this mode.

[33] For example Mode 3-3 (01245689T) can be described as three augmented triad (048), (159) and (26T) with triad (37E) as complement.

5. Mode 5 is a collection of six pitches in an octave, also divided into two equal segments of two tritones. Each of these segments contains a minor second plus a major third and finishes with another minor second. This pitch collection corresponds to class set 6-7 (012678) with interval vector [420243]. Mode 5 is self complementary. Degrees of transpositional and inversional symmetries are two. Mode 5 can be found in both Mode 4 and Mode 6.

6. Mode 6 is a collection of eight pitches within an octave. Similar to Modes 4 and 5, it is divided into two equal parts at the tritone. Each of these segments contains two major seconds followed by two minor seconds. This pitch collection corresponds to set class 8-25 (0124678T) with interval vector [464644]. The complement of Mode 6 is set class 4-25 (0268), another T-symmetrical tetrachord.[34] Degrees of transpositional and inversional symmetries are two. Mode 6 has six possible transpositions and contains both Modes 1 and 5.

7. Mode 7 is a collection of ten pitches within an octave, which is divided at the tritone into two equal segments. Each of these segments contains three minor seconds followed by a major second and finished with a minor second. This pitch collection corresponds to set class 10-6 (012346789T). The complement of Mode 7 is 06 (literally 5E). Degrees of transpositional and inversional symmetries are two. It contains six possible transpositions. Messiaen did not assign any specific colors to this mode. As mentioned above, this mode contains within it Modes 1, 2, 4, 5 and 6.

[34] The complement of Mode 2 is set class 4-28 (0369), the complement of Mode 4 is set class 4-9 (0167), and the complement of Mode 6 is set class 4-25 (0268). They are the only T-symmetrical tetrachords.

The following tables list Messiaen's modes and their transpositions, their pitch-class sets and set classes, color descriptions he gave for each of the modes and its transpositions (when available), together with musical examples. Color descriptions and musical examples are derived and assembled using materials taken from Messiaen's chapter 3 book 7 on modes of limited transpositions.[35]

[35] Messiaen, *Traité,* vol. 7, pp 109-134.

Table 2-1 Modes 1 and 2

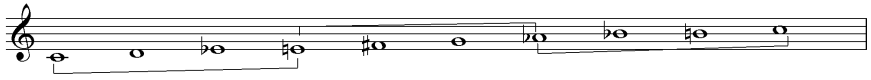
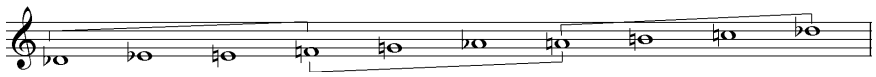
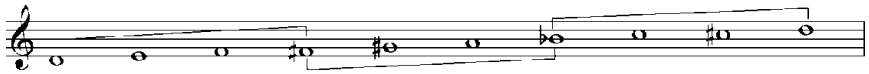
Mode Name	Pitch Class Set	Set Class	Color and Music Examples
1-1	[0,2,4,6,8,T]	6-35	
1-2	[1,3,5,7,9,E]	6-35	
2-1	[0,1,3,4,6,7,9,T]	8-28	 Violet blue rocks, strewn with small gray, cobalt blue, and dark Prussian blue cubes, with some reflections of violet purple, gold, ruby red, and mauve, black, white stars. Dominant color: violet blue.[36]
2-2	[1,2,4,5,7,8,T,E]	8-28	 Spirals of gold and silver, on the background of vertical strips of brown and ruby red. Dominant color: gold and brown.[37]
2-3	[2,3,5,6,8,9,E,0]	8-28	 Bright green and meadow green foliage, with markings of blue, silver, and reddish orange. Dominant color: green.[38]

[36] "Rochers bleu violet, parsemés de petits cubes gris, bleu de cobalt, bleu de Prusse foncé, avec quelques reflets pourpre violacé, or, rouge rubis, et des étoiles mauves, noires, blanches. Dominante; bleu violet." Messiaen, *Traité,* vol. 7, p. 118.

[37]. "Spirales d'or et d'argent, sur un fond de bandes verticales brunes et rouge rubis. Dominante: or et brun." Ibid.

[38] "Feuillages vert clair et vert prairie, avec des taches de bleu, d'argent, et d'orangé rougeâtre. Dominante: vert." Ibid. p. 119.

Table 2-2 Mode 3

Mode Name	Pitch Class Set (Normal)	Set Class	Color and Music Examples
3-1	[2,3,4,6,7,8,T,E,0]	9-12	 Orange blanket, with golden and milky white designs, and a few spots of ash gray (these spots are pegged with mauve, or red, or green). The dominant colors are: orange, gold and milky white.[39]
3-2	[3,4,5,7,8,9,R,0,1]	9-12	 Horizontal strips of color: from the bottom to the top: dark gray, mauve, light gray, and white with reflection of mauve and pale yellow – with flamboyant gold letters, of un-known writing, and a number of very fine and thin, hardly visible little red or blue arcs. Dominant colors: gray and mauve.[40]
3-3	[0,1,2,4,5,6,8,9,T]	9-12	 Large vertical strips, of alternatively cobalt blue and pretty deep bluish green. On this background, rare and spaced-out, are a few saffron orange red lilies, and a few silver vines. Dominant color: blue and green.[41]
3-4	[1,2,3,5,6,7,9,T,E]	9-12	 Large orange blanket with strong streaks of red and fine grazes of blue. Blue, purple and silver branches – white lily, the tiger lily with flowers the color of red cinnabar punctuated with black – orange and blue fruits, the orange and orange and green fruits. Dominant color: orange, red, with a little of blue. [42]

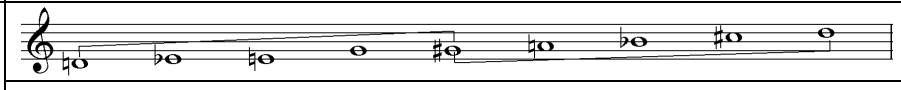
[39] "Nappe orange, avec des dessins d'or et de blanc laiteux, et quelques taches gris cendré (ces taches sont piquetées de mauves ou de rouge, ou de vert). Dominante: orange, or, et blanc laiteux." Messiaen, *Traité,* vol. 7, p. 122.

[40] "Bandes horizontales étagées: de bas en haut: gris foncé, mauve, gris clair, et blanc à reflets mauve et jaune pâle – avec des lettres d'or flamboyantes, d'une écriture inconnue, et une quantité de petits arcs rouges ou bleus, très minces, très fins, à peine visible. Dominante: gris and mauve." Ibid.

[41] "Larges bandes verticales, alternativement bleu de cobalt et vert bleuté assez foncé. Sur ce fond, rares et espacés, quelques lis safranés rouge orange, et quelques lianes argentées. Dominante: bleu et vert." Ibid. p. 123

[42] "Large nappe orangé, fortement rayée de rouge, finement rayée de bleu. Des branchages bleu, pourpre violacé, argentés – des lis blancs, des lis tigrés à fleurs rouges cinabre ponctuées de noir – des fruits orangé et bleu, des fruits orangé et vert. Dominante: orange, rouge, avec un peu de bleu." Ibid.

Table 2-3 Mode 4

Mode Name	Pitch Class Set (Normal)	Set Class	Color and Music Examples
4-1	[5,6,7,8,E,0,1,2]	8-9	Gray and gold.[43]
4-2	[0,1,2,3,6,7,8,9]	8-9	Reflection of iron gray, rosy mauve and brassy yellow, black and bright Prussian blue, green and purple-violet.[44]
4-3	[1,2,3,4,7,8,9,T]	8-9	 Yellow and violet.[45]
4-4	[2,3,4,5,8,9,T,E]	8-9	A little like the petunia flowers: somber violet, white with violet and purple-violet designs.[46]
4-5	[3,4,5,6,9,T,E,0]	8-9	Intense violet, with zones of mauve gray. This transposition is the best probably the most characteristic. If one plays the Mode 4-5 in the lower register, the violet color becomes more somber, darkening to black, with some zones almost completely black.[47]
4-6	[4,5,6,7,T,E,0,1]	8-9	Reflections of carmine red, violet- purple, orange, mauve gray and rose-gray.[48]

[43] "Gris et or." Messiaen, *Traité,* vol. 7, p. 128.
[44] "Reflets: gris de fer, rose mauve et jaune cuivré, noir et bleu de prusse clair, vert et violet pourpre." Ibid.
[45] "Jaune et violet." Ibid.
[46] "Un peu comme les fleurs de pétunia: violet sombre, blanc à dessin violet, violet pourpre." Ibid, p. 129.
[47] "Violet intense, avec des zones gris mauve. Cette transposition est la meilleure et peut-être la plus caractéristique. Si on joue le Mode 4-5 en accords dans le registre grave, le violet devient sombre, fortement rabattu par le noir, avec des zones presque complètement noires." Ibid.
[48] "Reflets: rouge carmin, pourpre violace, orange, gris mauve, gris rose." Ibid.

Table 2-4 Mode 5

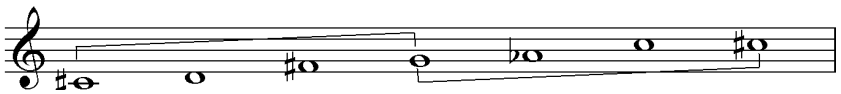
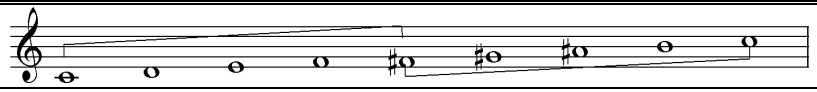
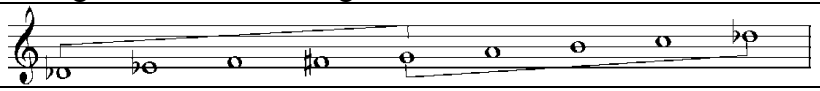
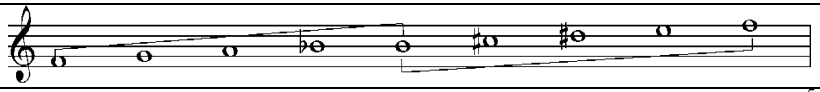
Mode Name	Pitch Class Set	Set Class	Color and Music Examples
5-1	[1,5,6,7,E,0]	6-7	
5-2	[0,1,2,6,7,8]	6-7	
5-3	[1,2,3,7,8,9]	6-7	
5-4	[2,3,4,8,9,T]	6-7	
5-5	[3,4,5,9,T,E]	6-7	
5-6	[4,5,6,T,E,0]	6-7	

Table 2-5 Mode 6

6-1	[4,5,6,8,T,E,0,2]	8-25	 Large gold letters on gray background, with spots in orange pastilles, and somber dark green branches with gold reflections.[49]
6-2	[5,6,7,9,E,0,1,3]	8-25	 Leather and chocolate colors, with reddish orange and dark purple zones with clear regions of gray and mauve.[50]
6-3	[0,1,2,4,6,7,8,T]	8-25	 Transparent sulfur-yellow with mauve reflections, and Prussian blue and purplish-brown corners.[51]
6-4	[1,2,3,5,7,8,9,E]	8-25	 Vertical strips of yellow, violet, and black.[52]
6-5	[2,3,4,6,8,9,T,0]	8-25	 Gold, pale blue, violet, with brown designs. [53]
6-6	[3,4,5,7,9,T,E,1]	8-25	 White and black vertical bands, strewn with pale blue moons. [54]

[49] "Grandes lettres d'or sur fond gris, avec des taches en pastilles orange, et des branchages vert assez sombre à reflets dorés." Messiaen, *Traité,* vol. 7, p. 132.

[50] "Couleur cuir et chocolat, avec des zones orange rougeâtre, et du violet foncé – quelques éclaircies gris pâle et mauve." Ibid.

[51] "Jaune soufre transparent, à reflets mauves, avec des coins bleu de Prusse et brun violacé." Ibid., p. 133.

[52] "Bandes verticales jaunes, violettes et noires." Ibid.

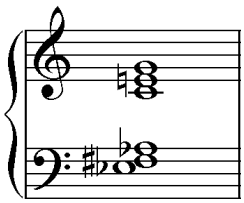
[53] "Or, bleu pâle, violet, avec des dessins bruns." Ibid., p. 134.

[54] "Bandes verticales blanches et noires, parsemées de lune bleu pâle." Ibid.

Table 2-6 Mode 7

Mode Name	Pitch Class Set	Set Class	Color and Music Examples
7-1	[0,1,2,3,5,6,7,8,9,E]	10-6	
7-2	[1,2,3,4,6,7,8,9,T,0]	10-6	
7-3	[2,3,4,5,7,8,9,T,E,1]	10-6	
7-4	[3,4,5,6,8,9,T,E,0,2]	10-6	
7-5	[4,5,6,7,9,T,E,0,1,3]	10-6	
7-6	[5,6,7,8,T,E,0,1,2,4]	10-6	

"Model chord" (M3MC) (*accord-type* in French), is Messiaen's term that refers to a verticality [0,3,4,6,7,8] built from the pitches of mode 3.[55] In *Technique de mon langage musical*, he lists this "*accord -type"* as an example of the use of Mode 3.[56] As explained above, Mode 3 is built on three major third intervals [0,4,8]. The "model chord" of Mode 3 contains those three pitches [0,4,8] — which forms an augmented triad — in the center of the chord, with pitches 3 and 6 placed in the bass and pitch 7 on top. In its first transposition, the M3MC-1 combines an A-flat seventh chord in second inversion (with enharmonic spelling of the seventh: F-sharp instead of G-flat) with a C major triad (see example 2-1).



Example 2-1 Messiaen's Mode 3 "model chord," set class 6-15, first transposition. (Messiaen's example number 335 in volume 2 of *Technique of my Musical Language*).[57]

Below is the table for the model chord of Mode 3 in its various transpositions and color descriptions.[58] The transposition numbers indicated for these chords are given by the author. Messiaen does not provide a table of all the possible transpositions for the model chord. However, the chord M3MC-1 (as listed below) was given by Messiaen as

[55] Messiaen, *Technique de mon langage musical*, vol.1, p. 61.

[56] Messiaen, *Technique de mon langage musical*, vol.1, p. 54.

[57] Messiaen, *Technique of my Musical Language*, vol.1, p. 61; vol.2, p. 52, example. 335.

[58] Messiaen does not explain the genesis of the "model chord," nor provide a table of transpositions and color descriptions in the seventh volume of his *Traité*. Only four transpositions of this chord (the third [2,5,6,8,9,T], the sixth [0,1,5,8,9,E] , the seventh [0,1,2,6,9,T] and the tenth [0,1,3,4,5,9] transpositions) were given detailed color descriptions in his analysis of the third movement of *Les Petites Esquisses d'oiseaux*. Messiaen, *Traité*, vol.5:1, pp. 171-181.

an example of the model chord in its first transposition in his *Technique de mon langage musical*.[59] The subsequent transpositions are calculated in chromatic ascending order.[60]

[59] Messiaen, *Technique de mon langage musical*, vol.1, p. 61

[60] Because the M3MC chords are derived from Mode 3, they are listed together with the discussion and tables for the modes of limited transposition.

Table 2-7 Mode 3 Model Chord (M3MC)

Chord Name	Pitch Class Set	SC	Mode	Color	Examples
M3MC-1	[0,3,4,6,7,8]	6-15	Mode 3-1		
M3MC-2	[1,4,5,7,8,9]	6-15	Mode 3-2		
M3MC-3	[2,5,6,8,9,T]	6-15	Mode 3-3	Blue and green, with a little orange.[61]	
M3MC-4	[3,6,7,9,T,E]	6-15	Mode 3-4		
M3MC-5	[4,7,8,T,E,0]	6-15	Mode 3-1		
M3MC-6	[5,8,9,E,0,1]	6-15	Mode 3-2	Ash gray, mauve, and white with mauve reflections.[62]	
M3MC-7	[6,9,T,0,1,2]	6-15	Mode 3-3	Blue and green, shining a little bit like diamond.[63]	
M3MC-8	[7,T,E,1,2,3]	6-15	Mode 3-4		
M3MC-9	[8,E,0,2,3,4]	6-15	Mode 3-1		
M3MC-10	[9,0,1,3,4,5]	6-15	Mode 3-2	From top to bottom: blue on mauve and gray.[64]	
M3MC-11	[T,1,2,4,5,6]	6-15	Mode 3-3		
M3MC-12	[E,2,3,5,6,7]	6-15	Mode 3-4		

[61] "Vert et bleu, avec un peu d'orangé." Messiaen, *Traité*, vol. 5, bk. 1, p. 178.
[62] "Gris cendré, mauve, et blanc à reflets mauves." Ibid.
[63] "Bleu et vert, un peu diamanté." Ibid.
[64] "Couleur, de haut en bas: bleu, sur mauve et gris." Ibid., p. 179.

B Color chords

The chord of transposed inversions, chord of contracted resonance, turning chord and chord of total chromaticism are color chords used in *Les Petites Esquisses d'oiseaux.* The harmony, characterized by the use of the color chords mentioned above, is one of the common denominators that unify the six movements of the work as a whole. In the preface to *Les Petites Esquisses d'oiseaux*, Messiaen stresses the importance of the color chords:

> These six pieces are very brief. They are at the same time very similar and very different. Very similar regarding the harmonic style with evolving complexes of sounds as well as changing colors. It is the blues, reds, oranges, violets, and chords of transposed inversions that dominate. Chords of contracted resonance and chords of total chromaticism impart their more violent or more subtle colors.[65]

Although Messiaen mentions only three types of color chords in the preface, there are instances in which the turning chords were also employed, especially in the fourth movement, the "Song Thrush."

Messiaen explains the color chords as verticalities that are built for their coloristic considerations, unlike the modes of limited transposition which were built for their symmetrical properties. Whereas modes have transpositional limitations, and therefore lack richness and harmonic flexibility, color chords contain all twelve possible transpositions and have the ability to move easily between different modes and their specific zones of colors. However, it is important to note that many subsets of modes of limited transpositions are not transpositionally limited. For example, the chord [0,1,2,6,9,T] in the third movement, which Messiaen considers to derive from mode 3-3,

[65] Messiaen, *Esquisses*. See footnote 16, chapter 1.

belongs to set-class 6-15, which has twenty-four transpositions-inversions. Moreover, although Messiaen claims that the color chords are non-modal, the majority of his color chords are also related to modes: the chord of transposed inversion (7-20), the first part of chord of total chromaticism (8-16), the first chord of contracted resonance A and B (7-Z36 and 7-Z12), the second chord of contracted resonance A and B(6-Z19 and 6-Z43), as well as turning-chord type A (8-5), can all be derived from mode 7. The second chord of contracted resonance (6-Z19) can also be derived from mode 3 (9-12) and the second chord of contracted resonance (6-Z43) can be derived from mode 3 (9-12) and mode 4 (8-9). Only turning chord type B (8-4) and turning chord type C (8-14) do not belong to any of Messiaen's modes of limited transposition.

Messiaen explains the difference between the modes and the color chords as follows:

> My harmonic language does not include only modes. In addition, and above all, I use chords: the "chords of contracted resonance," the "turning chords," "chords of total chromaticism," "chords of transposed inversions on the same bass note," and thousands of chords invented to reproduce the timbres of birdsongs. Whereas the modes have overall colors corresponding to their various transpositions (three colors for Mode 2, four colors for Mode 3, six colors for modes 4 and 6), the chords all have twelve colors corresponding to the twelve possible transpositions. However, when I move the same chord from midrange up one octave, the same color is reproduced, shaded toward white, which is to say, lighter. When I move the same chord form midrange down one octave, the same color is reproduced, toned down by black, which is to say, darker.[66]

[66] "Mon langage harmonique ne comprend pas que des modes. J'utilise aussi et surtout des accords : les "accords à résonance contractée," les "accords tournants," les "accords du total chromatique," les "accords à renversement transposés sur la même note de basse," et des milliers d'accords inventés pour rendre le timbre des chants d'oiseaux. Alors que les modes ont des couleurs d'ensemble correspondant à leurs différentes transpositions: trois couleurs pour le mode 2, quatre couleurs pour le mode 3, six couleurs pour les modes 4 et 6 – les accords ont tous douze couleurs correspondant aux douze transpositions possibles. Cependant, lorsque je transporte le même accord du medium à l'octave aiguë, la même couleur se reproduit dégradée vers le blanc, c'est-à-dire plus claire. Lorsque je transporte le même accord du medium à l'octave grave, la même couleur se reproduit rabattue par le noir, c'est-à-dire plus sombre." Claude Samuel, *Olivier Messiaen: Musique et couleur* (Paris: P. Belfond, 1986), p. 68.

I would like to elucidate some of Messiaen's explanations of his techniques in order to get a better understanding of his compositional process and the coloristic and harmonic functions of his color chords. Messiaen has creatively developed a vast and diverse repertoire of color chords. He discusses these color chords briefly in his first treatise *Technique de mon langage musical,* and presents them in more detail years later in volume 7 of his *Traité de rythme, de couleur, et d'ornithologie.* He talks about their genesis, construction, and development, and presents several charts specifying the corresponding colors of each type of color-chords in their several transpositions. Unfortunately, his explanations sometimes contain confusing information regarding the detailed, complex procedures in building these chords, such as the use of added notes, combination tones, appoggiaturas, the overtone series, transposition, inversion and contraction. The terminology he uses when defining some of these chords is not always applied in the conventional sense. For example, he labels some of the added notes as superior and inferior resonance even when they are not actually resonance of the main pitches. He uses the terms appoggiaturas to broadly define added notes that are close to the main notes.

1 Techniques Used in the Construction of the Color Chords

1.1 The Overtone Series

The overtone series is deployed to justify the appearance of added notes, a move which is predicated on Messiaen's belief that the ear can detect these tones that occur naturally in the resonance of the chord. The same explanation is given for adding the tritone to a triad for color effect (see Example 2-2):

> In the resonance of a low C, a very accurate ear hears an F sharp (the eleventh harmonic)….Therefore we are justified in treating this F sharp as an added note in the perfect chord, already provided with an added sixth.[67]

Example 2-2 The augmented fourth can be heard as part of the overtone series.

1.2 Added notes

In chapters 13-15 of his *Technique de mon langage musical*, Messiaen discusses the application of "added notes" as a principle for building chords that will produce color effects. Instead of building the chords by stacking up the thirds and having the third, fifth and seventh above the root of the chord, he adds other intervals to the chord such as the sixth and augmented fourth. He also offers examples of how Debussy and other composers had created color by adding non-harmonic tones to the chord:

> With the advent of Claude Debussy, one spoke of appoggiaturas without resolution, of passing notes with no issue, etc. In fact, one found them in his first works. In *Pelléas et Mélisande, Estampes, Préludes, Images* for piano, it is a question of foreign notes, with neither preparation nor resolution, without particular expressive accent, which tranquilly form a part of the chord, changing its color, giving it a spice, a new perfume. These notes keep a character of intrusion, of supplement: the bee in the flower! They have, nevertheless, a certain citizenship in the chord, either because they have the same sonority as some classified appoggiaturas, or because they issue from the resonance of the fundamental. They are *added notes*.[68]

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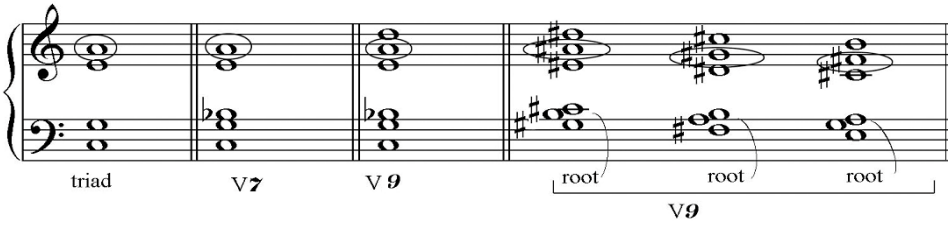
[67] Messiaen, *Technique of my Musical Language,* vol.1, p. 47; vol. 2, p. 33.

[68] Messiaen, *Technique of my Musical Language,* vol.1, p. 47. "A l'avènement de Claude Debussy, on a parlé d'appoggiatures sans résolution, de notes de passage sans aboutissement, etc. On en trouvait en effet dans ses premières œuvres. Dans Pelléas et Mélisande, dans les Estampes, les Préludes,

To illustrate their natural place in the harmonic progression, Messiaen also cites the use of added notes by Rameau, Chopin, Wagner, Massenet and Chabrier.

In his *Technique of my Musical Language*, Messiaen gives the following examples of the use of the added sixth on the triad, on the chord of the dominant seventh, and on the ninth chord (see Example 2-3). [69]



Example 2-3 Use of added sixth on the triad, the dominant seventh, and the ninth chord (Messiaen's examples number 183-185 in the *Technique of my Musical Language*.)

Example 2-4 Use of added augmented fourth/tritone (F sharp) in addition to the added sixth on the triad and the sixth-three chord (Messiaen's examples number 187-188 in the *Technique of my Musical Language*.)

1.3 Resonance

Messiaen describes the effects of resonance as "effects of pure fantasy, similar by a very distant analogy to the phenomenon of natural resonance."[70] In other words, he uses

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les Images pour le piano, il s'agit de notes étrangères, sans aucune préparation ni résolution, sans accent expressif particulier, qui font tranquillement partie de l'accord, changeant sa couleur, lui donnant un piment, un parfum nouveaux. Ces notes gardent un caractère d'intrusion, de supplément: l'abeille dans la fleur! Elles ont cependant un certain droit de cité dans l'accord, soit parce qu'elles ont même sonorité que telle appoggiature classée, soit parce qu'elles proviennent de la résonance de la fondamentale. Ce sont des notes ajoutées." Olivier Messiaen, *Technique de mon langage musical* (Paris: A. Leduc, 1944), p. 40.

[69] Messiaen, *Technique of my Musical Language,* vol. 2, p. 33.

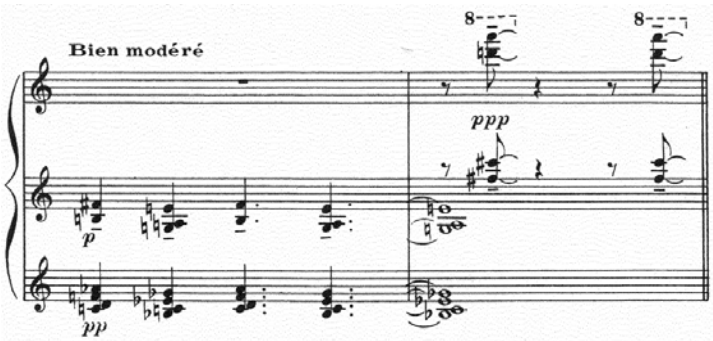
the term to describe artificial and synthetic resonance, not actual resonance that is based upon the overtone series. He identifies two resonance effects: superior and inferior resonance.

a) Superior Resonance: Superior (or higher) resonance is the term Messiaen uses to name the chords or chordal progression in the high register that appear in the harmonic resonance of the lower-register chords. The term refers to the registral placement and the texture of the chords. The examples Messiaen gives for superior resonance in his *Technique* show his intention (see Examples 2-5, 2-6):

Example 2-5 Superior resonance (Messiaen's example number 217 in *Technique of my Musical Language*).[71] In this example, Messiaen explains that the cluster of chords B and C form superior resonance of the chord A.

[70] Ibid., vol.1, p. 51.

[71] Ibid., vol.1, p. 51; ibid., vol.2, p. 38.



Example 2-6 Another example of superior resonance (Messiaen's example number 221 in the *Technique of my Musical Language*).[72] In this example, Messiaen explains that the two chords in the high register form superior resonance to the chords in the middle register.

b) Inferior Resonance: Inferior (or lower) resonance is what Messiaen calls chords or chordal progressions in the low register that sound in the harmonic resonance of the higher-register chords.[73] He compares the effect of inferior resonance or inferior harmonic to resultant tones or combination tones. "Resultant tone," a type of "combination tone," is an acoustical phenomenon.[74] It is a tone heard by inner ear when two pitches of different frequencies sound together simultaneously, resulting in a third pitch at a frequency different from the original two. It is also sometimes referred to as "under-tones." However, care should be taken when considering his explanation of

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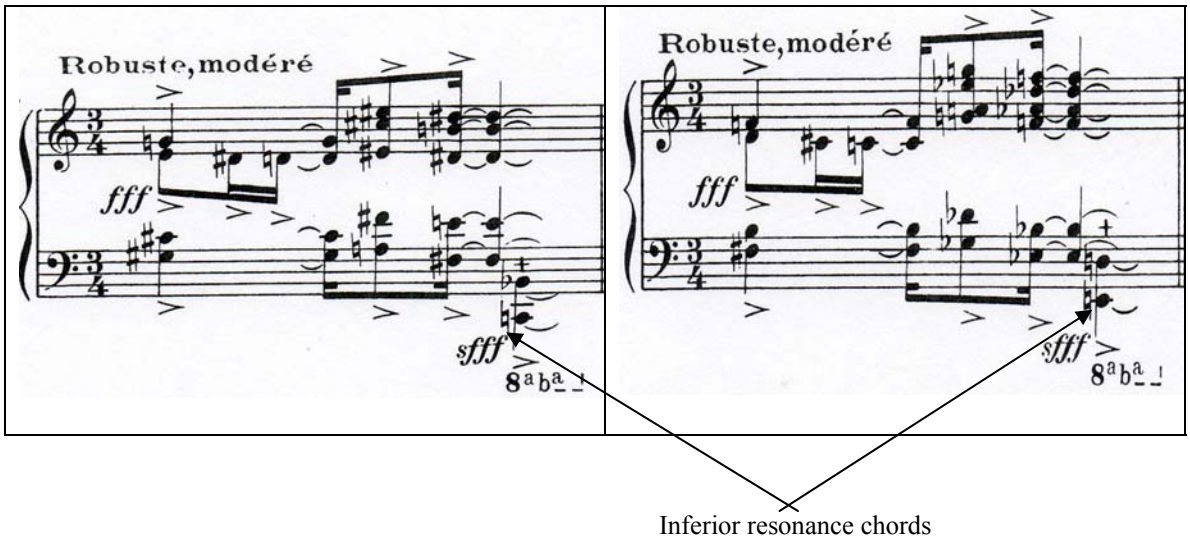
[72] Messiaen, *Technique of my Musical Language,* vol.1, p. 51; vol.2, p. 39.

[73] Anthony Pople explains inferior resonance as "a term which, though it seems to have no scientific basis in acoustics, is evidently conceived as a counterpart to the resonances of the upper partials that accompany every sounding note." Anthony Pople, *Messiaen, Quatuor pour la fin de temps* (Cambridge, UK: Cambridge University Press, 1998), p. 33. Vincent Benitez defines "inferior resonance in Messiaen's music as involving the sounding of notes that represent artificial harmonics below a given chord to modify its timbre. These artificial harmonics should be absorbed as much as possible into the sound of the given chord." Vincent P. Benitez, "Simultaneous Contrast and Additive Designs in Olivier Messiaen's Opera, *Saint François d'Assise,*" *Music Theory Online* 8, no. 2 (August 2002).

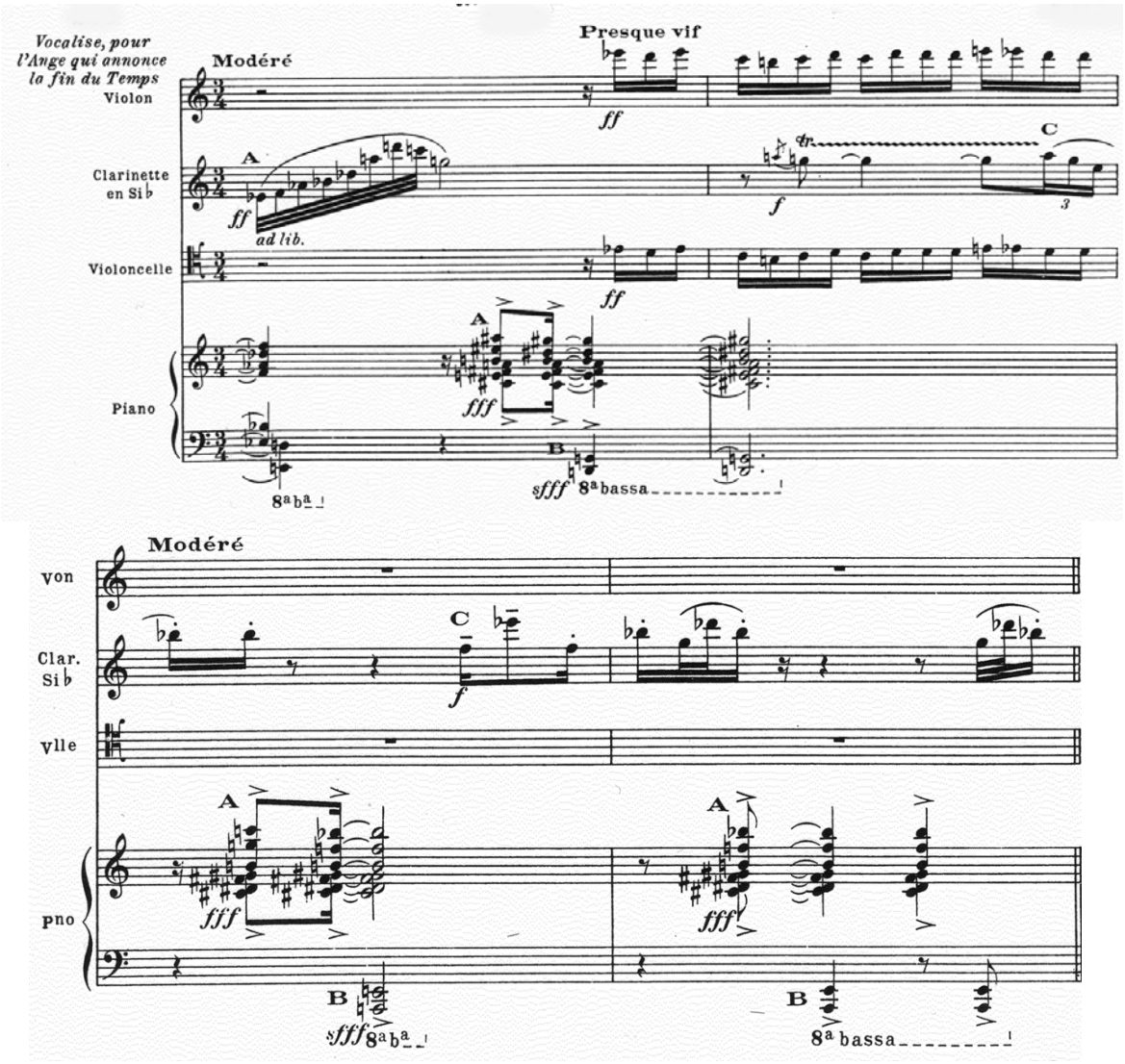
[74] See *Encyclopedia Britannica Online*: http://www.britannica.com/eb/article-9024917. For more information on combination tones, see Reinier Plomp, "Detectability Threshold for Combination Tones," *Journal of the Acoustical Society of America* 37 (1965): 1110-1123; Edward P. Asmus, "Perception and Analysis of the Difference Tone Phenomenon as an Environmental Event," *Journal of Research in Music Education* 26 (2) (1978): 82-89; Glenn White and Kate Grieshaber, "On the Existence of Combination Tones as Physical Entities," *Journal of Research in Music Education* 28, no. 2 (1980): 129-134.

inferior resonance based on resultant tones or combination tones. The inferior resonance, like the superior resonance, refers to artificial resonance that is created to resemble resonance effect of the undertone series and overtone series respectively. Messiaen's examples of inferior resonance, reproduced below, showed that the "inferior resonance" is in fact lower added notes (examples 2-7, 2-8).



Example 2-7 Inferior resonances (Messiaen's example numbers 218-219 in *Technique of my Musical Language*.)[75] In these two examples, the last chords in the lower register, (marked by a cross), are what Messiaen called the inferior resonance chords.

[75] Messiaen, *Technique of my Musical Language,* vol.1, p. 51; vol.2, p. 38.



Example 2-8 Another example of inferior resonance (Messiaen's example number 220 in the *Technique of my musical language*).[76] As he explained, "at A: (clarinet arpeggio and piano chords): chord on the dominant; at B: inferior resonance; and at C: bird-style melodic contours."

1.4 Contraction

Messiaen uses this term to indicate the reduction of distance between two pitches into the smallest possible interval. It is similar to finding the unordered pitch-class

[76] Messiaen, *Technique of my Musical Language*, vol. 1, p. 52; vol. 2, p. 38.

interval between two pitches. For example, contracting a minor seventh (ordered pitch interval 10) will result in a major second (unordered pitch-class interval 2).

1.5 Inversion

Messiaen uses the term inversion (*renversement* in French) in the Rameauvean sense, to mean 'registral rearrangement' of the different notes of the chords from the bottom up, in relation to the bass note, as in tonal theory. The difference is that Messiaen's chords are not triadically based.[77] Messiaen's procedure of inversion also includes registral shifts (e.g., lowering pitches by an octave) in the process.

1.6 Transposition

The term "transposition" usually means moving all the pitches of a chord up or down the same distance. Messiaen uses the term in explaining the "chord of transposed inversion on the same bass note" to mean moving the different inversions of the chord so that they all have the same bass note.

2 Definitions of the Color Chords

2.1 Chords of Transposed Inversions on the same Bass Note (CTI)[78]

The "chord of transposed inversions" is part of Messiaen's late harmonic language. According to him, the chords of transposed inversions on the same bass note were originally conceived as the "chord on the dominant".[79] The chord on the dominant

[77] This term inversion is not to be confused with the technique used in serial method. Inversion in serial method refers to an operation applied to lines of pitches to create mirror-like effect, the order stays the same but the contour is reserved. See Straus, *Introduction to Post-Tonal Theory,* p. 44.

[78] Messiaen, *Traité*, vol. 7, pp. 136-147.

[79] The "chord on the dominant" is part of Messiaen's early musical language. He used it for the first time in 1935 in *Nativité du Seigneur* and discusses it in his first treatise in 1944. Messiaen, *Technique de mon langage musical,* vol.1, p.50.

is built on the fifth degree of the scale and contains all the notes of the major scale, (in this case the F sharp major scale in example 2-9).

Example 2-9 Chord on the dominant which contains all notes of the F sharp major scale (Messiaen's example number 201 in the *Technique of my Musical Language*).[80]

Claiming that the chord on the dominant had a "whitish" color, Messiaen adds appoggiaturas to create "a rainbow of more varied and vivid colors."[81] In his view, appoggiaturas bring to the chord and its different inversions a multi-colored effect, similar to that of a stained-glass window (see example 2-10).

Example 2-10 Chord on the dominant in different inversions with added appoggiaturas (Messiaen's example number 204 in the *Technique of my Musical Language*).[82]

The final forms of these chords are called chords of transposed inversions, and they first appear in this form in the *Liturgie de cristal* of the *Quatuor pour la fin du temps* (194l). All the chords of transposed inversions are members of the set class 7-20

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[80] Messiaen, *Technique of my Musical Language,* vol. 2, p.37

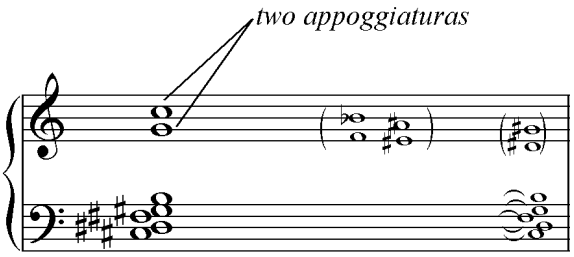
[81] Messiaen, *Traité*, vol. 7, p. 139.

[82] Messiaen, *Technique of my Musical Language,* vol. 2, p. 37.

(0125679) with interval vector [433452]. [83] Example 2-11 shows the base of the chord with its origin in a dominant major ninth, with the perfect fourth replacing the major third. This chord belongs to set class 5-35 (02479) and contains all the pitches of a pentatonic scale.

Example 2-11 Comparing the chord on the dominant (set-class 7-35) and the V_9 chord with added fourth replacing the third (set-class 5-35).

After building the chord in closed position, he then adds two pitches, which he identifies as appoggiaturas to change its color — C and G — (a compound diminished fifth and a compound major seventh above the bass of the chord, which form a perfect fourth above the whole chord). The appoggiaturas are absorbed into the chord and are considered by Messiaen as simply "added notes" (see Example 2-12).[84]



Example 2-12 Messiaen labels this chord as the chord of transposed inversion in root position. The added appoggiaturas (G and C) transform the V_9 chord with added four into the chord of transposed inversion of set-class 7-20.

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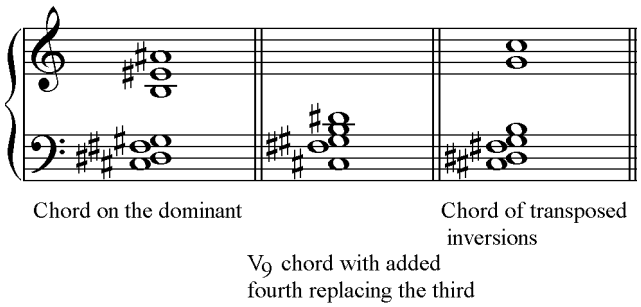
[83] For more information on this chord, see Benitez, "Aspects of Harmony," pp. 187-226.

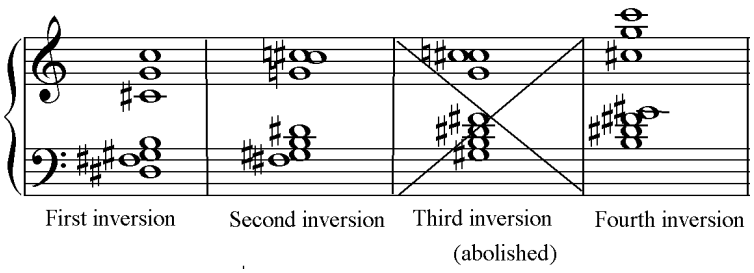
[84] Messiaen, *Traité*, vol. 7, p. 137.



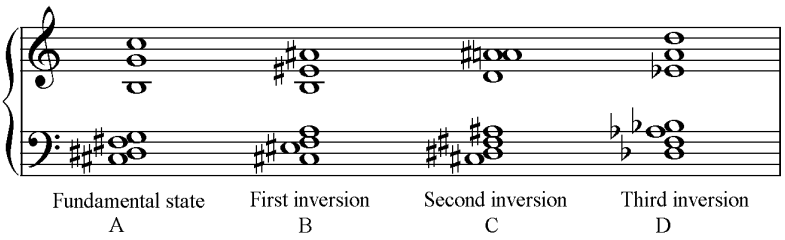
Example 2-13 Comparing the chord on the dominant, the V9 chord (with added fourth replacing the third) and the chord of transposed inversions in root position.

The order of the pitches of the chords are placed so that the lower register of the chord contains four structurally important pitches (C-sharp, D-sharp, F-sharp and G-sharp) , while the upper register contains three pitches (B, G and C) that act as an added resonance element to the chords. Messiaen then applies the procedure of registral inversion to this chord. However, here the inversions are classified in relation to the chord in close position, not conceived as a modified stack of thirds (see Example 2-14). The inversion procedure applies only to the bottom half of the chord. The top group of three pitches stays the same for all three inversions, although the pitches in the top group can be spaced differently. Messiaen does not use the third inversion, because he dislikes the way it sounds both by itself and when linked with other inversions (see example 2-14).[85] He then transposes all inversions so that they all have the same bass pitch, and labels the different inversions of the chords A, B, C, D (see Example 2-15).

[85] Messiaen, *Traité*, vol. 7, p. 139.

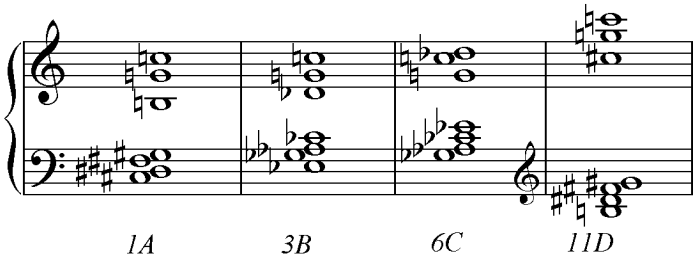


Example 2-14 CTI with its four inversions (before transposition)



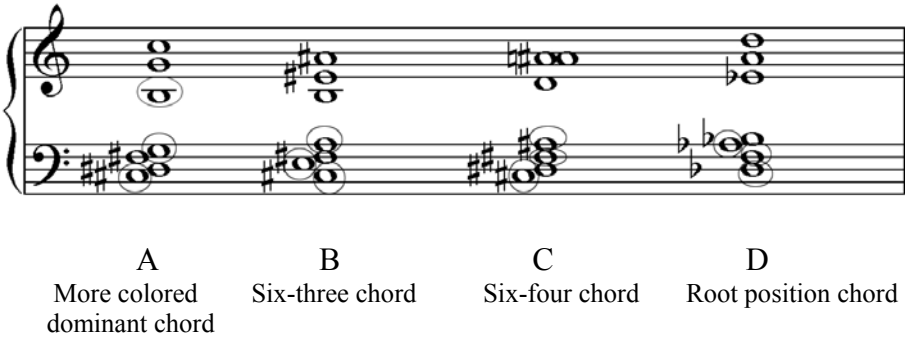
Example 2-15 Chord of tranposed inversions on the same bass note no. 1 (set class 7-20) and its three inversions after transposition.

The importance of the bass note in determining the type and transposition of the chords is underscored by the fact that for each chord of transposed inversion, there are three other chords in different inversions and different types A, B, C, and D that contain the same pitch collection, only their bass notes are different (see Example 2-16). Messiaen uses different nomenclatures to name the chords with the same pitch-class set depending on the bass note of the chord and gave different colors for each of those four chords. Apparently, the order of the pitches and the spacing of the chords (of the same pitch collection) also influence his perception of colors for those chords. Example 2-16 shows how four chords with the same pitch-class sets [6,7,8,E,0,1,3] are named as different color chords by Messiaen, based on the bass pitch.



Example 2-16 CTI 1A shares the same pitch-class set [6,7,8,E,0,1,3] as CTI 3B, 6C, and 11D. The bass notes determined the name of the chord.

Messiaen conceives of the chord of transposed inversions as a set of triadically based harmonies, spiced and colored by added notes and resonance elements.[86] In terms of harmonic function, the origin of the chord of transposed inversion as a dominant V_9 suggests that it has a strong tonal element and functional harmonic quality. Messiaen also describes the fundamental chord and its three inversions of the chords as a more colored dominant chord, a six-three chord, a six-four chord and a root position triad respectively.[87]



Example 2-17 The fundamental chord and its three inversions of the CTIs are considered by Messiaen as a more colored dominant chord, a six-three chord, a six-four chord and a root position chord respectively.

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[86] Messiaen, *Traité*, vol. 7, pp. 137-138.

[87] Messiaen, *Traité*, vol. 3, p. 86.

All the chords of transposed inversions are members of the set class 7-20 (0125679) and their rich sonority is due to the balanced property of their interval vector [433452].[88] Below is a table of the different transposition of the chords of transposed inversions, along with their colors specified by Messiaen, their corresponding modes as well as their pitch class sets.

[88] The interval vector shows that "chord of transposed inversion' has five perfect fifths (interval class 5) four minor seconds (interval class 1) and four major thirds (interval class 4), three major second (interval class 2), three minor thirds(interval class 3), and two tritones (interval class 6). It is interesting to note that while each "chord of transposed inversion" corresponds to one pitch-class set of set class 7-20, there are twelve pitch-class sets of set class 7-20 that do not correspond to any color chord (although they have the same interval vector) and each of the rest of the twelve pitch-class sets of 7-20 corresponds to four color chords.

Table 2-8 Chords of Transposed Inversion – CTI 1

CTI	Pitch Class Set	Set Class	Mode	Color	Same PCS Chords	Musical Examples
1A	[6,7,8,E,0,1,3]	7-20	7-1	Upper zone: crystal of rock and citrine. Lower zone: copper color with gold reflection.[89]	1A 3B 6C 11D	
1B	[4,5,6,9,T,E,1]	7-20	7-5	Broad area of sapphire-blue strapped by less intense blue (fluorine blue, clear Chartres blue) and re-strapped by purple.[90]	11A 1B 4C 9D	
1C	[1,2,3,6,7,8,T]	7-20	7-2	Orange, with pale yellow, red, and golden bands.[91]	8A 10B 1C 6D	
1D	[8,9,T,1,2,3,5]	7-20	7-3	Pale green, amethyst purple and black.[92]	3A 5B 8C 1D	

[89] "Zone supérieure: cristal de roche et citrine. Zone inférieure; couleur de cuivre à reflets d'or." Messiaen, *Traité*, vol. 7, p. 142.
[90] "Large nappe de bleu saphir, cerclée de bleus moins intenses (fluorine bleue, bleu clair de Chartres) et recerclée de violet." Ibid., p. 142.
[91] "Orangé, avec des bandes jaunes pâle, rouge, et or." Ibid.
[92] "Vert pâle, violet améthyste, et noir." Ibid.

Table 2-9 Chords of Transposed Inversion – CTI 2

CTI	Pitch Class Set	Set Class	Mode	Color	Same PCS Chords	Musical Examples
2A	[7,8,9,0,1,2,4]	7-20	7-2	Yellow, mauve, and pearl grey.[93]	2A 4B 7C 12D	
2B	[5,6,7,T,E,0,2]	7-20	7-6	Red, gray, and pale green bands.[94]	12A 2B 5C 10D	
2C	[2,3,4,7,8,9,E]	7-20	7-3	Orange, with bright yellow, red, and warm brown stains.[95]	9A 11B 2C 7D	
2D	[9,T,E,2,3,4,6]	7-20	7-4	Vertical bands: green and purple, alternated.[96]	4A 6B 9C 2D	

[93] "Jaune, mauve, et gris perle." Ibid.
[94] "Bandes rouges, grises, et vert pâle." Ibid.
[95] "Orange, avec des taches de jaune éclatant, de rouge, et de brun chaud." Ibid.
[96] "Bandes verticales: vertes et violette, alternées." Ibid.

Table 2-10 Chords of Transposed Inversion – CTI 3

CTI	Pitch Class Set	Set Class	Mode	Color	Same PCS Chords	Musical Examples
3A	[8,9,T,1,2,3,5]	7-20	7-3	Mauve campanula, on white and clear gray veil.[97]	3A 5B 8C 1D	
3B	[6,7,8,E,0,1,3]	7-20	7-1	Crystals: burned earth, amethyst purple, clear Prussian blue, warm reddish brown - with gold stars.[98]	1A 3B 6C 11D	
3C	[3,4,5,8,9,T,0]	7-20	7-4	Flowers of iris (violet with orange center) on turquoise blue foundation.[99]	10A 1B 3C 8D	
3D	[T,E,0,3,4,5,7]	7-20	7-5	Pinkish foundation with black designs (as the rhodonite), with Martagon lily (purple brown flower).[100]	5A 7B 10C 3D	

[97] "Campanules mauves, sur des voiles blancs et gris clair." Messiaen, *Traité*, vol, 7, p. 143.
[98] "Cristaux: terre brûlée, violet améthyste, bleu de Prusse clair, marron chaud et rougeâtre – avec étoiles d'or." Ibid.
[99] "Fleurs d'iris (violettes à centre orange) sur fond bleu turquoise." Ibid.
[100] "Fond rose à dessins noirs (comme la rhodonite), avec des lis Martagon (fleur brun violacé)." Ibid.

Table 2-11 "Chords of Transposed Inversion" – CTI 4

CTI	Pitch Class Set	Set Class	Mode	Color	Same PCS Chords	Musical Examples
4A	[9,T,E,2,3,4,6]	7-20	7-4	Vertical bands: green, violet, dark blue.[101]	4A 6B 9C 2D	
4B	[7,8,9,0,1,2,4	7-20	7-2	White and gold.[102]	2A 4B 7C 12D	
4C	[9,T,E,1,4,5,6]	7-20	7-5	Large intense sapphire blue coat - in the crease: Parma purple and Chartres blue reflections.[103]	11A 1B 4C 9D	
4D	[E,0,1,4,5,6,8]	7-20	7-6	A gold spiral with white and pinkish reflections - on a large carmine red foundation.[104]	6A 8B 11C 4D	

[101] "Bandes verticales: vertes, violettes, bleu foncé." Ibid.
[102] "Blanc et or." Ibid.
[103] "Large manteau bleu saphir intense – dans les plis: des reflets violet Parme et bleu de Chartres." Ibid.
[104] "Une spirale d'or à reflets blancs et roses – sur un grand fond rouge carmin." Ibid.

Table 2-12 Chords of Transposed Inversion – CTI 5

CTI	Pitch Class Set	Set Class	Mode	Color	Same PCS Chords	Musical Examples
5A	[T,E,0,3,4,5,7]	7-20	7-5	Pink with black designs (as the rhodonite) - underlined by a band of sand color.[105]	5A 7B 10C 3D	
5B	[8,9,T,1,2,3,5]	7-20	7-3	Ash, pale green, and mauve.[106]	3A 5B 8C 1D	
5C	[5,6,7,T,E,0,2]	7-20	7-6	Red and pinkish arborescences, on gray foundation.[107]	12A 2B 5C 10D	
5D	[0,1,2,5,6,7,9]	7-20	7-1	Pale green, with yellow and mauve reflections.[108]	7A 9B 12C 5D	

[105] "Rose à dessins noirs (comme la rhodonite) – souligné d'une bande couleur de sable." Messiaen, *Traité*, vol. 7, p. 144.
[106] "Cendré, vert pâle, et mauve." Ibid.
[107] "Arborescences rouges et roses, sur un fond gris." Ibid.
[108] "Vert pâle, avec des reflets jaunes et mauves." Ibid.

Table 2-13 Chords of Transposed Inversion – CTI 6

CTI	Pitch Class Set	Set Class	Mode	Color	Same PCS Chords	Musical Examples
6A	[E,0,1,4,5,6,8]	7-20	7-6	Copper, gold and brown, blackened red.[109]	6A 8B 11C 4D	
6B	[9,T,E,2,3,4,6]	7-20	7-4	Emerald green, amethyst purple, and pale blue.[110]	4A 6B 9C 2D	
6C	[6,7,8,E,0,1,3]	7-20	7-1	Flamboyant gold stars - on crystals of burned earth, leathery and reddish brown, with amethyst purple and clear Chartres blue.[111]	1A 3B 6C 11D	
6D	[1,2,3,6,7,8,T]	7-20	7-2	Golden and silver sun - encircled with wavy red, orange, mauve and black rays.[112]	8A 10B 1C 6D	

[109] "Cuivré, or et brun, rouge rabattu par le noir." Ibid.
[110] "Vert émeraude, violet améthyste, et bleu pâle." Ibid.
[111] "Etoiles d'or flamboyantes – sur cristaux terre brûlée, brun rougeâtre et cuir, avec du violet améthyste et du bleu de Chartres clair." Ibid.
[112] "Soleil or et argent – entouré de rayons ondulés rouges, orangés, mauves et noirs." Ibid.

Table 2-14 Chords of Transposed Inversion – CTI 7

CTI	Pitch Class Set	Set Class	Mode	Color	Same PCS Chords	Musical Examples
7A	[0,1,2,5,6,7,9]	7-20	7-1	Yellow, stained with white and pale green.[113]	7A 9B 12C 5D	
7B	[T,E,0,3,4,5,7]	7-20	7-5	Red and white slanting bands, on pinkish foundation with black designs.[114]	5A 7B 10C 3D	
7C	[7,8,9,0,1,2,4]	7-20	7-2	Yellow and white designs, with very bright golden zones.[115]	2A 4B 7C 12D	
7D	[2,3,4,7,8,9,E]	7-20	7-3	Orange, red and brown, lemon yellow. [116]	9A 11B 2C 7D	

[113] "Jaune, taché de blanc et de vert pâle." Messiaen, *Traité*, vol. 7, p. 145.
[114] "Bandes obliques rouges et blanches, sur fond rose à dessins noirs." Ibid.
[115] "Dessin jaune et blanc, avec des zones d'or très brillantes." Ibid.
[116] "Orange, rouge et brun, jaune citron." Ibid.

Table 2-15 Chords of Transposed Inversion – CTI 8

CTI	Pitch Class Set	Set Class	Mode	Color	Same PCS Chords	Musical Examples
8A	[1,2,3,6,7,8,T]	7-20	7-2	Crystal sharpened in facets: yellow, mauve, faintly blue, pale green, pinkish, amber lightening to white - with a little of gold around.[117]	8A 10B 1C 6D	
8B	[E,0,1,4,5,6,8]	7-20	7-6	White and golden drawings in spirals, on carmine red and leathery brown foundation.[118]	6A 8B 11C 4D	
8C	[8,9,T,1,2,3,5]	7-20	7-3	Purple amethysts, mauve campanulas, and white pebbles on pale green and ash gray foundation.[119]	3A 5B 8C 1D	
8D	[3,4,5,8,9,T,0]	7-20	7-4	Purple, pink, and purple, turmaline moons, on turquoise blue foundation.[120]	10A 12B 3C 8D	

[117] "Cristal taille à facettes: jaune, mauve, bleu pâle, vert pâle, rose, ambre dégradé vers le blanc – avec un peu d'or autour." Ibid.
[118] "Dessins en spirales blanc et or, sur fond rouge carmin et brun cuir." Ibid.
[119] "Sur fond vert pâle et gris cendré, des améthystes violettes, des campanules mauves, et des cailloux blancs." Ibid.
[120] "Lunes violettes, roses, et violet pourpre, tourmantin sur fond bleu turquoise." Ibid.

Table 2-16 Chords of Transposed Inversion – CTI 9

CTI	Pitch Class Set	Set Class	Mo-de	Color	Same PCS Chords	Musical Examples
9A	[2,3,4,7,8,9,E]	7-20	7-3	Broad orange zone, strapped with green and blue.[121]	9A 11B 2C 7D	
9B	[0,1,2,5,6,7,9]	7-20	7-1	Bluish green, with a bit of yellow and purple.[122]	7A 9B 12C 5D	
9C	[9,T,E,2,3,4,6]	7-20	7-4	Emerald green, crossed horizontally by purple.[123]	4A 6B 9C 2D	
9D	[4,5,6,9,T,E,1]	7-20	7-5	Cameo of blue: intense sapphire blue, translucent blue like fluorine, matt blue like lapis-lazuli, purple blue, and light Chartres blue.[124]	11A 1B 4C 9D	

[121] "Large zone orange, cerclée de vert et de bleu pâle. " Messiaen, *Traité*, vol. 7, p. 146.
[122] "Vert bleuté, avec un peu de jaune et de violet." Ibid.
[123] "Vert émeraude, barré horizontalement de violet." Ibid.
[124] "Camaïeu de bleus : bleu saphir intense, bleu translucide genre fluorine, bleu mat genre lapis-lazuli, bleu violet, et bleu clair de Chartres." Ibid.

Table 2-17 Chords of Transposed Inversion – CTI 10

CTI	Pitch Class Set	Set Class	Mode	Color	Same PCS Chords	Musical Examples
10A	[3,4,5,8,9,T,0]	7-20	7-4	Turquoise blue, underlined by pink and mauve.[125]	10A 12B 3C 8D	
10B	[1,2,3,6,7,8,T]	7-20	7-2	Gold shining with red reflection, with pale yellow, very clear Prussian blue, and transparent crystal - adamantine brightness![126]	8A 10B 1C 6D	
10C	[T,E,0,3,4,5,7]	7-20	7-5	Ruby red zone, encircled with pinkish zone with black designs.[127]	5A 7B 10C 3D	
10D	[5,6,7,T,E,0,2]	7-20	7-6	Reef of red coral, encircled with pink, grey, and pale green.[128]	12A 2B 5C 10D	

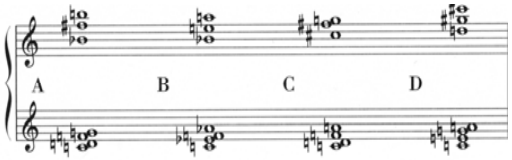
[125] "Bleu turquoise, souligné de rose et de mauve." Ibid.
[126] "Or brillant à reflets rouges, avec du jaune pâle, du bleu de Prusse très clair, et du cristal transparent – éclat adamantin!" Ibid.
[127] "Zone rouge rubis, entouré d'une autre zone rose à dessins noirs." Ibid.
[128] "Récif de corail rouge, entouré de rose, de gris, et de vert pâle." Ibid.

Table 2-18 Chords of Transposed Inversion – CTI 11

CTI	Pitch Class Set	Set Class	Mode	Color	Same PCS Chords	Musical Examples
11A	[4,5,6,9,T,E,1]	7-20	7-5	Leathery brown, surmounted by dull lapis-lazuli blue and a little violet.[129]	11A 1B 4C 9D	
11B	[2,3,4,7,8,9,E]	7-20	7-3	Lemon yellow, with red stains.[130]	9A 11B 2C 7D	
11C	[E,0,1,4,5,6,8]	7-20	7-6	Red with golden designs.[131]	6A 8B 11C 4D	
11D	[6,7,8,E,0,1,3]	7-20	7-1	Chocolate brown background, with carmine red designs and a golden star standing out.[132]	1A 3B 6C 11D	

[129] "Brun cuir, surmonté de lapis-lazuli bleu mat, et un peu de violet." Messiaen, *Traité,* vol. 7, p. 147.
[130] "Jaune citron, avec des taches rouges." Ibid.
[131] "Rouge avec des dessins d'or." Ibid.
[132] "Fond brun chocolat, avec des dessins rouges carmin, sur lequel se détache une étoile d'or." Ibid.

Table 2-19 Chords of Transposed Inversion – CTI 12

CTI	Pitch Class Set	Set Class	Mode	Color	Same PCS Chords	Musical Examples
12A	[5,6,7,T,E,0,2]	7-20	7-6	Pink and black arborescence, on yellow and pearl gray background.[133]	12A 2B 5C 10D	
12B	[3,4,5,8,9,T,0]	7-20	7-4	Pink, mauve, purple violet and turquoise blue mosaic.[134]	10A 12B 3C 8D	
12C	[0,1,2,5,6,7,9]	7-20	7-1	Mauve, yellow, and blue moons in rotation on a pale green foundation.[135]	7A 9B 12C 5D	
12D	[7,8,9,0,1,2,4]	7-20	7-2	Bright golden sun over very white snow.[136]	2A 4B 7C 12D	

[133] "Arborescences roses et noires, sur fond jaune et gris perle." Ibid.
[134] "Mosaïque rose, mauve, violet pourpre, et bleu turquoise." Ibid.
[135] "Lunes mauves, jaunes, et bleues, tournant sur un fond vert pâle." Ibid.
[136] "Soleil d'or éclatant, sur neige très blanche." Ibid.

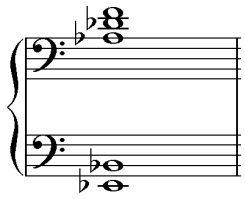
2.2 Chords of Contracted Resonance (CCR)[137]

Messiaen's "chords of contracted resonance" have two types, called "first chord of contracted resonance" and "second chord of contracted resonance." They both consist of a pair of chords, named A and B. The resonance aspect he referred to in these two types of chords of contracted resonance was not resonance based on the overtone series, but artificial resonance, created and labeled as such by Messiaen to explain their construction. The definition he offers in volume 7 of his *Traité* regarding the formation and genesis of these chords does not fully explain the reasoning behind the construction of the chords. However, he does offer all the synesthesia-induced color associations for each of the chords' transpositions.

Below is an examination of the construction of the chords of contracted resonance, based on Messiaen's explanations of these chords.

2.2.1 First Chords of Contracted Resonance (1st CCR)

As Messiaen explains in his *Traité*, the initial formation of the first chord of contracted resonance is similar to the chord of transposed inversion in that it is also derived from the dominant major V_9 chord with the fourth in place of the third, but it has a different spacing from the chord of transposed inversion (see Example 2-18).[138]



Example 2-18 The V_9 chord with added fourth replacing the third.

[137] Messiaen, *Traité*, vol. 7, pp. 150-164.

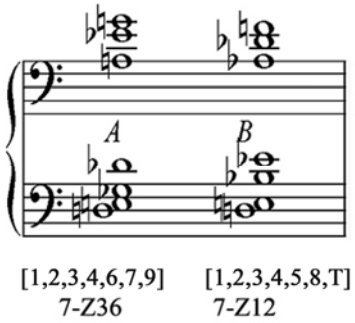
[138] Ibid., pp. 150-160.

Messiaen then inserts a chord that he calls "quintuple appoggiaturas" in front of the V_9 chord. According to Messiaen, all the pitches of the "quintuple appoggiatura" chord are appoggiaturas to the pitches of the following chord, but the distances between the pitches of the appoggiatura chord to the pitches of the second chord are not the same. The intervals between the pitches of the two chords are as followed, counting from the bottom up: M3, M2, m2, M2, M2. He also adds two "contracted" lower non-harmonic partials (produced by what he calls resultant -combination tone) to the bottom of these two chords (example 2-19.)[139] Example 2-20 shows the result of this process: a pair of chords labeled A and B which contained different color association.[140]

Example 2-19 The derivation of chords of contracted resonance from the V_9 chord, the appoggiatura chord, and the contraction and addition of the inferior resonance to the two chords.

[139] These two combination tones are "contracted" from a mFajor ninth interval to a major second, and then added to both the chord of appoggiaturas and the principal chord.

[140] Messiaen, *Traité*, vol.7, p. 151.



Chord A: yellow, purple mauve, lead gray;

Chord B: bluish green, purple, lead gray.

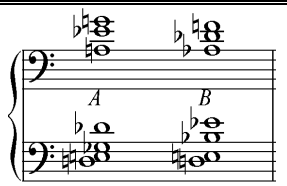
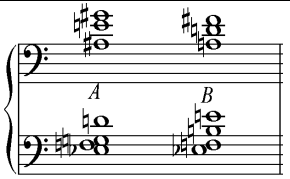
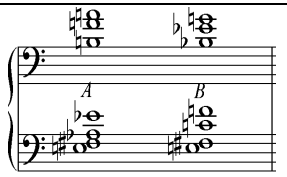
Example 2-20 Chords A and B of the first chord of contracted resonance and their colors specified by Messiaen.[1]

Chord A and B of the first chord of contracted resonance belong to set classes 7-Z36 and 7-Z12, which are Z-related and share the same interval-class content [444342].[2] As a result, they sound similar to each other. Set class 7-Z12 is inversionally symmetric, meaning that this set class maps onto itself under inversion and there are only twelve, not twenty four distinct pitch-class sets. Below is a table of the forms of the first chord of contracted resonance along with their color associations given by Messiaen, their mode membership, as well as their corresponding pitch-class sets and set classes.

[1] Messiaen, *Traité*, vol.7, p. 151.

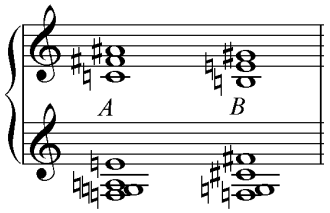
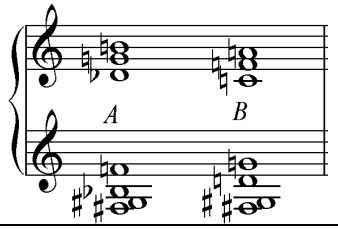
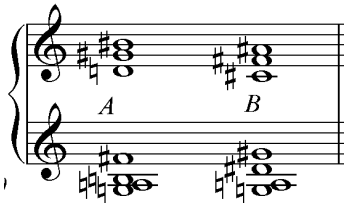
[2] Interval vector shows that the "chords of contracted resonance" have four minor seconds (interval class 1), four major seconds (interval class 2), four minor thirds (interval class 3), four perfect fifths (interval class 5), three major thirds (interval class 4) and two tritones (interval class 6)

Table 2-20 First Chords of Contracted Resonance – 1st CCR (1-3)

Color Chord Name	Pitch Class Set	Set Class	Mode	Color	1st CCR
1st CCR-1A	[1,2,3,4,6,7,9]	7-Z36	Mode 7-2	Yellow, mauve violet, gray of lead.[143]	
1st CCR-1B	[1,2,3,4,5,8,T]	7-Z12	Mode 7-3	Bluish green, violet, gray of lead.[144]	
1st CCR-2A	[2,3,4,5,7,8,T]	7-Z36	Mode 7-3	Purple violet, yellow, orange red.[145]	
1st CCR-2B	[2,3,4,5,6,9,E]	7-Z12	Mode 7-4	Clear green, clear gray, red.[146]	
1st CCR-3A	[3,4,5,6,8,9,E]	7-Z36	Mode 7-4	Blue lightening to white, nasturtium orange.[147]	
1st CCR-3B	[3,4,5,6,7,T,0]	7-Z12	Mode 7-5	Carmine red, clear gray, leathery brown.[148]	

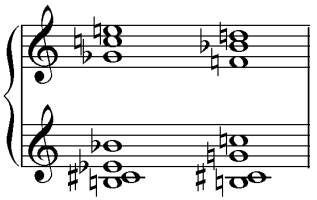
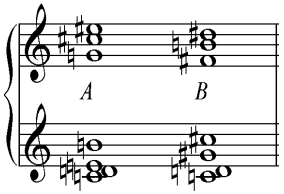
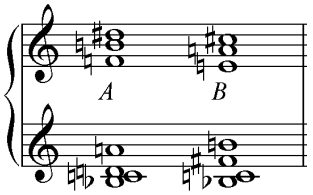
[143] "Jaune, violet mauve, gris de plomb." Messiaen, *Traité*, vol.7, p.158.
[144] "Vert bleuté, violet, gris de plomb." Ibid.
[145] "Violet pourpre, jaune, rouge orangé." Ibid.
[146] "Vert clair, gris clair, rouge." Ibid.
[147] "Bleu dégradé vers le blanc, orangé capucine." Ibid. p. 159.
[148] "Rouge carmin, gris clair, brun cuir." Ibid.

Table 2-21 First Chords of Contracted Resonance – 1st CCR (4-6)

Color Chord Name	Pitch Class Set	Set Class	Mode	Color	1st CCR
1st CCR-4A	[4,5,6,7,9,T,0]	7-Z36	Mode 7-5	Bluish jade green, diamond, clear green.[149]	
1st CCR-4B	[4,5,6,7,8,E,1]	7-Z12	Mode 7-6	Ruby red, orange, deep yellow.[150]	
1st CCR-5A	[5,6,7,8,T,E,1]	7-Z36	Mode 7-6	Yellow turned dark by the black, greenish brown.[151]	
1st CCR-5B	[5,6,7,8,9,0,2]	7-Z12	Mode 7-1	Clear green, yellow, burned earth.[152]	
1st CCR-6A	[6,7,8,9,E,0,2]	7-Z36	Mode 7-1	Milky white, clear green, lemon yellow.[153]	
1st CCR-6B	[6,7,8,9,T,1,3]	7-Z12	Mode 7-2	Cobalt blue, deep green of malachite, diamant.[154]	

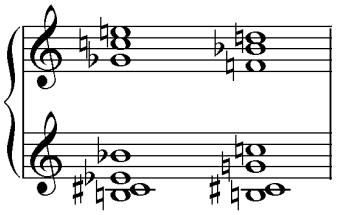
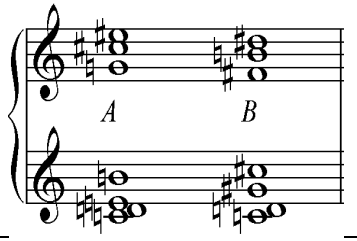
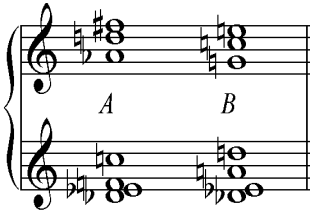
[149] " Vert jade bleuté, diamant, vert clair." Ibid.
[150] "Rouge rubis, orange, jaune foncé." Ibid.
[151] "Jaune rabattu par le noir, brun verdâtre." Messiaen, *Traité*, vol.7. p. 159.
[152] "Vert clair, jaune, terre brûlée." Ibid.
[153] "Blanc laiteux, vert clair, jaune citron." Ibid.
[154] "Bleu de cobalt, vert foncé malachite, diamant." Ibid.

Table 2-22 First Chords of Contracted Resonance – 1st CCR (7-9)

Color Chord Name	Pitch Class Set	Set Class	Mode	Color	1st CCR
1st CCR-7A	[7,8,9,T,0,1,3]	7-Z36	Mode 7-2	Mauve gray, orange, purple violet.[155]	
1st CCR-7B	[7,8,9,T,E,2,4]	7-Z12	Mode 7-3	Lemon yellow, orange, reddish mauve of petunia.[156]	
1st CCR-8A	[8,9,T,E,1,2,4]	7-Z36	Mode 7-3	Rosy mauve of rubellite, peach skin mauve gray, cobalt blue.[157]	
1st CCR-8B	[8,9,T,E,0,3,5]	7-Z12	Mode 7-4	Fluorine blue, amethyst violet, bluish gray of stones.[158]	
1st CCR-9A	[9,T,E,0,2,3,5]	7-Z36	Mode 7-4	Magenta violet, rosy white, orange red.[159]	
1st CCR-9B	[9,T,E,0,1,4,6]	7-Z12	Mode 7-5	Purplish blue, clear coffee, lightening to white, green and silver, reddish brown.[160]	

[155] "Gris mauve, orangé, violet pourpre." Ibid.
[156] "Jaune citron, orangé, mauve rougeâtre pétunia." Ibid.
[157] "Rose mauve rubellite, gris mauve peau de pêche, bleu de cobalt." Ibid.
[158] "Bleu fluorine, violet améthyste, gris bleuté pierreux." Ibid.
[159] "Violet Magenta, blanc rosé, rouge orangé." Messiaen, *Traité*, vol.7. p. 160.
[160] "Bleu violacé, café clair, dégradé vers le blanc, vert et argent, brun rougeâtre." Ibid.

Table 2-23 First Chords of Contracted Resonance – 1st CCR (10-12)

Color Chord Name	Pitch Class Set	Set Class	Mode	Color	1st CCR
1st CCR-10A	[T,E,0,1,3,4,6]	7-Z36	Mode 7-5	Gold, orange, black.[161]	
1st CCR-10B	[T,E, 0,1,2,5,7]	7-Z12	Mode 7-6	Carmine red, yellow and black.[162]	
1st CCR-11A	[E,0,1,2,4,5,7]	7-Z36	Mode 7-6	Yellow and clear green, rosy white.[163]	
1st CCR-11B	[E,0,1,2,3,6,8]	7-Z12	Mode 7-1	Ruby red, gold and steel.[164]	
1st CCR-12A	[0,1,2,3,5,6,8]	7-Z36	Mode 7-1	Clear violet hatching of green, pale blue, silvery gray and black.[165]	
1st CCR-12B	[0,1,2,3,4,7,9]	7-Z12	Mode 7-2	Dazzling yellow, purple violet stained with white, gold and black.[166]	

[161] "Or, orangé, noir." Ibid.
[162] "Rouge carmin, jaune et noir." Ibid.
[163] "Jaune et vert clair, blanc rosé." Ibid.
[164] "Rouge rubis, or et acier." Ibid.
[165] "Violet clair hachure de vert, bleu pâle, gris argenté et noir." Ibid.
[166] "Jaune éclatant, violet pourpre tache de blancheur, or et noir." Ibid.

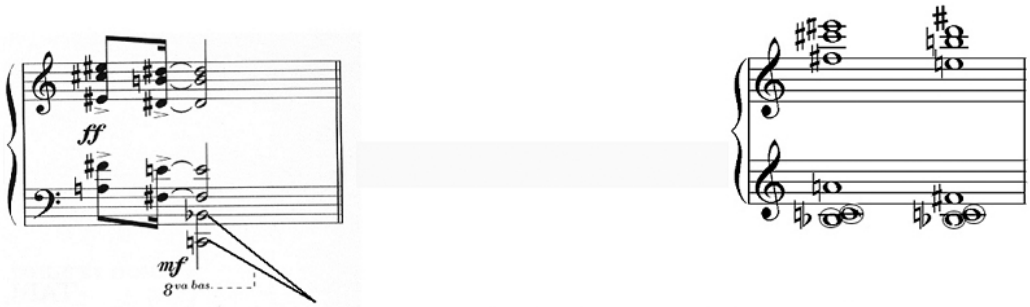
2.2.2 Second chord of contracted resonance (2nd CCR)[167]

Messiaen explains the formation of the second chord of contracted resonance as starting out with two chords: the first chord is a minor triad in first inversion, with an added major seventh above the root; the second is a major triad in second inversion, with an added perfect fourth above the root. He describes the first chord as a quadruple appoggiatura of the second chord (see Example 2-21.) The distance between the appoggiatura chord and the main chord is not the same for every note of the chord. All the notes in the chord of the appoggiatura are two semi-tones higher than the main chord, except for the bass, where the appoggiatura is three semi-tones higher. Messiaen places a dyad of minor seventh in the bass (produced by what he calls lower harmonics or "inferior resonance"), contracted them to a major second and added them to the two chords (Example 2-22).[168]

Example 2-21 A quadruple appoggiatura chord is placed put in front of the V9 chord.

[167] Messiaen, *Traité*, vol.7, pp. 161-164.

[168] Messiaen calls these lower dyads "lower harmonics" or "inferior resonance" but in fact, they are just added notes. He does not explain in detail how the "lower harmonics" or "inferior resonance" resulted in these two specific pitches. For a more detailed explanation of the terms "lower harmonics" and "inferior resonance," see sections 1.3a and 1.3b above.



Two lower-harmonic tones added to the original pair of chords, before and after contraction.

Example 2-22 A pair of lower harmonics is added to the chord.

Example 2-23 below shows the two forms of the second chord of contracted resonance in their root position. Unlike the first CCR, the pair of chords A and B of the second CCR shares the same color indications. The chord A belongs to set-class 6-Z19 (013478) with interval vector [313431] and the chord B belongs to set-class 6-Z43 (012568) with interval vector [322332]. The two sets are not Z-related, but they have the same number of perfect fifths (interval class 5) and minor seconds (interval class 1.)

Color description for both A and B: Various nuances of pink, from brownish red to very pale pink, passing through bright pink and orange pink, forming vertical spiral designs - the entire zone is stained, crossed, veined by black: the whole evokes the color of two well known pink stones: “Rhodonite” and "Rhodochrosite”.[169]

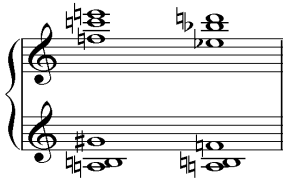
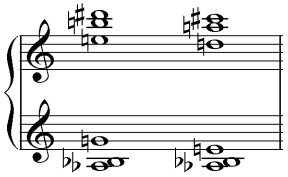
Example 2-23 Second chords of contracted resonance.[170]

[169] “Diverse nuances de rose, allant du rouge brunâtre au rose très pâle, en passant par le rose vif et le rose orangé, formant des dessins verticaux serpentins – le tout taché, barré, veiné de noir : l’ensemble évoque deux pierres roses très connues : la ‘Rhodonite’ et la ‘Rhodochrosite’.”Messiaen, *Traité*, vol.7. p. 162.

[170] Ibid..

Below is a table presenting all the different transpositions of the 2nd CCR along with their color description given by Messiaen and their respective pitch-class sets and set classes.

Table 2-24 Second Chord of Contracted Resonance - 2nd CCR (1-3)

Color Chord Name	Pitch Class Set	Set Class	Mode	Color	2nd CCR
2nd CCR-1A	[5,6,9,T,0,1]	6-Z19	Mode 3-3 Mode 7-5	Various nuances of pink, from brownish red to very pale pink, passing through bright pink and orange pink, forming vertical spiral designs - the entire zone is stained, crossed, veined by black: the whole evokes the color of two well known pink stones: “Rhodonite” and "Rhodochrosite”.[171]	
2nd CCR-1B	[T,E,0,3,4,6]	6-Z43	Mode 3-1 Mode 4-5 Mode 7-4 Mode 7-5		
2nd CCR-2A	[4,5,8,9,E,0]	6-Z19	Mode 3-2 Mode 7-4	Large circular zone, velvety ash gray. It acts as background for a drawing formed by two Xs lightly crossed. The first X, very big, is mauve - second X, smaller, put in front, is pale green.[172]	
2nd CCR-2B	[9,T,E,2,3,5]	6-Z43	Mode 3-4 Mode 4-4 Mode 7-3 Mode 7-4		
2nd CCR-3A	[3,4,7,8,T,E]	6-Z19	Mode 3-1 Mode 7-3	Translucent columns of “amber” color (yellow and clear chestnut) - veined with purple and chocolate brown, with some stains of pale blue.[173]	
2nd CCR-3B	[8,9,T,1,2,4]	6-Z43	Mode 3-3 Mode 4-3 Mode 7-2 Mode 7-3		

[171] “Diverse nuances de rose, allant du rouge brunâtre au rose très pâle, en passant par le rose vif et le rose orangé, formant des dessins verticaux serpentins – le tout taché, barré, veiné de noir: l’ensemble évoque deux pierres roses très connues : la “Rhodonite” et la “Rhodochrosite.” Ibid.

[172] “Grande zone circulaire, gris cendré velouté. Elle sert de fond à un dessin formé de deux X légèrement croisés. Le premier X, très grand, est mauve – le second X, plus petit, placé en avant, est vert pâle.” Ibid.

[173] “Colonnes translucides, couleur « ambre” (jaune et marron clair) – veinées de violet et de brun chocolat, avec quelques taches de bleu pâle.” Ibid.

Table 2-25 Second Chord of Contracted Resonance - 2nd CCR (4-6)

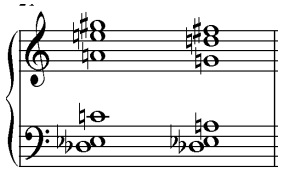
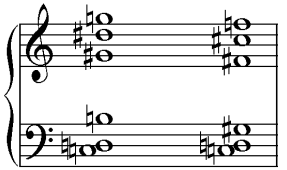
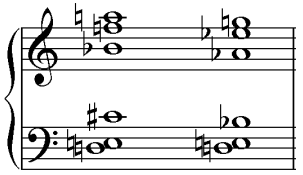
Color Chord Name	Pitch Class Set	Set Class	Mode	Color	2nd CCR
2nd CCR-4A	[2,3,6,7,9,T]	6-Z19	Mode 3-4 Mode 7-2	Translucent pale yellow background, with gray and pale blue drawings.[174]	
2nd CCR-4B	[7,8,9,0,1,3]	6-Z43	Mode 3-2 Mode 4-2 Mode 7-1 Mode 7-2		
2nd CCR-5A	[1,2,5,6,8,9]	6-Z19	Mode 3-3 Mode 7-1	Red and green arborescence on gray background.[175]	
2nd CCR-5B	[6,7,8,E,0,2]	6-Z43	Mode 3-1 Mode 4-1 Mode 7-1 Mode 7-6		
2nd CCR-6A	[0,1,4,5,7,8]	6-Z19	Mode 3-2 Mode 7-6	"Zoisite" green, with ruby red stains - the whole strapped by grey and re-strapped by black.[176]	
2nd CCR-6B	[5,6,7,T,E,1]	6-Z43	Mode 3-4 Mode 4-6 Mode 7-5 Mode 7-6		

[174] "Fond jaune pâle translucide, avec des dessins gris et bleu pâle." Ibid.

[175] "Arborescences rouges et vertes sur fond gris." Messiaen, *Traité*, vol.7, p. 163.

[176] "Zoïsite" verte, avec des taches de "rubis" rouge – le tout cerclé de gris et recerclé de noir." Ibid.

Table 2-26 Second Chord of Contracted Resonance - 2nd CCR (7-9)

Color Chord Name	Pitch Class Set	Set Class	Mode	Color	2nd CCR
2nd CCR-7A	[E,0,3,4,6,7]	6-Z19	Mode 3-1 Mode 7-5	Dazzling red (as "Proustite") - drawn of pale blue and crossed by black. [177]	
2nd CCR-7B	[4,5,6,9,T,0]	6-Z43	Mode 3-3 Mode 4-5 Mode 7-4 Mode 7-5		
2nd CCR-8A	[T,E,2,3,5,6]	6-Z19	Mode 3-4 Mode 7-4	Large mauve zone – standing apart from this foundation: ancolies (yellow and mauve), iris (yellow and mauve), capucines (orange red) - in the middle: a gold star. [178]	
2nd CCR-8B	[3,4,5,8,9,E]	6-Z43	Mode 3-2 Mode 4-4 Mode 7-3 Mode 7-4		
2nd CCR 9A	[9,T,1,2,4,5]	6-Z19	Mode 3-3 Mode 7-3	Compact mass of red "realgar" and of yellow "orpiment" — encircled with a first stony bluish gray circle, with a second russet brown circle, and with a third dark purple circle. [179]	
2nd CCR-9B	[2,3,4,7,8,T]	6-Z43	Mode 3-1 Mode 4-3 Mode 7-2 Mode 7-3		

[177] "Rouge éclatante (comme la «Proustite") dessiné de bleu pâle et barré de noir." Ibid.

[178] "Grande zone mauve – se détachant sur ce fond : des ancolies (jaune et mauve), et des iris (jaune et mauve), des capucines (rouge orange) – au milieu: une étoile d'or." Ibid.

[179] "Mass compacte de 'réalgar' rouge et 'd'orpiment' jaune – entourée d'un premier cercle gris bleuté pierreux, d'un deuxième cercle brun roussâtre, d'un troisième cercle violet sombre." Messiaen, *traité,* vol.7, p. 164.

Table 2-27 Second Chord of Contracted Resonance - 2nd CCR (10-12)

Color Chord Name	Pitch Class Set	Set Class	Mode	Color	2nd CCR
2nd CCR-10A	[8,9,0,1,3,4]	6-Z19	Mode 3-2 Mode 7-2	Huge points of rock, in form of iron spear of black gray, mauve gray, pale gray colors- with the golden yellow on the top. [180]	
2nd CCR-10B	[1,2,3,6,7,9]	6-Z43	Mode 3-4 Mode 4-2 Mode 7-1 Mode 7-2		
2nd CCR-11A	[7,8,E,0,2,3,]	6-Z19	Mode 3-1 Mode 7-1	High wall of gray stones, with some pale orange and mauve stains, a green zone, and some blackish traces. [181]	
2nd CCR-11B	[0,1,2,5,6,8]	6-Z43	Mode 3-3 Mode 4-1 Mode 7-1 Mode 7-6		
2nd CCR-2A	[6,7,T,E,1,2]	6-Z19	Mode 3-4 Mode 7-6	Alternated red and black vertical bands, with gray stains. [182]	
2nd CCR-12B	[E,0,1,4,5,7]	6-Z43	Mode 3-2 Mode 4-6 Mode 7-5 Mode 7-6		

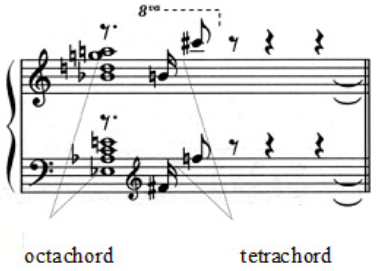
[180] "Énormes pointes rocheuses, en fer de lance, gris noir, gris mauve, gris clair – avec du jaune doré au sommet." Ibid.

[181] "Haute muraille de pierre grise, avec quelques taches orangé pâle et mauve, une zone verte, et des traces noirâtres." Ibid.

[182] "Bandes verticales, rouges et noires alternées, avec des taches grises." Ibid.

2.3 Chord of Total Chromaticism (CTC)

Messiaen presents the "chord of total chromaticism" as a collection of twelve pitches divided into two pitch collections, a lower octachord and a higher tetrachord (see example 2-24.)[183] This chord has the distinction of being Messiaen's favorite.[184] The CTC is comprised of two parts: an octachord (set-class 8-16 (01235789)) plus four supplementary pitches (set-class 4-16 (0157)). Set classes 8-16 and 4-16 are complementary and combine together to form a complete aggregate of twelve pitches.[185] He gives the two parts of the CTCs separate color descriptions.



8-16 (01235789) 4-16 (0157)

Example 2-24 Chord of total chromaticism number 1 (CTC-1)[186]

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[183] Messiaen, *Traité*, vol. 7, pp. 181-190. Messiaen used this chord for the first time at the end of the fifth movement, titled *Quam dilecta tabernacula tua*, of the *Transfiguration de Notre-Seigneur Jésus-Christ* for mixed choir, seven instrumental soloists and grand orchestra.

[184] Messiaen describes the chord of total chromaticism(CTC) as "the most beautiful and the richest" of all the chords. "The chromaticism does not impede its color because it is arranged in such a way that it does not form a cluster, but a perfect-major chord, with major third and minor sixth, presented under fourths and major sixths with five added notes – plus four supplementary notes (the rest of the twelve pitches), coming afterwards like an upper resonance." "De tous les accords, le plus beau et le plus riche est "l'accord du total chromatique." Le chromatisme n'empêche pas sa couleur, car il est disposé de telle sorte qu'il ne forme pas un cluster – mais un accord parfait majeur, avec tierce majeure et sixte mineure, présenté sous forme de quatre et sixte majeure avec 5 notes ajoutées – plus 4 notes supplémentaires (le reste des 12 sons), venant après coup comme une résonance supérieure." Messiaen, *Traité*, vol. 7, p. 107.

[185] The octachord contains in the bass a six-four chord of A-flat major with the added minor six E-natural, and on the top a G minor six-three chord with the A natural added on top. The tetrachord contains the last four supplementary pitches, comes after the octachord and is in the very high register.

[186] The musical example for the first CTC in Messiaen's table of twelve transpositions of CTC has an error in the bottom chord of the octad: the chord has pc 11 (C flat), but the correct pitch is pc 0 (C). There is an extra flat sign next to the C. This example contains the correct pc 0 instead of 11. See Messiaen, *Traité*, vol. 7, p. 188.

Table 2-28 Chord of Total Chromaticism – CTC (1-3)

Color Chord Name	Pitch Class Set	Set Class	Mode	Color	CTC
CTC-1	[7,8,9,T,0,2,3,4]	8-16	Mode 7-3	Large violet blue area, with pink, pale yellow and steel gray moons – the four supplementary notes surrounding the whole with a clear mossy green circle.[187]	
Four suppl. notes	[E,1,5,6]	4-16			
CTC-2	[8,9,T,E,1,3,4,5]	8-16	Mode 7-3	Large area of deep gentian blue, surrounded by a circle chopped of violet, red, and orange – the four supplementary notes add another brilliant yellow circle on the top of the first one.[188]	
Four suppl. notes	[0,2,6,7]	4-16			
CTC-3	[9,T,E,0,2,4,5,6]	8-16	Mode 7-4	Zone of bright pink of azalea or geranium with drawing of dull pink, gray and white, like Rhodochrosite – the whole spotted with mauve lozenges – the four supplementary notes add a transversal blue and yellow arrow, going from left to right and from bottom to top.[189]	
Four suppl. notes	[1,3,7,8]	4-16			

[187] "Large nappe bleu violet, avec des lunes roses, jaune pâle, et gris d'acier - les 4 notes supplémentaires l'entourent d'un cercle vert mousse clair." Messiaen, *Traité,* vol. 7, p. 188.

[188] "Large nappe bleu profond gentiane, entourée d'un cercle haché de violet, de rouge, et d'orangé – les 4 notes supplémentaires ajoutent un autre cercle jaune brillant, en dessus du premier." Ibid.

[189] "Zone rose vif azalée ou pélargonium – avec des dessins rose mat, gris et blanc, genre Rhodochrosite – le tous taché de pastilles mauves – les 4 notes supplémentaires ajoutent une flèche transversale bleue et jaune, allant de gauche à droite et de bas en haut." Ibid.

Table 2-29 Chord of Total Chromaticism – CTC (4-6)

Color Chord Name	Pitch Class Set	Set Class	Mode	Color	CTC
CTC-4	[0,1,3,5,6,7,T,E]	8-16	Mode 7-5	Two superposed zones – lower zone: reddish leathery brown – higher zone: stone gray, stained with pink and violet – the four supplementary notes add on the top a thin band of very pale greenish blue.[190]	
Four suppl. notes	[2,4,8,9]	4-16			
CTC-5	[0,1,2,4,6,7,8,E]	8-16	Mode 7-6	Bright yellow, with drawing of white flowers and pale green foliage – the four supplementary notes add lozenges hatched with red and pale blue.[191]	
Four suppl. notes	[3,5,9,T]	4-16			
CTC-6	[0,1,2,3,5,7,8,9]	8-16	Mode 7-1	Two superposed zones – lower zone: mossy green – upper zone: pale yellow and mauve – the four supplementary notes add on the top a thin band of leathery chestnut, toned down to white.[192]	
Four suppl. notes	[4,6,T,E]	4-16			

[190] "Deux zones superposées – en dessous: brun cuir rougeâtre – en dessus: gris pierreux, taché de rose et de violet – les 4 notes supplémentaires ajoutent une mince bande bleu vert très pâle, tout en haut." Messiaen, *Traité*, vol. 7, p. 188.

[191] "Jaune vif, avec des dessins de fleurs blanches et de feuillage vert pâle – les 4 notes supplémentaires ajoutent des pastilles hachurées rouge et bleu pâle." Ibid.

[192] "Deux zones superposées – du vert mousse en dessous – du jaune pâle et du mauve en dessus – les 4 notes supplémentaires ajoutent une mince bande marron cuir dégradé vers le blanc, tout en haut." Ibid. p. 189.

Table 2-30 Chord of Total Chromaticism – CTC (7-9)

Color Chord Name	Pitch Class Set	Set Class	Mode	Color	CTC
CTC-7	[1,2,3,4,6,8,9,T]	8-16	Mode 7-2	A big area of tender green, strewn with small pebbles of brownish yellow darkened by black - the four supplementary notes surround all with a white circle.[193]	
Four suppl. notes	[0,5,7,9]	4-16			
CTC-8	[2,3,4,5,7,9,T,E]	8-16	Mode 7-3	Violet-red purple, like certain petunias, with carmine red and blackish red moons, and pale blue stars – the four supplementary notes add a green (zoisite green) transversal arrow, going from left to right and from bottom to top.[194]	
Four suppl. notes	[0,1,6,8]	4-16			
CTC-9	[0,3,4,5,6,8,T,E]	8-16	Mode 7-4	Two red zones side by side: a big ruby red zone, and a smaller carmine red zone – the four supplementary notes add all around a clear and bright gray blue circle.[195]	
Four suppl. notes	[1,2,7,9]	4-16			

[193] "Une étendue vert tendre, parsemée de petits cailloux jaune brunâtre légèrement rabattu par le noir – les 4 notes supplémentaires entourent le tout d'un cercle blanc." Messiaen, *Traité*, vol.7, p. 189.

[194] "Rouge-violet pourpre, comme certains pétunias, avec des lunes rouge carmin et rouge noirâtre, et des étoiles bleu pale – les 4 notes supplémentaires ajoutent une flèche transversale verte (vert zoïsite), allant de gauche à droite et de haut en bas." Ibid.

[195] "Deux zones rouges côte à côte: une grande zone rouge rubis, une zone rouge carmin plus petite – les 4 notes supplémentaires ajoutent tout autour un cercle bleu gris, clair et brillant." Ibid.

Table 2-31 Chord of Total Chromaticism – CTC (10-12)

Color Chord Name	Pitch Class Set	Set Class	Mode	Color	CTC
CTC-10	[0,1,4,5,6,7,9,E]	8-16	Mode 7-5	Two superposed zones – lower zone: pale green and pale blue, the types of turquoise and serpentine – higher zone: white with red, pink and mauve reflections – the four supplementary notes: a transverse band going from the left to the right and from the bottom to the top, alternating chocolate brown and chalcanthite blue, lightening toward white.[196]	
Four suppl. notes	[2,3,8,T]	4-16			
CTC-11	[0,1,2,5,6,7,8,T]	8-16	Mode 7-6	Two superposed zones – lower zone: diamond white with pale blue and mauve reflections – higher zone: white with pale blue reflections, like the stone on the moon – on the top: the four supplementary notes add a thin band of leathery brown, toned down to white.[197]	
Four suppl. notes	[3,4,9,E]	4-16			
CTC-12	[1,2,3,6,7,8,9,E]	8-16	Mode 7-1	Two superposed zones – yellow and pink lower zone – very clear Prussian blue higher zone – the four supplementary notes add on the top a thin band of smoked greenish gray quartz.[198]	
Four suppl. notes	[0,4,5,T]	4-16			

[196] "Deux zones superposées: dessous: vert pâle et bleu pâle, genre turquoise et serpentine – dessus: blanc, à reflets rouges, roses, et mauves- les 4 notes supplémentaires: une bande transversale, allant de gauche à droite et de bas en haut, alternant le brun chocolat et le bleu chalcanthite, très dégradés ver le blanc." Messiaen, *Traité*, vol.7, p. 189.

[197] "Deux zones superposées – dessous: blanc diamante à reflets bleu pâle et mauve – dessus: blanc à reflets bleu pâle, genre pierre de lune – tout en haut: les 4 notes supplémentaires ajoutent une mince bande brun cuir, dégradé vers le blanc." Ibid, p. 190.

[198] "Deux zones superposées – du jaune et du rose en dessous - du bleu de prusse clair en dessus - les 4 notes supplémentaires ajoutent une mince bande de quartz enfumé gris verdâtre clair, tout en haut." Ibid.

2.4 Turning Chord

"*Accords tournants*," translated as "turning chords" or "revolving chords," is Messiaen's term for the three collections of octads.[199] The meaning of 'turning' or 'revolving' is enigmatic, and their harmonic origin remains unclear. According to him, the turning chords comprise three chords built from eight pitches, each representing a face of the octahedron. He compares the changing colors of the chord to the changing colors resulting when a light shines through a turning octahedron of lucid opal or iridescent glass. Each of the eight facets of the octahedron has the possibility of three changes of colors, depending on the incidences of light, resulting in three combinations of eight harmonic complexes, or twenty-four sounds distributed in three chords.[200] It is clear that Messiaen's ability to perceive chords as color played an important role in his musical creativity. These chords were not constructed according to their harmonic functions but on their coloristic implications. In this case, a theoretical explanation of the turning chords will be restricted to the discussion of set classes that have turning chords as members.

The turning chords are used infrequently in the *Petites Esquisses.*[201] They belong to set classes 8-4, 8-5 and 8-14; their corresponding intervals vectors, [655552], [654553] and [555562], have many elements in common. They have the same number of major seconds (interval class 2), major thirds (interval class 4), maximum number or nearly maximum number of perfect fifths (interval class 5). From intervallic

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[199] Unlike the other color chords, Messiaen did not give detailed explanations regarding the construction of this chord.

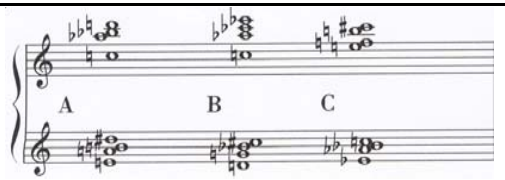
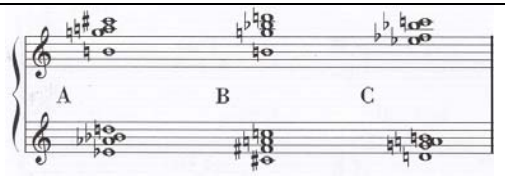
[200] Messiaen, *Traité*, vol. 7, p.166.

[201] Messiaen did not mention the use of turning chords in the preface to the *Petites Esquisses*, nor in his analyses of the third movement, but there are instances where turning chords can be found in this birdsong suite. My analyses in chapters 4 and 5 will detail the places where they were utilized.

equivalency point of view, turning chords A (set class 8-4) are closer to turning chords C (set class 8-14) than turning chords B (set class 8-5). The top three pitches [E, 0, 1] and the bottom three pitches [0, 1, 2] of these chords both belongs to set class 3-1 and are related at T1.

Presented below are tables of all the transpositions of the turning chords with their color descriptions and their respective pitch-class sets and set classes.

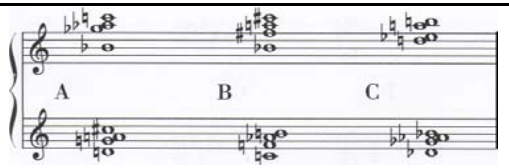
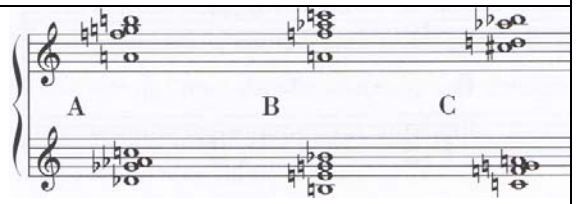
Table 2-32 Turning Chords – TC (1-2)

Turning Chord	Pitch Class Set	SC	Color	Musical Examples
TC-1A	[8,9,T,E,0,2,3,4]	8-5	Blue violet, chopped by fine bands of brown, yellow, pink and gray colors. Dominant: blue violet.[202]	
TC-1B	[7,8,T,E,0,1,2,3]	8-4		
TC-1C	[8,T,E,0,1,3,4,5]	8-14		
TC-2A	[7,8,9,T,E,1,2,3]	8-5	Drawings of brown, violet, pale blue and gold flowers on orange background. Dominant: orange.[203]	
TC-2B	[6,7,9,T,E,0,1,2]	8-4		
TC-2C	[7,9,T,E,0,2,3,4]	8-14		

[202] "Violet bleu, haché de fines bandes brunes, jaunes, roses et grises. Dominante: violet bleu." Messiaen, *Traité*, vol. 7, p. 166.

[203] "Dessins de fleurs brunes, violettes, bleu pâle, et or, sur fond orangé. Dominante: orangé." Ibid., p. 167.

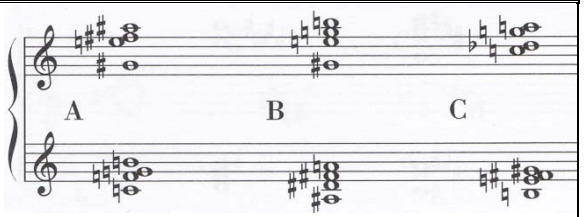
Table 2-33 Turning Chords – TC (3-4)

Turning Chord	Pitch Class Set	Set Class	Color	Musical Examples
TC-3A	[6,7,8,9,T,0,1,2]	8-5	Green, with violet and yellow stripes, foliages shining like diamond, golden stars. Dominant: green and gold.[204]	
TC-3B	[5,6,8,9,T,E,0,1]	8-4		
TC-3C	[6,8,9,T,E,1,2,3]	8-14		
TC-4A	[5,6,7,8,9,E,0,1]	8-5	Meadow green and green blue in alternated squares, drawings of rosy mauve flowers and silver gray interlace. Dominant: green and mauve.[205]	
TC-4B	[4,5,7,8,9,T,E,0]	8-4		
TC-4C	[5,7,8,9,T,0,1,2]	8-14		

[204] "Vert, avec des zébrures violettes et jaunes, des feuillages adamantins, des étoiles d'or. Dominante: vert et or." Ibid.

[205] "Vert prairie et bleu vert en carrés alternés, des dessins de fleurs mauve rosé et des entrelacs gris argenté. Dominante: vert et mauve." Messiaen, *Traité*, vol. 7, p. 168.

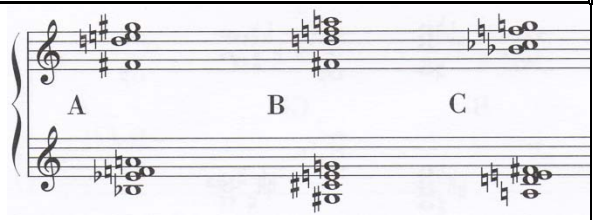
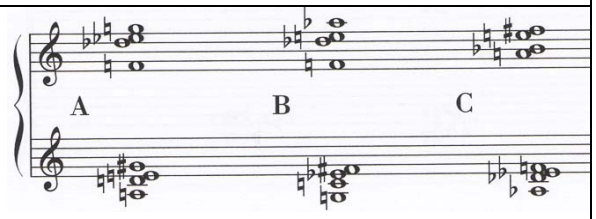
Table 2-34 Turning Chords – TC (5-6)

Turning Chord	Pitch Class Set	Set Class	Color	Musical Examples
TC-5A	[4,5,6,7,8,T,E,0]	8-5	Colorful coat or oriental carpet, with brown and black background, and red, gold, orange and pink designs. Dominant: red and gold.[206]	
TC-5B	[3,4,6,7,8,9,T,E]	8-4		
TC-5C	[4,6,7,8,9,E,0,1]	8-14		
TC-6A	[3,4,5,6,7,9,T,E]	8-5	Less sumptuous, less bright than the precedent. Warmer. Recalling stained glass in which the characters are dressed with red coats and are detached from a blue background. Dominant: red, orange, purple violet.[207]	
TC-6B	[2,3,5,6,7,8,9,T]	8-4		
TC-6C	[3,5,6,7,8,T,E,0]	8-14		

[206] "Riche manteau ou tapis d'Orient, à fond brun et noir, à ramages rouges, or, oranges et roses. Dominante: rouge et or." Ibid.

[207] "Moins somptueux, moins éclatant que le précédent. Plus chaud. Rappelle un vitrail dont les personnages sont vêtus de manteaux rouges et se détachent sur fond bleu. Dominante: rouge, orange, et violet pourpre." Ibid., p. 169.

Table 2-35 Turning Chords – TC (7-8)

Turning Chord Name	Pitch Class Set	Set Class	Color	Musical Examples
TC-7A	[2,3,4,5,6,8,9,T]	8-5	Green meadow background, with pink flowers, and brown yellow calcites "intertwined" by interpenetration. Dominant: green, pink, amber brown.[208]	
TC-7B	[1,2,4,5,6,7,8,9]	8-4		
TC-7C	[2,4,5,6,7,9,T,E]	8-14		
TC-8A	[1,2,3,4,5,7,8,9]	8-5	Pale yellow, white, black, gray stripes, with green spots. Dominant: Pale yellow.[209]	
TC-8B	[0,1,3,4,5,6,7,8]	8-4		
TC-8C	[1,3,4,5,6,8,9,T]	8-14		

[208] "Fond de prairie verte, avec des fleurs roses, et des calcites jaune brun "maclées" par interpénétration. Dominante: vert, rose, brun ambré" Messiaen, *Traité*, vol. 7, p. 169.

[209] "Jaune pale, rayé de blanc, de noir, et de gris, avec des taches vertes. Dominante : jaune pâle." Ibid., p. 170.

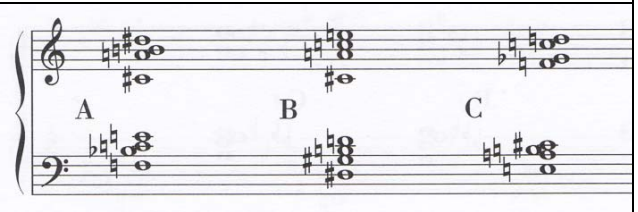
Table 2-36 Turning Chords - TC (9-10)

Turning Chord Name	Pitch Class Set	Set Class	Color	Musical Examples
TC-9A	[0,1,2,3,4,6,7,8]	8-5	Alternated bands of gray and gold yellow. Dominant: Yellow gold.[210]	
TC-9B	[E,0,2,3,4,5,6,7]	8-4		
TC-9C	[0,2,3,4,5,7,8,9]	8-14		
TC-10A	[E,0,1,2,3,5,6,7]	8-5	Interlaced circles of yellow, black and gray colors, surrounding a red orange staircase with double revolution. Dominant: yellow, black, orange.[211]	
TC-10B	[T,E,1,2,3,4,5,6]	8-4		
TC-10C	[1,2,3,4,6,7,8,E]	8-14		

[210] "Bandes alternées grises et jaune d'or. Dominante: jaune d'or." Ibid.

[211] "Cercles enlacés jaunes, noirs, et gris, entourant un escalier orangé rouge à double révolution. Dominante: jaune, noir, orangé." Messiaen, *Traité*, vol. 7, p. 171.

Table 2-27 Turning Chords - TC (11-12)

Turning Chord Name	Pitch Class Set	Set Class	Color	Musical Examples
TC-11A	[T,E,0,1,2,4,5,6]	8-5	Mud gray with multicolored reflections. Dominant: gray with reflections.[212]	
TC-11B	[9,T,0,1,2,3,4,5]	8-4		
TC-11C	[T,0,1,2,3,5,6,7]	8-14		
TC-12A	[9,T,E,0,1,3,4,5]	8-5	Very thin circles of gray, violet, pink, and gold surrounding a broad zone of Chartres blue. Dominant: blue.[213]	
TC-12B	[8,9,E,0,1,2,3,4]	8-4		
TC-12C	[9,E,0,1,2,4,5,6]	8-14		

[212] "Gris de boue, avec des reflets multicolores. Dominante: gris à reflets." Ibid.

[213] "Cercles très minces, gris, violets, roses, et or, entourant une large zone de Bleu de Chartres. Dominante: bleu." Ibid., p. 172.

Below is a table comparing the pitch collections of the different types of harmonic sources throughout the six movements of birdsong in *Les Petites Esquisses d'oiseaux.* Beside the modes of limited transposition, the model chord of Mode 3 and the color chords, Messiaen's harmony also includes the use of the diatonic scale and the pentatonic scale.

Table 2-38 Harmonic Sources

Mode	PCS	SC	0	1	2	3	4	5	6	7	8	9	T	E
1-1	02468T	6-35	0		2		4		6		8		T	
1-2	13579E	6-35		1		3		5		7		9		E
2-1	0134679T	8-28	0	1		3	4		6	7		9	T	
2-2	124578TE	8-28		1	2		4	5		7	8		T	E
2-3	0235689E	8-28	0		2	3		5	6		8	9		E
3-1	0234678TE	9-12	0		2	3	4		6	7	8		T	E
3-2	01345789E	9-12	0	1		3	4	5		7	8	9		E
3-3	01245689T	9-12	0	1	2		4	5	6		8	9	T	
3-4	1235679TE	9-12		1	2	3		5	6	7		9	T	E
4-1	0125678E	8-9	0	1	2			5	6	7	8			E
4-2	01236789	8-9	0	1	2	3			6	7	8	9		
4-3	1234789T	8-9		1	2	3	4			7	8	9	T	
4-4	234589TE	8-9			2	3	4	5			8	9	T	E
4-5	034569TE	8-9	0			3	4	5	6			9	T	E
4-6	014567TE	8-9	0	1			4	5	6	7			T	E
5-1	01567E	6-7	0	1				5	6	7				E
5-2	012678	6-7	0	1	2				6	7	8			
5-3	123789	6-7		1	2	3				7	8	9		
5-4	23489T	6-7			2	3	4				8	9	T	

5-5	3459TE	6-7				3	4	5				9	T	E
5-6	0456TE	6-7	0				4	5	6				T	E
6-1	024568TE	8-25	0		2		4	5	6		8		T	E
6-2	0135679E	8-25	0	1		3		5	6	7		9		E
6-3	0124678T	8-25	0	1	2		4		6	7	8		T	
6-4	1235789E	8-25		1	2	3		5		7	8	9		E
6-5	0234689T	8-25	0		2	3	4		6		8	9	T	
6-6	134579TE	8-25		1		3	4	5		7		9	T	E
7-1	012356789E	10-6	0	1	2	3		5	6	7	8	9		E
7-2	012346789T	10-6	0	1	2	3	4		6	7	8	9	T	
7-3	12345789TE	10-6		1	2	3	4	5		7	8	9	T	E
7-4	02345689TE	10-6	0		2	3	4	5	6		8	9	T	E
7-5	01345679TE	10-6	0	1		3	4	5	6	7		9	T	E
7-6	01245678TE	10-6	0	1	2		4	5	6	7	8		T	E

	CHORDS	**PCS**	**SC**	**0**	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**T**	**E**
1	CTI-1A, 3B, 6C, 11D	013678E	7-20	0	1		3			6	7	8			E
2	CTI-2A, 4B, 7C, 12D	0124789	7-20	0	1	2		4			7	8	9		
3	CTI-3A, 5B, 8C,1D	123589T	7-20		1	2	3		5			8	9	T	
4	CTI-4A, 6B, 9C,2D	23469TE	7-20			2	3	4		6			9	T	E
5	CTI-5A, 7B, 10C,3D	03457TE	7-20	0			3	4	5		7			T	E
6	CTI-6A, 8B,11C, 4D	014568E	7-20	0	1			4	5	6		8			E
7	CTI-7A, 9B, 12C, 5D	0125679	7-20	0	1	2			5	6	7		9		
8	CTI-8A, 10B, 1C,6D	123678T	7-20		1	2	3			6	7	8		T	
9	CTI-9A, 11B, 2C,7D	234789E	7-20			2	3	4			7	8	9		E

	CHORDS	PCS	SC	0	1	2	3	4	5	6	7	8	9	T	E
10	CTI-10A, 12B, 3C, 8D	034589T	7-20	0			3	4	5			8	9	T	
11	CTI-11A, 1B, 4C, 9D	14569TE	7-20		1			4	5	6			9	T	E
12	CTI-12A,2B, 5C, 10D	02567TE	7-20	0		2			5	6	7			T	E
1	1st CCR-1A	1234679	7-Z36		1	2	3	4		6	7		9		
2	1st CCR-2A	234578T	7-Z36			2	3	4	5		7	8		T	
3	1st CCR-3A	345689E	7-Z36				3	4	5	6		8	9		E
4	1st CCR-4A	045679T	7-Z36	0				4	5	6	7		9	T	
5	1st CCR-5A	15678TE	7-Z36		1				5	6	7	8		T	E
6	1st CCR-6A	026789E	7-Z36	0		2				6	7	8	9		E
7	1st CCR-7A	013789T	7-Z36	0	1		3				7	8	9	T	
8	1st CCR-8A	12489TE	7-Z36		1	2		4				8	9	T	E
9	1st CCR-9A	02359TE	7-Z36	0		2	3		5				9	T	E
10	1st CCR-10A	01346TE	7-Z36	0	1		3	4		6				T	E
11	1st CCR-11A	012457E	7-Z36	0	1	2		4	5		7				E
12	1st CCR-12A	0123568	7-Z36	0	1	2	3		5	6		8			
1	1st CCR-1B	123458T	7-Z12		1	2	3	4	5			8		T	
2	1st CCR-2B	234569E	7-Z12			2	3	4	5	6			9		E
3	1st CCR-3B	034567T	7-Z12	0			3	4	5	6	7			T	
4	1st CCR-4B	145678E	7-Z12		1			4	5	6	7	8			E
5	1st CCR-5B	0256789	7-Z12	0		2			5	6	7	8	9		
6	1st CCR-6B	136789T	7-Z12		1		3			6	7	8	9	T	

	CHORDS	PCS	SC	0	1	2	3	4	5	6	7	8	9	T	E
7	1st CCR-7B	24789TE	7-Z12			2		4			7	8	9	T	E
8	1st CCR-8B	03589TE	7-Z12	0			3		5			8	9	T	E
9	1st CCR-9B	01469TE	7-Z12	0	1			4		6			9	T	E
10	1st-CCR-10B	01257TE	7-Z12	0	1	2			5		7			T	E
11	1st CCR-11B	012368E	7-Z12	0	1	2	3			6		8			E
12	1st CCR-12B	0123479	7-Z12	0	1	2	3	4			7		9		
1	2nd CCR-1A	01569T	6-Z19	0	1				5	6			9	T	
2	2nd CCR-2A	04589E	6-Z19	0				4	5			8	9		E
3	2nd CCR-3A	3478TE	6-Z19				3	4			7	8		T	E
4	2nd CCR-4A	23679T	6-Z19			2	3			6	7		9	T	
5	2nd CCR-5A	125689	6-Z19		1	2			5	6		8	9		
6	2nd CCR-6A	014578	6-Z19	0	1			4	5		7	8			
7	2nd CCR-7A	03467E	6-Z19	0			3	4		6	7				E
8	2nd CCR-8A	2356TE	6-Z19			2	3		5	6				T	E
9	2nd CCR-9A	12459T	6-Z19		1	2		4	5				9	T	
10	2nd CCR-10A	013489	6-Z19	0	1		3	4				8	9		
11	2nd CCR-11A	02378E	6-Z19	0		2	3				7	8			E
12	2nd CCR-12A	1267TE	6-Z19		1	2				6	7			T	E
1	2nd CCR-1B	0346TE	6-Z43	0			3	4		6				T	E
2	2nd CCR-2B	2359TE	6-Z43			2	3		5				9	T	E
3	2nd CCR-3B	12489T	6-Z43		1	2		4				8	9	T	

	CHORDS	PCS	SC	0	1	2	3	4	5	6	7	8	9	T	E
4	2nd CCR-4B	013789	6-Z43	0	1		3				7	8	9		
5	2nd-CCR-5B	02678E	6-Z43	0		2				6	7	8			E
6	2nd CCR-6B	1567TE	6-Z43		1				5	6	7			T	E
7	2nd CCR-7B	04569T	6-Z43	0				4	5	6			9	T	
8	2nd CCR-8B	34589E	6-Z43				3	4	5			8	9		E
9	2nd CCR-9B	23478T	6-Z43			2	3	4			7	8		T	
10	2nd CCR-10B	123679	6-Z43		1	2	3			6	7		9		
11	2nd CCR-11B	012568	6-Z43	0	1	2			5	6		8			
12	2nd CCR-12B	01457E	6-Z43	0	1			4	5		7				E
1	CTC-1	0234789T	8-16	0		2	3	4			7	8	9	T	
2	CTC-2	134589TE	8-16		1		3	4	5			8	9	T	E
3	CTC-3	024569TE	8-16	0		2		4	5	6			9	T	E
4	CTC-4	013567TE	8-16	0	1		3		5	6	7			T	E
5	CTC-5	0124678E	8-16	0	1	2		4		6	7	8			E
6	CTC-6	01235789	8-16	0	1	2	3		5		7	8	9		
7	CTC-7	1234689T	8-16		1	2	3	4		6		8	9	T	
8	CTC-8	234579TE	8-16			2	3	4	5		7		9	T	E
9	CTC-9	034568TE	8-16	0			3	4	5	6		8		T	E
10	CTC-10	0145679E	8-16	0	1			4	5	6	7		9		E
11	CTC-11	0125678T	8-16	0	1	2			5	6	7	8		T	
12	CTC-12	1236789E	8-16		1	2	3			6	7	8	9		E

	CHORDS	PCS	SC	0	1	2	3	4	5	6	7	8	9	T	E
1	TC-1A	023489TE	8-5	0		2	3	4				8	9	T	E
2	TC-2A	123789TE	8-5		1	2	3				7	8	9	T	E
3	TC-3A	0126789T	8-5	0	1	2				6	7	8	9	T	
4	TC-4A	0156789E	8-5	0	1				5	6	7	8	9		E
5	TC-5A	045678TE	8-5	0				4	5	6	7	8		T	E
6	TC-6A	345679TE	8-5				3	4	5	6	7		9	T	E
7	TC-7A	2345689T	8-5			2	3	4	5	6		8	9	T	
8	TC-8A	12345789	8-5		1	2	3	4	5		7	8	9		
9	TC-9A	1234678	8-5	0	1	2	3	4		6	7	8			
10	TC-10A	0123567E	8-5	0	1	2	3		5	6	7				E
11	TC-11A	012456TE	8-5	0	1	2		4	5	6				T	E
12	TC-12A	013459TE	8-5	0	1		3	4	5				9	T	E
1	TC-1B	012378TE	8-4	0	1	2	3				7	8		T	E
2	TC-2B	012679TE	8-4	0	1	2				6	7		9	T	E
3	TC-3B	015689TE	8-4	0	1				5	6		8	9	T	E
4	TC-4B	045789TE	8-4	0				4	5		7	8	9	T	E
5	TC-5B	346789TE	8-4				3	4		6	7	8	9	T	E
6	TC-6B	2356789T	8-4			2	3		5	6	7	8	9	T	
7	TC-7B	12456789	8-4		1	2		4	5	6	7	8	9		
8	TC-8B	1345678	8-4	0	1		3	4	5	6	7	8			
9	TC-9B	0234567E	8-4	0		2	3	4	5	6	7				E

	CHORDS	PCS	SC	0	1	2	3	4	5	6	7	8	9	T	E
10	TC-10B	123456TE	8-4		1	2	3	4	5	6				T	E
11	TC-11B	0123459T	8-4	0	1	2	3	4	5				9	T	
12	TC-12B	0123489E	8-4	0	1	2	3	4				8	9		E
1	TC-1C	013458TE	8-14	0	1		3	4	5			8		T	E
2	TC-2C	023479TE	8-14	0		2	3	4			7		9	T	E
3	TC-3C	123689TE	8-14		1	2	3			6		8	9	T	E
4	TC-4C	0125789T	8-14	0	1	2			5		7	8	9	T	
5	TC-5C	0146789E	8-14	0	1			4		6	7	8	9		E
6	TC-6C	035678TE	8-14	0			3		5	6	7	8		T	E
7	TC-7C	245679TE	8-14			2		4	5	6	7		9	T	E
8	TC-8C	1345689T	8-14		1		3	4	5	6		8	9	T	
9	TC-9C	2345789	8-14	0		2	3	4	5		7	8	9		
10	TC-10C	1234678E	8-14		1	2	3	4		6	7	8			E
11	TC-11C	0123567T	8-14	0	1	2	3		5	6	7			T	
12	TC-12C	0124569E	8-14	0	1	2		4	5	6			9		E
1	M3MC-1	034678	6-15	0			3	4		6	7	8			
2	M3MC-2	145789	6-15		1			4	5		7	8	9		
3	M3MC-3	25689T	6-15			2			5	6		8	9	T	
4	M3MC-4	3679TE	6-15				3			6	7		9	T	E
5	M3MC-5	0478TE	6-15	0				4			7	8		T	E
6	M3MC-6	01589E	6-15	0	1				5			8	9		E

	CHORDS	PCS	SC	0	1	2	3	4	5	6	7	8	9	T	E
7	M3MC-7	01269T	6-15	0	1	2				6			9	T	
8	M3MC-8	1237TE	6-15		1	2	3				7			T	E
9	M3MC-9	02348E	6-15	0		2	3	4				8			E
10	M3MC-10	013459	6-15	0	1		3	4	5				9		
11	M3MC-11	12456T	6-15		1	2		4	5	6				T	
12	M3MC-12	23567E	6-15			2	3		5	6	7				E

	SCALES	PCS	SC	0	1	2	3	4	5	6	7	8	9	T	E
1	DS-1	024579E	7-35	0		2		4	5		7		9		E
2	DS-2	013568T	7-35	0	1		3		5	6		8		T	
3	DS-3	124679E	7-35		1	2		4		6	7		9		E
4	DS-4	023578T	7-35	0		2	3		5		7	8		T	
5	DS-5	134689E	7-35		1		3	4		6		8	9		E
6	DS-6	024579T	7-35	0		2		4	5		7		9	T	
7	DS-7	13568TE	7-35		1		3		5	6		8		T	E
8	DS-8	024679E	7-35	0		2		4		6	7		9		E
9	DS-9	013578T	7-35	0	1		3		5		7	8		T	
10	DS-10	124689E	7-35		1	2		4		6		8	9		E
11	DS-11	023579T	7-35	0		2	3		5		7		9	T	

	SCALES	PCS	SC	0	1	2	3	4	5	6	7	8	9	T	E
12	DS-12	13468TE	7-35		1		3	4		6		8		T	E
1	PS-1	02479	5-35	0		2		4			7		9		
2	PS-2	1358T	5-35		1		3		5			8		T	
3	PS-3	2469E	5-35			2		4		6			9		E
4	PS-4	0357T	5-35	0			3		5		7			T	
5	PS-5	1468E	5-35		1			4		6		8			E
6	PS-6	02579	5-35	0		2			5		7		9		
7	PS-7	1368T	5-35		1		3			6		8		T	
8	PS-8	2479E	5-35			2		4			7		9		E
9	PS-9	0358T	5-35	0			3		5			8		T	
10	PS-10	1469E	5-35		1			4		6			9		E
11	PS-11	0257T	5-35	0		2			5		7			T	
12	PS-12	1368E	5-35		1		3			6		8			E

II Neumes

The orthography of plainsong is neumes.[214] Messiaen explains:

> Plainsong is a melody generally joyous and of fast movement. The singing in particular must be very fast: there are at the same time alluring melodic flights expressing total and definitive joy, and passages of vocal virtuosity.[215]

Considering that birds sing joyously and in fast tempo, Messiaen uses neumes of plainsong to describe the melodic motives of birdsong. Additionally, the small size of the motivic elements, the shortness of melodic fragments, and the fast speed of birdsongs make it inappropriate to discuss them in terms of "added values" and "non-retrogradable rhythms." Birdsongs' small motives, consisting of short notes followed by longer notes that serve as points of repose, can be aptly described in terms of the neumes' small groupings of long and short durations. By applying these early-music terms to describe avant-garde music, Messiaen combines his love of God, manifested in his devotion to Christianity, with his love of nature evident in his enthusiasm for birdsong.

There are three different types of neumes: simple, compound and ornamental.[216] The table below provides a list of the neumes that Messiaen himself uses to describe birdsong melody and motives in his analysis of the birdsong.

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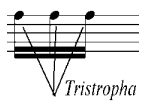
[214] A devout Catholic and a noted organist, Messiaen was acquainted with many works of plainsong and was fascinated by their richness of melodic contours. In his *Technique*, he discussed plainsongs briefly and only in terms of their forms and melodic contours, saying: "Plainsong is an inexhaustible mine of rare and expressive melodic contours." Messiaen, *Technique,* vol.1, p. 33. Later in his *Traité*, he devoted the whole first chapter of volume 4 to the discussion and analysis of plainsong.

[215] Messiaen, *Traité*, vol. 4, p. 7.

[216] In his *Traité*, Messiaen discussed different types of neumes, analyzing their signs and listing examples in the music of well-known composers such as Mozart, Berlioz, and Debussy.

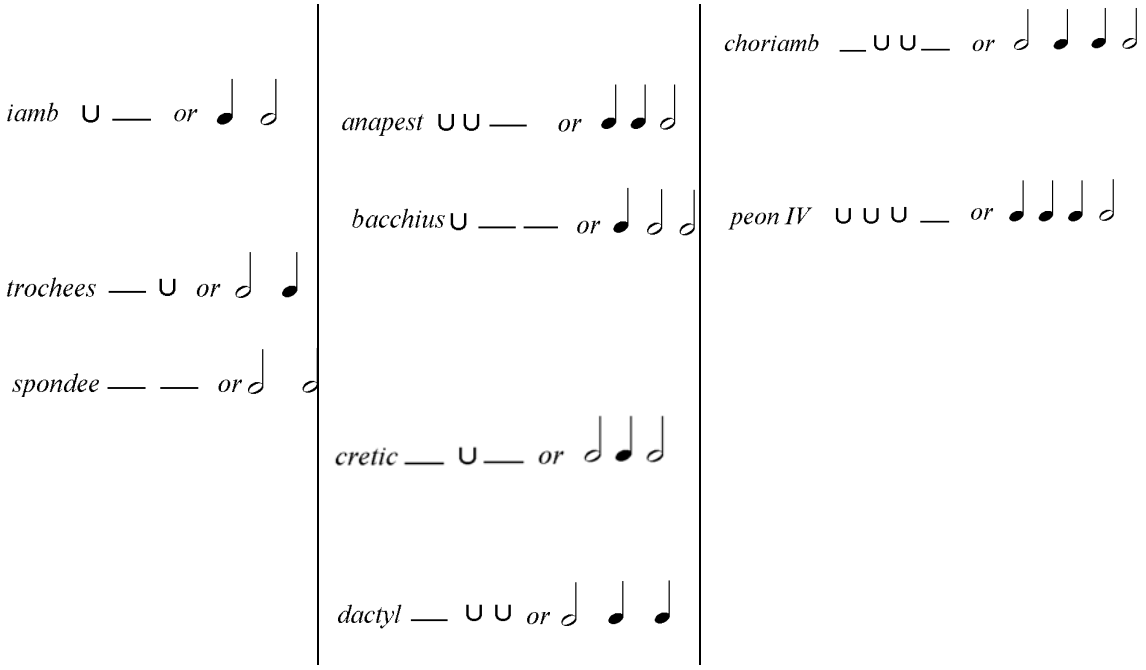
Table 2-39 Neumes

Neumes type		Name	Definition	Examples
Two-note simple neumes	Passing notes	Podatus	A group of two ascending notes.	
		Clivis	A group of two descending notes.	
Three-note simple neumes		Scandicus	A group of three ascending notes.	
		Climacus:	A group of three descending notes.	
	Mordent	Torculus	A group of three notes that first ascend and then descend.	
		Porrectus	A group of three notes, a high note, a low note, and a high note.	
Compound neumes		Porrectus Flexus	A group of four notes, a porrectus and a low note on the end.	
		Climacus Resupinus	A group of four notes, three descending and the final one ascending.	
		Climacus Resupinus Flexus	A climacus resupinus with a low note on the end.	
		Torculus Resupinus	A torculus with a high note on the end.	
Neumes of expression and ornament		Distropha	A group that has two repeated notes.	
		Tristropha	A group that has three repeated notes.	

III GREEK RHYTHMIC METER

In the *Petites Esquisses*, Messiaen uses the terms of Greek meter to describe rhythmic motives.[217] The primary characteristic of Greek meter is the succession and combination of long and short durations, with one long being equal to two shorts. A small group of these long and short durations is called rhythm or foot. Because of its simplicity, Greek meter is fittingly used to describe the small rhythmic motives in the songs of the birds.[218] ∪ *short* = ♩ — *long* = 𝅗𝅥

The following Greek rhythms can be found in *Les Petites Esquisses d'oiseaux*:



[217] Messiaen discovered Greek meter during his years of study at the Paris Conservatoire. Two teachers exposed him to it: Marcel Dupré, organ professor guided Messiaen to incorporate Greek rhythms in his improvisation; Maurice Emmanuel, history of music professor, also stimulated Messiaen's interest on Greek meters.

[218] Messiaen, *Traité*, vol.1.

CHAPTER THREE

Messiaen's Birdsong

Birds and their songs captured Messiaen's fascination because they represented to the composer peace, freedom, divinity, and the greatness of God's creation. Their beautiful melodies also provided him with a rich source of compositional materials that were at once new and familiar, not artificial but taken directly from nature. According to him, "birdsong is the sole source of all melody. I can affirm that all I know about melody, I have learned from the birds."[219] Ornithology was also a source of refuge for him:

> In dark times, when my worthlessness is brutally revealed to me, and when all the musical languages of the world seem to be reduced to the effort of patient research, with nothing, behind the notes, to justify so much work – I go into the forest, into the fields, into the mountains, by the sea, among the birds …. It is there that the music resides for me: music that is free and anonymous, improvised for pleasure."[220]

The great extent to which he incorporated birdsong in a very great number of compositions makes him unique among composers. Messiaen was not the first composer to employ birdsong as material; many other composers, including Daquin, Rameau,

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[219] "Le chant d'oiseau est la seule source de toute mélodie. Je peux affirmer que tout ce que je sais de la mélodie, ce sont les oiseaux qui me l'ont appris." Olivier Messiaen as quoted by Myriam Chimènes, "Hommage à Olivier Messiaen," *Vingtième Siècle. Revue d'histoire* 55 (1997):151-153.

[220] "Dans les heures sombres, quand mon inutilité m'est brutalement révélée, quand toutes les langues musicales de l'univers me semblent réduites à l'effort de patientes recherches, sans que rien, derrière les notes, ne justifie tant de travail –je pars dans la forêt, dans les champs, dans la montagne, au bord de la mer, au milieu des oiseaux….C'est là que réside pour moi la musique: la musique libre, anonyme, improvisée pour la plaisir. " Olivier Messiaen interviewed by music critic Bernard Gavoty, "Qui êtes-vous, Olivier Messiaen?" *Le Journal musical français* (Mai 1961). Microfilm 38.

Haydn, Liszt, Beethoven, Mozart, Rimsky-Korsakov, Mahler, Debussy, Ravel, and Stravinsky included birdsong in their compositions. However, being an ornithologist, Messiaen was the first composer who explored and collected songs of the birds in a scientific manner, marking correlations with their habitat, biotope, and characteristics. To the question "Who are you, Olivier Messiaen?" he attempted to sum up his essence as a composer in his answer: "A musician - that is my profession. A rhythmologist - that is my specialty. An ornithologist - that is my passion."[221]

I Birdsongs in Messiaen's Works

Messiaen began to collect birdsongs at the age of fourteen or fifteen, when he lived with his aunts on a farm in the Aube region.[222] Fascinated by the melodic inventiveness and vocal abilities of the birds, he began utilizing birdsong in his works very early although not consistently. The first time he identified the type of bird whose song he used was in the *Quatuor pour la fin du temps* (1941). The first period in which Messiaen incorporated birdsong in his composition was from 1929 to 1952. The works of this period include the following eleven works:

Huit préludes pour piano (1928-1929). The first movement, 'La Colombe" (The Dove), introduces the first instance in which Messiaen depicted a bird in his music.

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[221] "Musicien – c'est mon métier. Rythmicien – c'est ma spécialité. Ornithologue – c'est ma passion. " Ibid.

[222] Samuel, *Musique et couleur* (1983), p. 34.

La Nativité du Seigneur (1935), for organ. Birdsong appears in the second movement *Les Bergers* and especially in the ninth movement, "Dieu parmi nous."

Poèmes pour Mi (1936), for soprano and piano. There are many birdsong phrases in the fourth movement, "L'Épouvante" and the seventh movement, "Les Deux guerriers".

Quatuor pour la fin du temps (1941), for violin, clarinet, cello and piano. This piece contains the first instance where Messiaen identified the type of birdsong used. According to the preface, songs of the blackbird and nightingale are improvised in the first movement, "Liturgie de cristal." The third movement, "Abîme des oiseaux," was cited as an example of birdsong usage by Messiaen in *Technique de mon langage musical*, but he does not include details regarding the types of birds used or comments regarding their characteristics.[223]

Visions de l'Amen (1943), for two pianos. The middle section of the fifth movement, "Amen des Anges, des Saints, du chant des oiseaux," features complex writing of birdsong that results in virtuosic keyboard style.

Vingt regards sur l'enfant Jésus (1944), for piano. Birdsongs appear in several movements, with the eighth movement, "Regard des Hauteurs," dedicated solely to birdsong.

Harawi (1945), for soprano and piano. There are many instances of birdsong usage, in the second movement, "Bonjour toi, colombe verte," and the tenth movement, "Amour, oiseau d'étoile."

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[223] Messiaen, *Technique de mon langage musical*, vol. 1, p. 34.

Turangalîla-symphonie (1946-48) for orchestra. Commissioned by the Koussevitzky Foundation, this large-scale work consists of ten movements describing love and joy. Birdsongs, played by the piano, appear throughout the sixth movement, "Jardin du sommeil d'amour."

Messe de la Pentecôte (1950), for organ. Birdsongs are featured in the fourth movement, "Les Oiseaux et les sources."

Le Merle noir (1952). The piece, written for the flute entrance exam at the *Conservatoire National de Musique de Paris*, is the first piece in all of Messiaen's output that is based solely on birdsong, the blackbird's song.

Livre d'orgue (1952). The seven-movement piece involves a variety of Hindu rhythms and birdsong, especially in the fourth movement, "Chants d'oiseaux," and the seventh movement, "Soixante quatre durées."

Messiaen's second period, which began in 1952, was launched by his visit to the ornithologist Jacques Delamain, who lived in the Charente region. This visit proved very important to Messiaen's compositional career, because it was at this time that he rediscovered his inspiration in nature and birdsong. He started studying ornithology and began to transcribe birdsong, along with bird features and habitats, in systematic and meticulous detail in specially designated music manuscript notebooks, titled *Cahiers de notation de chants d'oiseaux*.[224] He often transcribed birdsong in nature, whenever

[224] Messiaen often notated the songs of birds in their natural surroundings. As he became familiar with the birds, he was able to distinguish between the different species by listening to their songs and transcribed them with detailed notes on the tempo, dynamics, and articulation. He preferred to study birdsong in the spring, the "season of love," at sunrise and sunset. Messiaen was often accompanied on these ornithological journeys by Yvonne Loriod, who used a tape recorder to register what he was transcribing. Later, when back at home, Messiaen compared his notation with the recorded soundtrack and sometimes, based on the aural data on the soundtrack, made a second transcription. Throughout his life, Messiaen traveled worldwide for the express purpose of collecting birdsong; in addition to France, his travels took him to Japan, Israel, the United States, and New Caledonia. As massive as it is priceless, Messiaen's work

possible, but he also transcribed some birdsongs from recordings, especially if the birds were exotic and not readily available. In *Oiseaux exotiques*, he included the songs of American birds, which he transcribed from Cornell University records.[225] He explains these two methods: "…the two sources of my material: the notation transcribed from an exact recording and the notation done directly from nature, much more artistic, with all the variants and modifications that each individual creature of each species might contribute."[226]

Messiaen says that he "uses birdsongs with two different approaches, either by searching to draw the most exact musical portrait possible, or, on the contrary, by treating the songs of the birds as malleable material."[227] An example of the former method is found in the *Catalogue d'oiseaux*, in which he portrays the singing of the birds at different times of day and night, respecting the balance between the tempo changes and the contour of the melodies. He also tries to recreate through musical means the natural surroundings in which the birds are found, from sonic depictions of waterfalls to the insertion, by means of harmonic and rhythmic accompaniments, of the songs of insects and other birds that are singing at the same time as the featured birds. Only birds that can be found singing together in nature are put together in the same piece. By contrast, in *Chronochromie,* in

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resulted in the creation of more than two hundred notebooks of birdsong transcriptions, which became a rich, inexhaustible source of material for him to draw from in his composition and an important aspect of his creative output.

[225] Peter Hill, *Oiseaux exotiques*, (Burlington, VT: Ashgate, 2007), p. 34.

[226] "…les deux sources de mon matériau: la notation d'un enregistrement précis, et la notation faite directement dans la nature, beaucoup plus artistique, avec toutes les variantes, toutes les modifications que chaque individu de chaque espèce peut apporter." Samuel, *Musique et couleur* (1983), p. 38.

[227] "Je me suis servi des chants d'oiseaux de deux manières différentes, soit en cherchant à tracer un portrait musical le plus exact possible, soit, au contraire, en traitant le chant d'oiseau comme un matériau malléable" Ibid., p. 101.

Oiseaux exotiques, and in *Couleurs de la cité céleste* Messiaen uses birdsong synthetically, combining together compositionally the songs of birds from different countries and different habitats. He explains this synthetic method: "I use birdsongs as material in certain of my pieces; there, birdsongs experience all kinds of manipulation in the style of concrete and electronic music. It's a dishonest attitude to nature, but perhaps more honest for the work of a composer."[228]

Messiaen also discusses the various adjustments he had to make in transcribing birdsong, which include slowing down the tempo and enlarging the intervals. Regarding the latter, he changes the intervals in the songs of the birds that are smaller than a semi-tone (because they are not playable on traditional classical musical instruments) into note values of at least a semi-tone. He then enlarges all the note values proportionally, so that the transposition is still the songs of the birds, but on a more human scale.[229]

Messiaen's major works written after 1952 that feature birdsong include the following fourteen works:

Réveil des oiseaux (1953), for piano and orchestra**.** This work uses the birdsong of thirty birds from France and Europe, recording their musical activities from midnight to mid-day.

Oiseaux exotiques (1956), for piano solo and wind orchestra. In *Oiseaux exotiques*, Messiaen blended songs of birds from all parts of the world to create a

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[228] "Je me suis servi aussi du chant d'oiseau comme d'un matériau dans certaines de mes pièces ; là, le chant d'oiseau subit toutes sortes de manipulations à la façon des musiques concrètes et électroniques. C'est une attitude plus malhonnête vis-à-vis de la nature mais peut-être plus honnête pour le travail du compositeur. " Ibid., p. 103.

[229] "C'est la transposition à une échelle plus humaine de ce que j'ai entendu." Ibid., p. 103.

"synthetic" symphony of birdsong. The birds found in *Oiseaux exotiques* include: one from China, one from Sumatra, five from India, one from the Islands of Canary, two from South America, and thirty-eight from Northern America. In this work, Messiaen also used Hindu and Greek rhythms.

Catalogue d'oiseaux (1956-58), for piano. The title of each of the thirteen movements is the name of a bird that is native to a province of France. Included in the piece as background are songs of other birds from the same region, as well as music evoking the scenery and habitat of the birds. The work describes activity in a bird's life during the daytime and at night.

Chronochromie (1959-1960), for orchestra. In *Chronochromie* the birds are from France, Sweden, Mexico, and Japan. The sixth section, "Epode," features a complex counterpoint of eighteen simultaneous voices played by string instruments, featuring songs of eighteen different types of birds.

Sept Haïkaï (1962), for piano and orchestra. The piece is a series of "Japanese sketches," in which the first and last movements serve as introduction and codas. The second, third, fifth and sixth movements are sonic portrayal of places in Japan, including Nara Park, Miyajima and Karuizawa, while the middle movement – the fourth movement "Gagaku" – evokes traditional court music of Japan. The third movement "Yamanaka Cadenza" and sixth movement "Les Oiseaux de Karuizawa," feature numerous songs of Japanese birds.

Couleurs de la cité céleste (1963), for piano and instrumental ensemble. According the Messiaen, this piece features songs of the birds from New Zealand, Venezuela, Canada, Argentina, and Brazil.[230]

Et exspecto resurrectionem mortuorum (1964), for wind and percussion. This monumental piece, commissioned in 1964 by the French Government to honor the dead of the two world wars, comprises five movements that feature both birdsong and Catholic imagery. The voice of Christ is represented by the song of an Amazonian bird, and the image of joy at the resurrection is expressed by the song of the Calandra lark, played by the full woodwind ensemble.

La Fauvette des jardins (1970), for piano. This piece, in which the garden warbler is the soloist, features the bird in its natural habitat and follows a programmatic chronology from morning until night.

Des Canyons aux étoiles (1971-1974), for solo piano, solo horn, xylorimba, glockenspiel, and orchestra. This piece was commissioned by the Alice Tully Foundation. Messiaen and Yvonne Loriod visited the canyons in Utah and Arizona to record and notate the songs of different bird species found there. The piece features fifty two different birds from the United States, as well as a few birds from Africa and Australia.

Saint-François d'Assise (1975-83). The opera, commissioned by the Paris Opera, and for which Messiaen himself wrote the libretto, depicts in three acts and eight scenes the life of St. Francis and celebrates his love of nature. The sixth

[230] Olivier Messiaen, *Couleurs de la cité céleste*, (Paris: Leduc, 1963).

scene, “La Prêche aux oiseaux,” is devoted to Francis delivering his famous sermon to birds.

Livre du Saint Sacrement (1984) for organ. This piece, Messiaen’s last and longest organ work, consists of eighteen movements depicting the adoration of Christ. It features songs of birds of Israel: the Tristram’s grackle, the warbler, the morning chat, the desert lark, the common garden bulbul, the laughing dove and the white-throated robin, a bird of Iran and northern Palestine.

Petites Esquisses d’oiseaux (1985), for piano. This work will be discussed in detail in chapters four, five and six.

Un Vitrail et des oiseaux (1986), for piano solo and instrument ensemble. The featured bird soloists are the garden warbler, the blackbird, the blackcap, and the robin.

Éclairs sur l'au-delà (1988-91). This orchestral piece, commissioned by the New York Philharmonic Orchestra for its one-hundred-fiftieth anniversary in 1992, is Messiaen’s last work. It was first performed at Lincoln Center on November 5, 1992, just over six months after the composer's death. The hour-long piece is divided into eleven movements. Birdsongs are used throughout the piece. The third movement, “L'Oiseau-Lyre et la Ville-Fiancée,” is based primarily on the typical song of the lyrebird. The eighth and longest of the eleven movements, “Les Étoiles et la Gloire,” is a musical description of landscape and birds. The ninth movement, “Plusieurs Oiseaux des arbres de Vie,” brings together the songs of diverse birds.

II Birdsongs in *Les Petites Esquisses d'oiseaux*

The birds in *Les Petites Esquisses* are birds common to France that Messiaen identified as having big solos: the skylark (*alouette des champs*), the song thrush (*grive musicienne*), the blackbird (*merle noir*), and the robin (*rouge-gorge*). Perusal of Messiaen's many notebooks of birdsong notation fails to yield any particular notation that the composer might have recorded especially for this work or any draft that he might have made while composing it. It can only be speculated that he might have composed this piece by drawing on a collection of his most beautiful memories of local birdsong and by consulting his compilation of favorite dictations he had taken from the robin, the song-thrush, the skylark and the blackbird. This speculation is supported by an anecdote of Yvonne Loriod: in an interview, she recalled that, from his window in Paris, Messiaen had occasionally listened to and committed to paper the songs of the robin, the skylark, the blackbird and the song thrush, and that he had also done the same in the countryside during forays into the woods near his country house in Petitchet.[231] In the presentation to volume 5 of the *Traité de rythme, de couleur, et d'ornithologie*, Yvonne Loriod describes Messiaen's process of birdsong transcription and usage:

> All these songs, in the thousands, thus remained present in his memory, and when he was composing, he surrounded himself with certain *cahiers de notations*, amongst the most beautiful, those he needed for the work in progress. Can one thus think that he had to choose among hundreds of songs of song thrushes to orchestrate only one of them?[232]

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[231] Yvonne Loriod Messiaen, interview by the author, April 2005, Paris, France.

[232] Messiaen, *Traité*, vol. 5, bk. 1, p. 14. "Tous ces chants, par milliers, lui restaient ainsi présents en mémoire, et lorsqu'il composait, il s'entourait de certains cahiers de notations parmi

Examples 3-1 to 3-10 below provide a glimpse into Messiaen's process of transcribing birdsongs, usually detailed with notes about the date, time, and place that the song was heard, as well as indication of attacks and tempo. He notates the different birds as he hears them, writing down songs of various birds at the same date and time, using the same page of music paper. Sometimes he notated the same bird, but at a different time and place. Below are Messiaen's summaries of the characteristics of birds featured in *Les Petites Esquisses d'oiseaux*.[233]

1 Robin: (Latin: *erithacus rubecula*; French: *Rouge-gorge*).

Messiaen describes the singing of the robin as soft and fine, excluding some occasional sequences of slower and harsher, reedy notes. On the whole, its singing is a rather high-pitched, quick twittering, nuanced as piano or pianissimo, and quite variegated – something of a musical latticework. One of its most common topics is a downward, quick trait (a veritable waterfall of pearl sounds that recall light drops of water), followed, after a short silence, by two descending, gentle, confident and amicable joined notes.[234]

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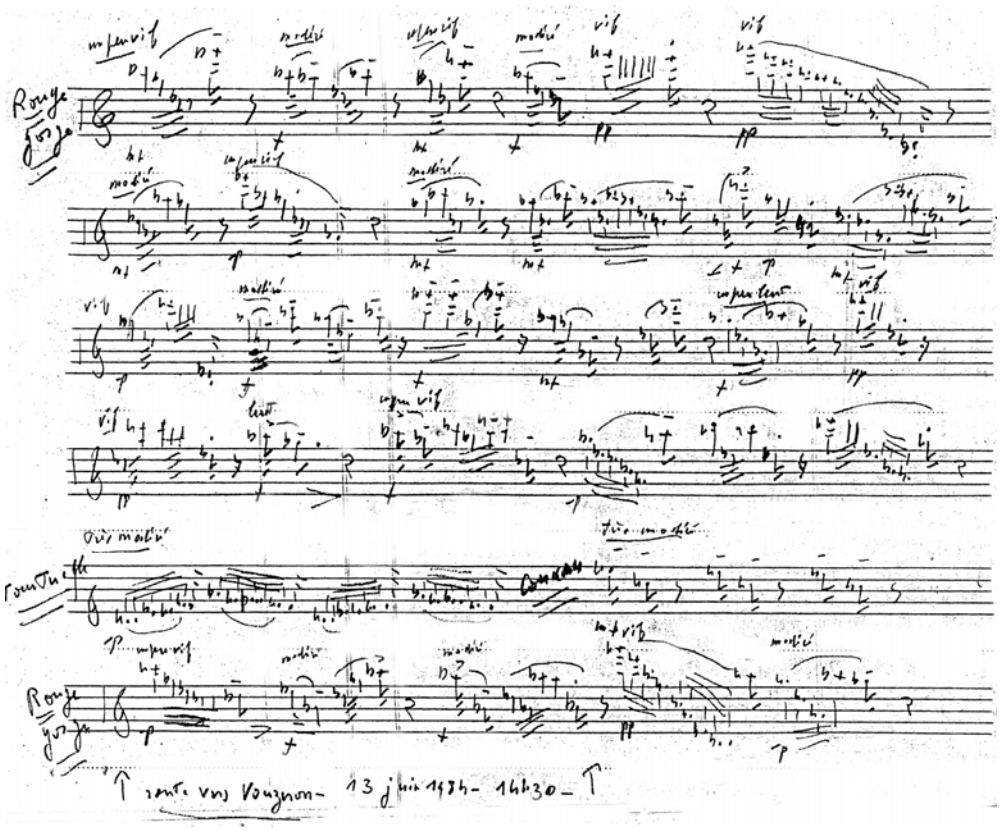
les plus beaux, ceux dont il avait besoin pour l'œuvre en cours. On peut donc penser qu'il devait choisir entre des centaines de chants de Grives musiciennes pour n'en orchestrer qu'une seule?"

[233] Messiaen, *Traité*, vol. 5, bk. 1.

[234] Messiaen, *Traité*, vol. 5, bk 1. For Messiaen's detail description of the robin, read pp. 146-181



Example 3-1a Messiaen's notation of the song of the robin (*rouge-gorge*). Route towards Vouznon, the 13 of June 1984 – 2:30 pm.[235] Reproduced with permission of Yvonne Loriod Messiaen.

[235] Olivier Messiaen. *Cahiers de notation des chants d'oiseaux*, (Bibliothèque nationale de France, Département de la musique,) microfilm 19095, p.56

Example 3-1b Transcription of Messiaen's notation of the robin's song. Route towards Vouznon - the 13th of June, 1984 – 2:30 pm.

2 Blackbird (Latin: *Turdus meriila;* French: *Merle noir*)

Messiaen explains that all blackbirds share certain stylistic and aesthetic characteristics, but every individual has its own personal collection of themes. According to him, every spring each blackbird recapitulates the topics of the previous spring but also invents a certain number of themes that it embroiders and links to previous ones; as it grows older, its repertoire of melodic motifs becomes ever more substantial. It is capable of continuous improvisation, lining up more and more strophes within a period of half an hour or more, and managing to do so without repeating any melody.

"Characteristics of the blackbird's songs are melodic patterns that are always rising to a high pitch."[236] The blackbird sings in medium register, and its songs are of cheerful key. This bird's songs, containing bright colors of major thirds and major modes, are sometimes calm, even solemn, but often wax exuberant and even mocking.[237]

Example 3-2a Messiaen's notation of the blackbird. "9:30 pm - Route towards Vouznon, the 26 of June 1984."[238] Reproduced with permission of Yvonne Loriod Messiaen.

[236] "Le Merle noir a une esthétique caractéristique avec des formules retournées vers aigu... " Samuel, *Musique et couleur*, p. 88.

[237] For Messiaen's detailed description of the blackbird, read Messiaen, *Traité*, vol. 5, bk 1, pp. 483-489.

[238] Messiaen. *Cahiers de notation des chants d'oiseaux*, microfilm 19099, p.5.

Example 3-2b Transcription of Messiaen's notation of the blackbird's song. route toward Vouznon - the 26th of June, 1984, 9:30 pm.

Example 3-3a Messiaen's notation of the blackbird's song. Sologne, May 1984.[239] Reproduced with permission of Yvonne Loriod Messiaen.

[239] Ibid., microfilm19095, p.59.

Example 3-3b Transcription of Messiaen's notation of the blackbird's song. Sologne, May 1984.

3 Skylark (Latin: *Alauda arvensis*; French: *Alouette des champs*)

Messiaen depicts the singing of the lark as a masterpiece of joyous energy and stark spontaneity and it follows exactly the various phases of the bird's flight course. According to Messiaen, the male bird rises, almost vertically, as it keeps repeating a motive in crescendo. After reaching a height of a hundred or a hundred and fifty meters, so high that he looks no bigger than a black dot in the sky, he pours out his torrent of melody. Messiaen describes his song as an exultant line, with adjoined, intertwined themes, always winding around a dominant high-pitched element, as though the bird, in its delirious joy, were trying in vain to pierce the ceiling of a vast blue sky. The themes of the skylark observe various rhythms; sometimes they are linked by climbing series of descending arpeggios which return towards the high ("climacus resupinus" interlaced). A

lot of these themes are repeated two, three, and even four times. All the while, the bird glides and hovers in one place, if it is not engaging a wide detour. After the series of wing flapping sounds has stopped, the bird closes its wings, only to set out once again. During the interludes, when for a few seconds the bird appears as if hanging suspended between heaven and earth, he emits two long notes, a kind of spondee, which breaks the general rhythm, and touches the extremes of the lowest note and a dominant high, or the dominant high note followed by a low note. Towards the end of the song (which is very long, as it lasts three, five or even ten minutes), the triumph of the bird boils over, and he cannot help repeating the dominant high note, rolled out in a pertinacious *fortissimo*. He then resumes his descent by singing a series of rondos *decrescendo*. Finally, a small descending iambic in *pianissimo*, and the bird falls like a stone, wings flapping at the very last moment to soften the landing.

Messiaen compares the jubilatory nature of the songs of the lark to that of plainsong.[240] He further explains that his most important notations of the skylark, (which he used for his works after the *Catalogue d'oiseaux* for piano, *Chronochromie* for orchestra, until the opera *Saint François d'Assisse* until the *Les Petites Esquisses d'oiseaux* for piano), took place at two different places and in two different occasions. The first took place in 1965 at *Bengy sur Craon* (located in *Cher*, in central France), the second took place from 1977 and 1978 at Rouvres les Vignes (in Aube, northeast of France).[241]

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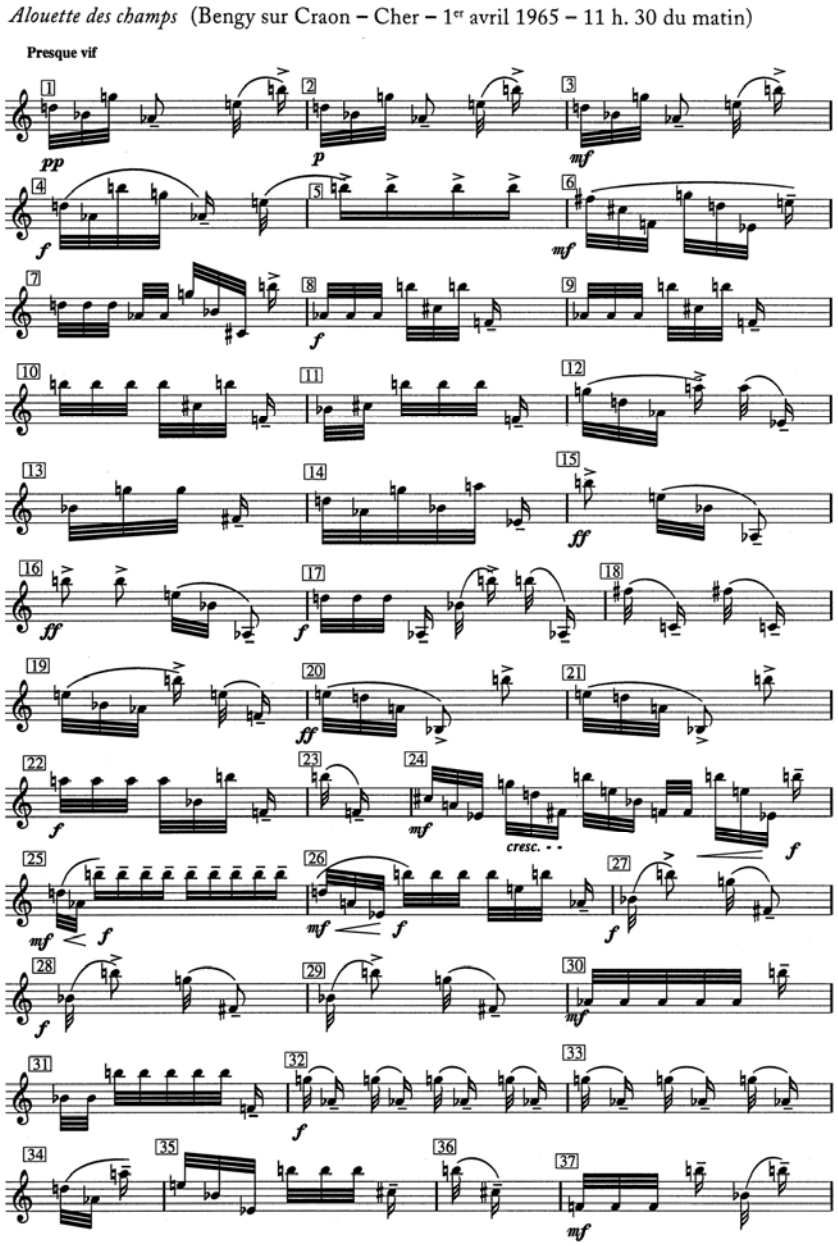
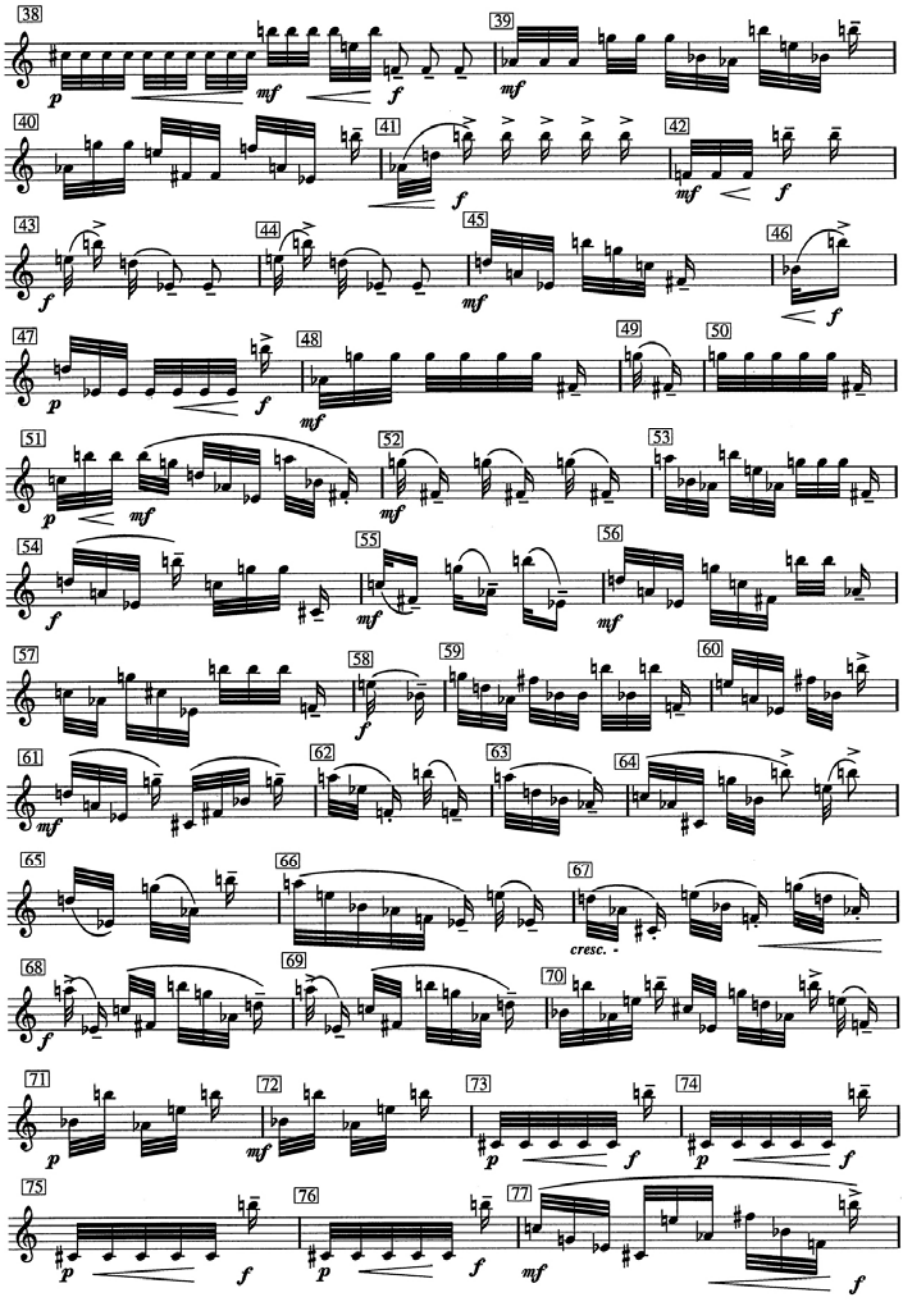
[240] "L'ensemble du chant est rapide, excessivement jubilatoire et alléluiant." Samuel, *Musique et couleur*, p. 96.

[241] For detail description of skylark by Messiaen, read Messiaen, *Traité*, vol. 5, bk 1, pp. 244-304.



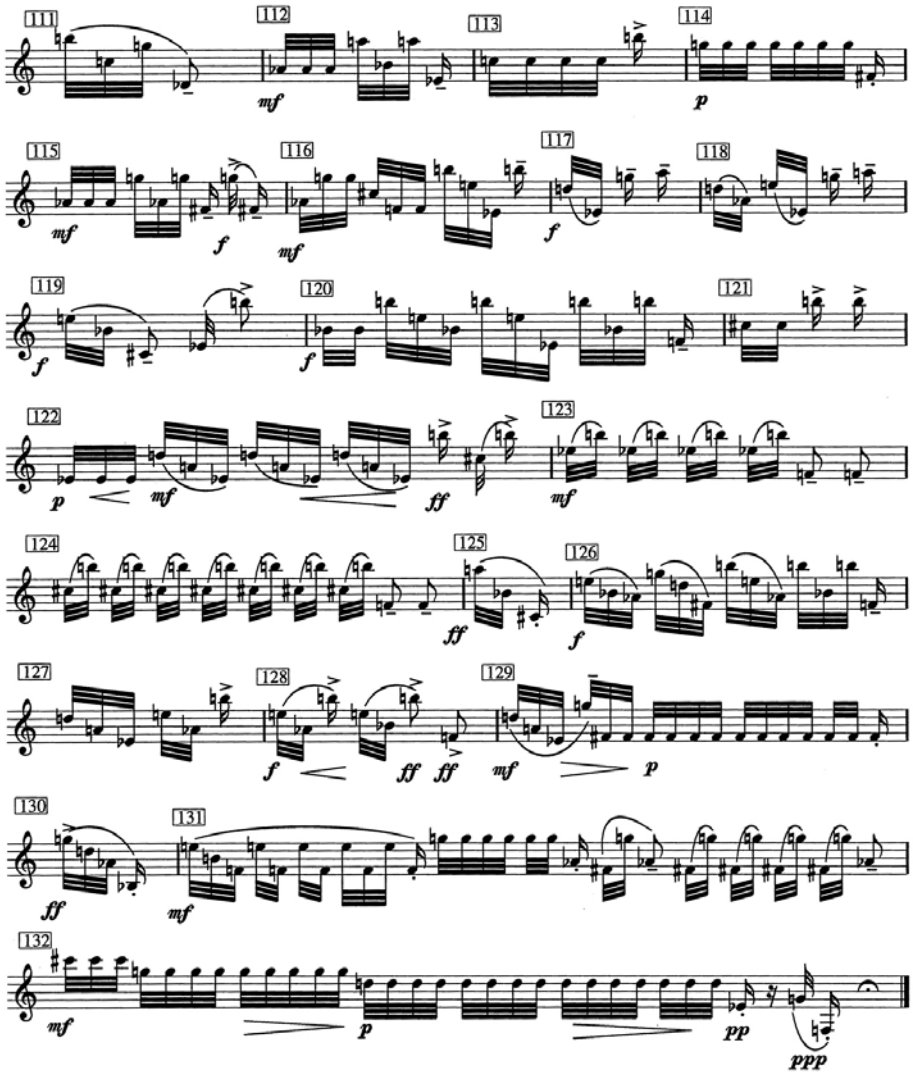
Example 3-4a Messiaen's transcription of the song of the skylark, notated at Bengy sur Craon (Cher), on the first of April 1965, at 11:30 am.[242]

[242] Messiaen, *Traité*, vol. 5, bk 1, pp. 249-252.



Example 3-4a Messiaen's transcription of the song of the skylark (continued).

Example 3-4a Messiaen's transcription of the song of the skylark (continued).



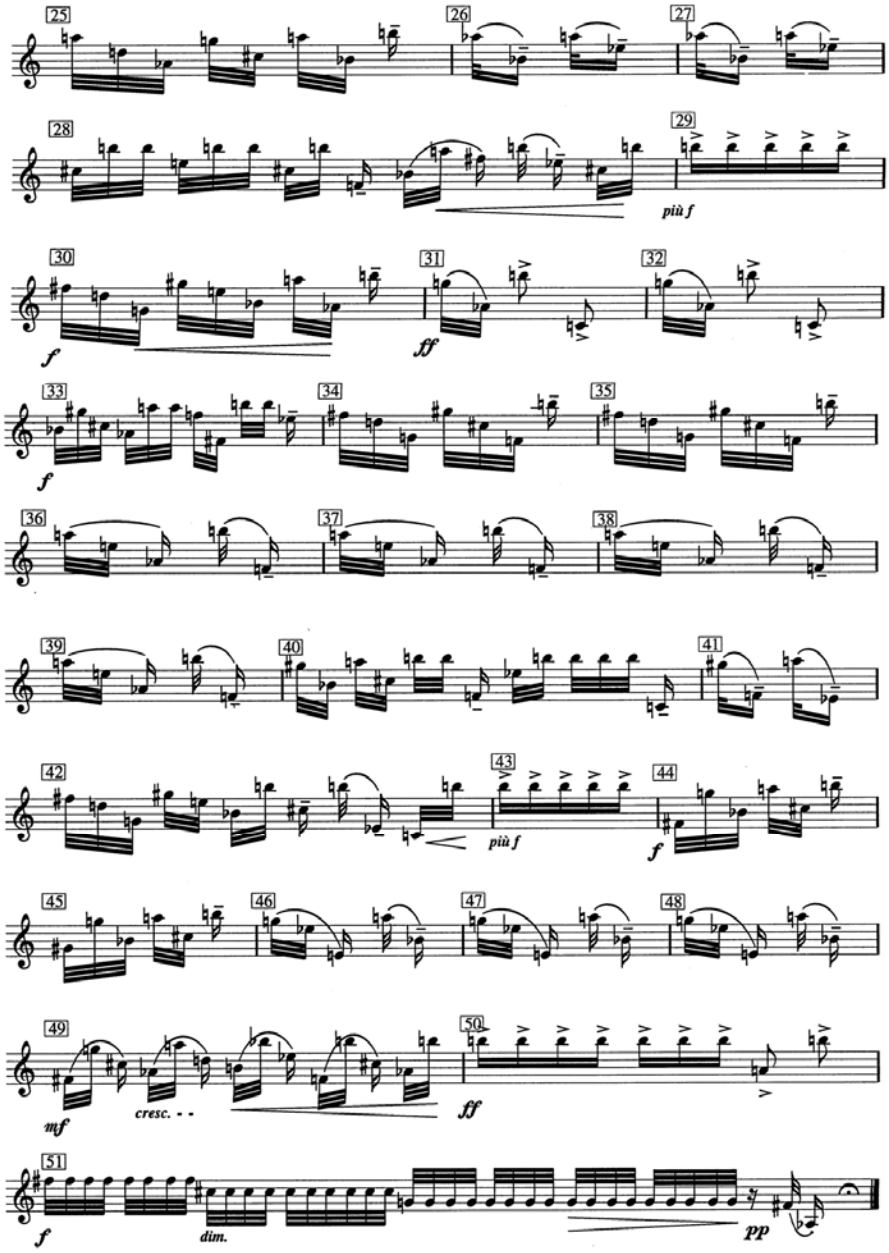
Example 3-4a Messiaen's transcription of the song of the skylark (continued).

Example 3-4b Messiaen's transcription of the song of the skylark, notated at Rouvres les Vignes (Aube*)*, on the twenty-first of April 1978, at 5 pm.

Example 3-4b Messiaen's transcription of the song of the skylark (continued).

Example 3-4c Messiaen's notation of the skylark's song, which he lists as Example 1 in the fifth volume of his *Traité de rythme, de couleur et d'ornithologie*, page 245.[243]

[243] Messiaen, *Traité*, vol. 5, bk 1, pp. 245-246. Messiaen presents this transcription of the skylark's song as an example in the section dedicated to the discussion of the skylark. However, there is no indication or explanation of where or when he transcribed this song.



Example 3-4c Messiaen's transcription of the song of the skylark (continued).

4 Song Thrush (Latin: *Turdus ericetorum***;** French: *Grive musicienne).*

Messiaen calls the song thrush one of the best artists of France, the continent of Europe, and the world. According to him, it is one of the brightest creators of timbres, attacks, rhythms, and melodic outlines: "The song thrush is one of the most brilliant

birds, and although each individual thrush has its own invention, the song is still quite recognizable."[244] He explains that the singing of the song thrush is powerful due to its strongly pronounced and varied rhythm and the many repetitions of the melodic motives: "…the song thrush with its incantatory repetitions; each strophe is constructed on very extraordinary rhythms, even richer than our Greek and Hindu rhythms."[245] For a detailed description of the song thrush by Messiaen, see volume 5 of the *Traité de rythme, de couleur et d'ornithologie.*[246]

Below is Messiaen's notation of the song thrush's song, made near La Sauline in 1985, the same year as Messiaen's composition of *Petites Esquisses*.

[244] "La Grive musicienne est un des oiseaux les plus géniaux et, bien que chaque individu ait son invention propre, le chant est pourtant bien reconnaissable…" Samuel, *Musique et couleur* (1983), p. 96.

[245] "…la Grive musicienne avec ses répétitions incantatoires; chaque strophe est construite sur des rythmes très extraordinaires, encore plus riches que nos rythmes grecs et hindous." Ibid., p. 104.

[246] Messiaen, *Traité*, vol. 5, bk. 1, pp. 108-131.

Example 3-5a Messiaen's notation of the song thrush's song, made near *La Sauline*, the 13th of April 1985, 8:30 pm. "La Sauline 13 avril 1985, 20h30 - magnifique coucher de soleil, orange."[247] Reproduced with permission of Yvonne Loriod Messiaen.

[247] Messiaen. *Cahiers de notation des chants d'oiseaux*, microfilm 19099, p.33.

Example 3-5b Transcription of Messiaen's notation of the song thrush's song made near La Sauline, the 13th of April 1985, "8:30 pm - magnificent sunset, orange."

Messiaen's transcriptions of birdsongs provide a glimpse into the inner working of his compositional and creative process. The songs are usually transcribed exactly transcriptions, without any accompanying harmony; sometimes Messiaen adds a harmonic underpinning in a subsequent version in an effort to recreate the timbre, the atmosphere and the mood of the songs.

This chapter has provided an overview of Messiaen's birdsong repertoire, and the specific birdsong sources in *Les Petites Esquisses d'oiseaux*. Subsequent chapters will provide a more in-depth analysis of birdsongs in *Les Petites Esquisses d'oiseaux.*

CHAPTER FOUR

Overview of the Suite *Les Petites Esquisses d'oiseaux*

Chapter four is focused on the overview of the whole suite *Les Petites Esquisses d'oiseaux*, and devoted to the discussion of the common elements that tie the six movements of birdsong together, and the contrasting features that set them apart. The resources Messiaen used to give shape to the music include the harmony, pedal, texture, birdsong, tempo, contrast and the juxtaposition of different musical parameters.

1 Outline of the Suite

The suite *Les Petites Esquisses d'oiseaux* is comprised purely of birdsong, without programmatic depiction of the bird's habitat.[248] Although this suite of six birdsong movements is brief in length and sparse in texture, the writing is sophisticated and involves many different harmonic sources and tempos. The whole work is written mostly in the middle and high register with very little in the bass register.[249] The three movements on the robin and the second movement on the blackbird have clear formal structure and contrasting themes beside the themes of birdsong. The fourth and sixth

[248] The background themes (which only appear in the three movements on the robin and in the second movement on the blackbird) do not contain specific literal depiction of bird habitat or sounds of other birds and insects as in other birdsong works such as *Catalogue d'oiseaux* (1956-58) or *Réveil des oiseaux* (1953), but contain background harmony to establish the frame, the atmosphere and the setting above which the birdsong melodies soar freely. Yvonne Loriod called it "*cadre"* which means framework in French. Loriod, in conversation with Quynh Nguyen during piano lessons in Paris, 2005.

[249] The birdsong melody dips below the middle register only at the end of the last movement, where the descending figurations in the melody portray the flight of the skylark swooping down from high in the sky to the low ground.

movements on the song thrush and the skylark do not have other themes beside birdsong themes, and contain only occasional punctuating low-registered chords.

2 Harmony

According to Messiaen, the harmonic complexes in the birdsong writing are constructed for the purpose of recreating the timbre of the bird's vocalization and were formed primarily to reproduce the color, the intonation and inflection of the birdsong and its sonorities on the piano. In the preface to *Les Petites Esquisses d'oiseaux*, Messiaen explained that all six movements of this work share similar harmonic styles and colors. Analysis of the harmony for the whole suite of birdsong shows that a complex mixture of different types of modes of limited transpositions, color chords, as well as diatonic, chromatic and pentatonic scales is used as source harmony for the suite's different themes.[250]

The harmonies for the themes of scenery and the closing themes are employed vertically, in chordal form, whereas the birdsong themes are generally utilized horizontally, in melodies and motivic figurations, and are frequently doubled inexactly to create rich colors. [251] The chords of transposed inversions are used most often, and chords of contracted resonance and the chords of total chromaticism add coloristic nuances to the overall palette. Messiaen described the main colors that dominate the work as strong

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[250] Allen Forte, "Messiaen's chords," in *Olivier Messiaen: Music, Art and Literature*, eds. Christopher Dingle and Nigel Simeone (Burlington: Ashgate, 2007), Chapter 7, pp. 91-113. Allen Forte argues that Messiaen's harmonies, including the modes of limited transpositions and the color chords, are not just used as complete chords and modes in their entirety, but are also viewed and utilized by the composer as pitch-class sets with many possible subsets. As source harmonies, they provide an incredibly rich variety of different combinations of pitches and chordal complexes.

[251] Only the second movement has closing themes.

colors: blues, reds, oranges, and violets.[252] Although he neglected to mention the use of the turning chords, they can be found in the fourth and fifth movements. Additionally, modal chords as well as chords that are subsets of color and modal chords are used throughout the work. These contribute to the coloristic variety of the piece as well. Overall, the harmonic similarities of the six movements provide the harmonic continuity and coherence that hold the separate themes and movements together, while the characteristic differences of the four birds and their vocal styles give contrast and variety to the whole suite.

The harmony, aided by the pedal, often links different themes together. For example, the octad of set class 8-16 – the first part of the chord of total chromaticism – is the last chord of the theme of scenery, while the tetrad of set class 4-16 – the second part of the same chord, is the beginning of the theme of birdsong. The two parts of the chord are connected together by the sustaining pedal, thus providing a seamless transition from one theme to another. Furthermore, the birdsong motives are derived from the set classes of the color chords and modes mentioned above, as well as their subsets and different combinations of the subsets. The following examples show some of the possible subsets (3-5, 3-4, 3-8, 3-11, 4-26, 4-5, 4-11, etc.) contained within the color chords that were used in the birdsong sections throughout the six movements (see examples 4-1 to 4-6).

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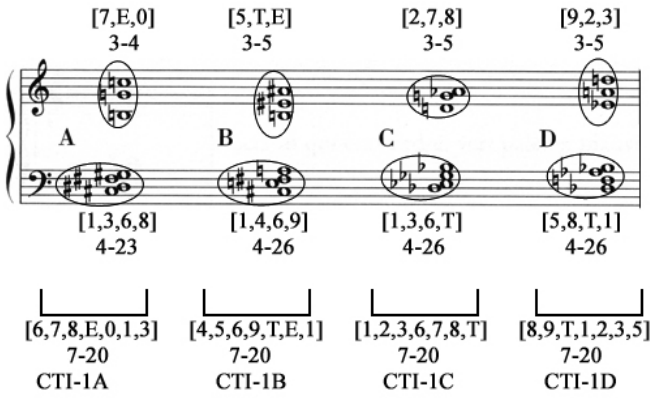
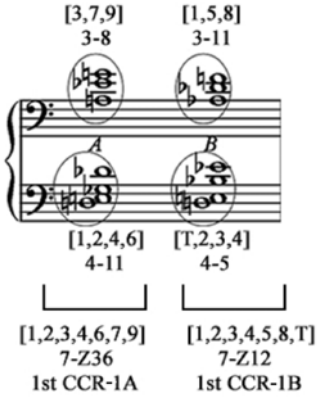
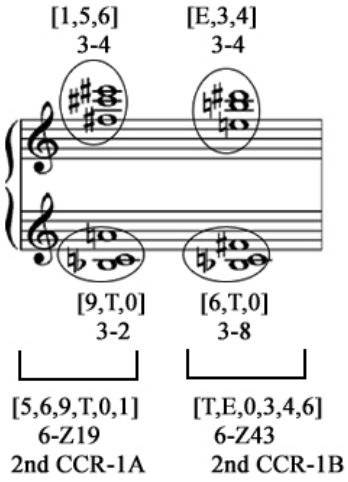
[252] Olivier Messiaen, *Les Petites Esquisses d'oiseaux* (Paris: Alphonse Leduc, 1988). "Ce sont six pièces très courtes. Elles sont à la fois très semblables et très différentes. Très semblables par le style harmonique où évoluent des complexes de sons aux couleurs changeantes. Ce sont les bleus, les rouges, les oranges, les violets, des 'accords à renversements transposés', qui dominent. Les 'accords à résonance contractée' et les 'accords du total chromatique' y ajoutent leurs couleurs plus violentes ou plus subtiles." This is the first instance in which Messiaen mentioned the use of the chord of total chromaticism in his work.



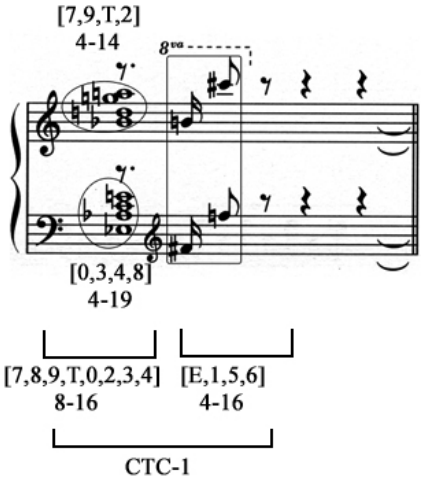
Example 4-1 The chords of transposed inversions, first transposition.



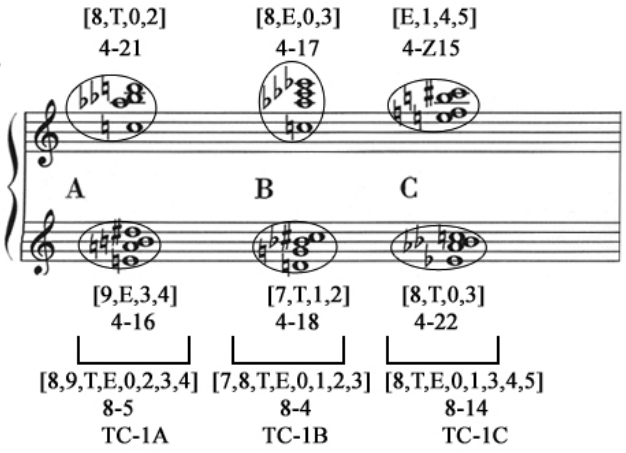
Example 4-2 The first chords of contracted resonance types A and B, first transposition.



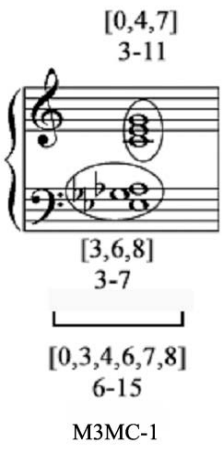
Example 4-3 The second chords of contracted resonance types A and B, first transposition.



Example 4-4 The chord of total chromaticism, first transposition.

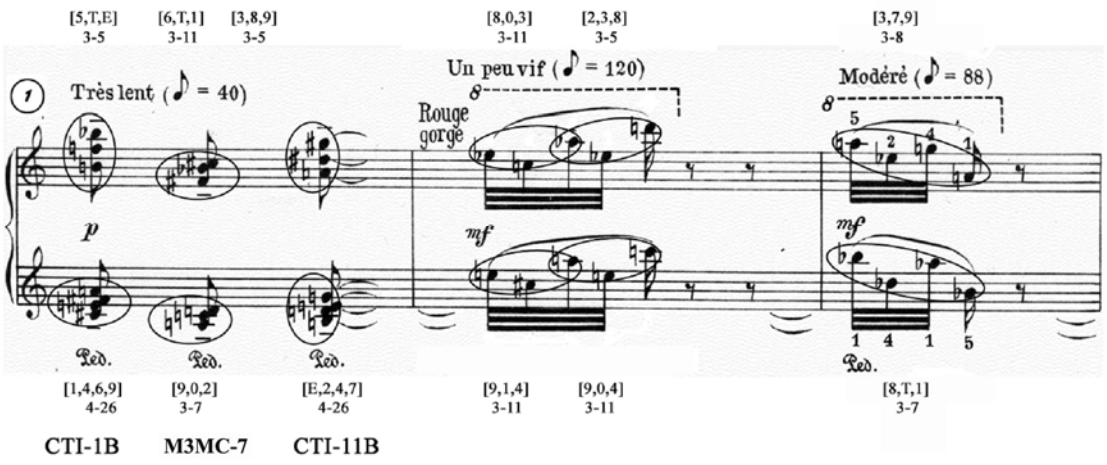


Example 4-5 The turning chords types A, B and C, first transposition.



Example 4-6 The model chord of Mode 3, first transposition.

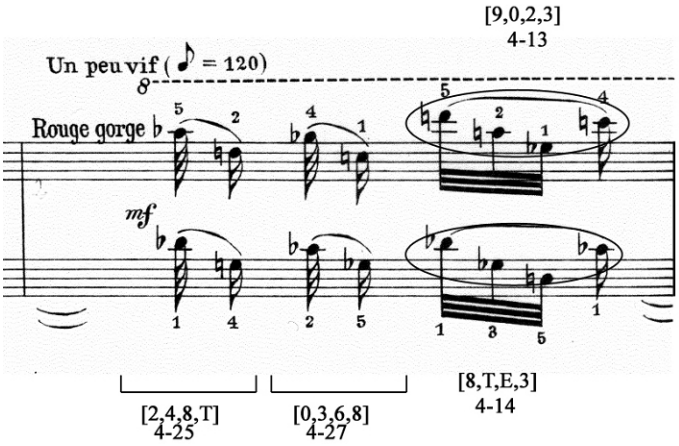
The following examples (examples 4-7 to 4-13) illustrate how the melodic motives and figurations in the birdsong themes are derived from the various set classes and subsets of the same color chords and modes of limited transpositions that are employed in the background theme.



Example 4-7 First movement "Robin," measures 1-3.

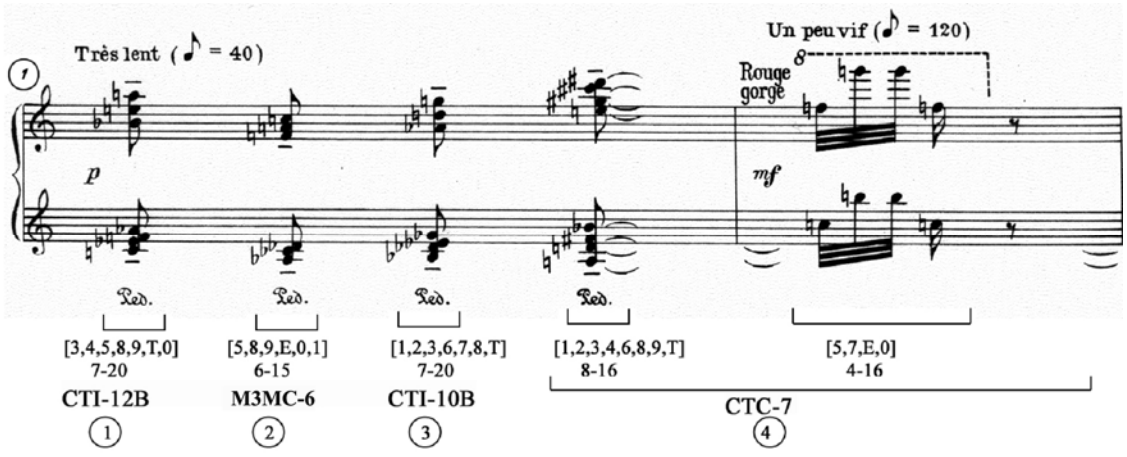
In example 4-8 below, the robin's melodic motives in measure 2 of the third movement (4-25, 4-27, 4-14 and 4-13) can be interpreted as subsets of the first chord of contracted resonance type B. The subset 4-14 can also be seen as a subset of the chord of

total chromaticism. The set classes 4-25 and 4-27 are also subsets of mode 3-3 and 3-1 respectively, while set classes 4-14 and 4-13 are subsets of mode 7-4.



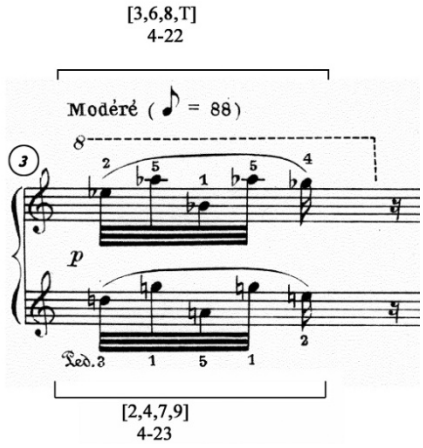
Example 4-8 Third movement "Robin," measure 2.

Example 4-9, taken from the fifth movement "Le Rouge-gorge," shows the inter-connectedness of the different themes produced by the use of the different harmonic subsets of the chords of total chromaticism. The last chord of measure 1 belongs to the background theme and is connected by the pedal to the robin's theme in measure 2. The chord is 8-16, which the first part of the CTC; the birdsong figuration is 4-16, which is the second part of the CTC.



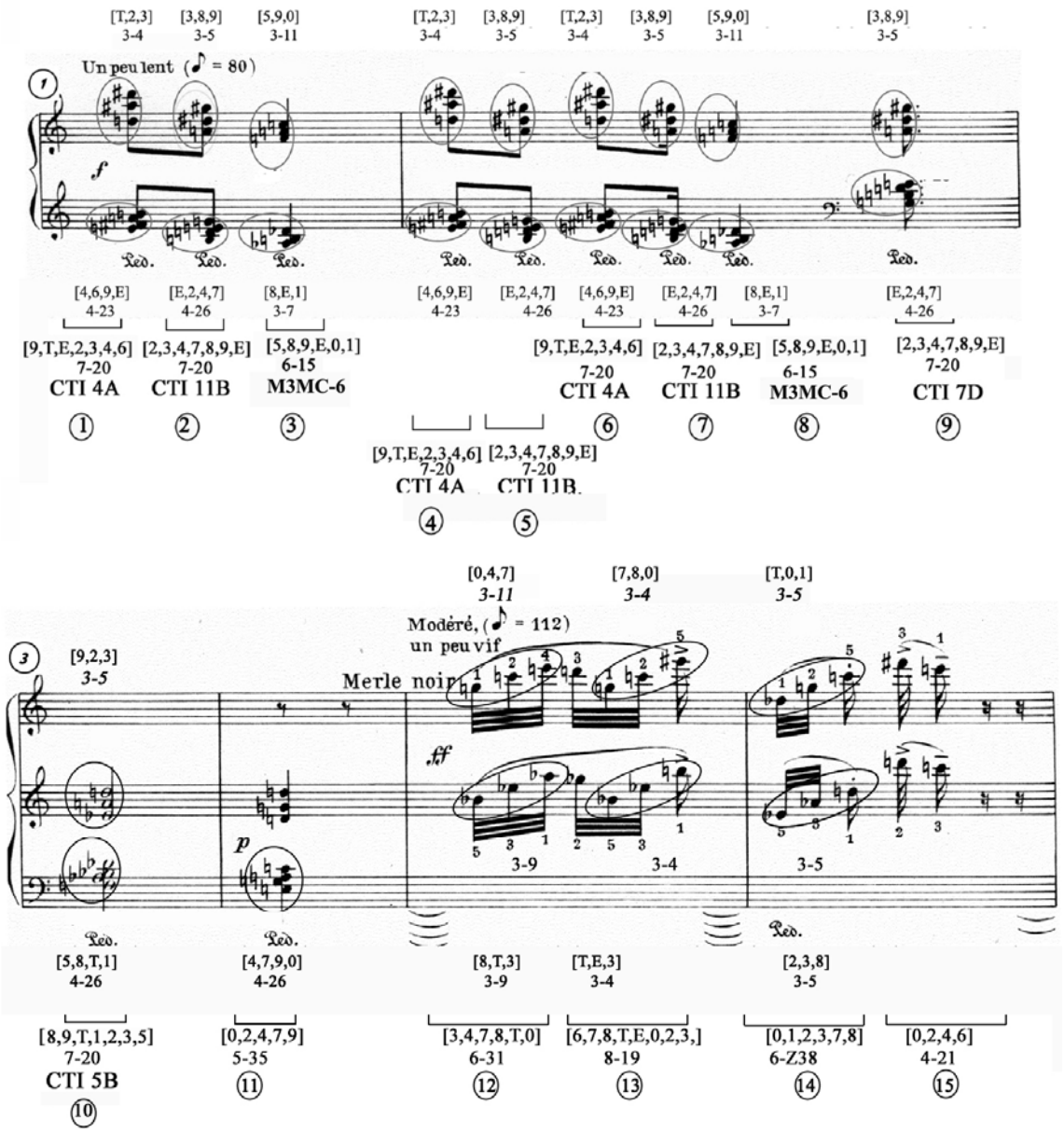
Example 4-9 Fifth movement "Robin," measures 1 and 2.

Example 4-10 shows the birdsong melodic motive in inexact doubling, taken from the third measure of the same movement. The set class for the right hand (R.H.) figuration is 4-22, which can be seen as a subset of turning chord type C, and also as a subset of mode 3, first transposition. The set class for the left hand figuration is 4-23, which can be seen as a subset of chord of transposed inversion type A, and also as a subset of mode 4, third transposition.



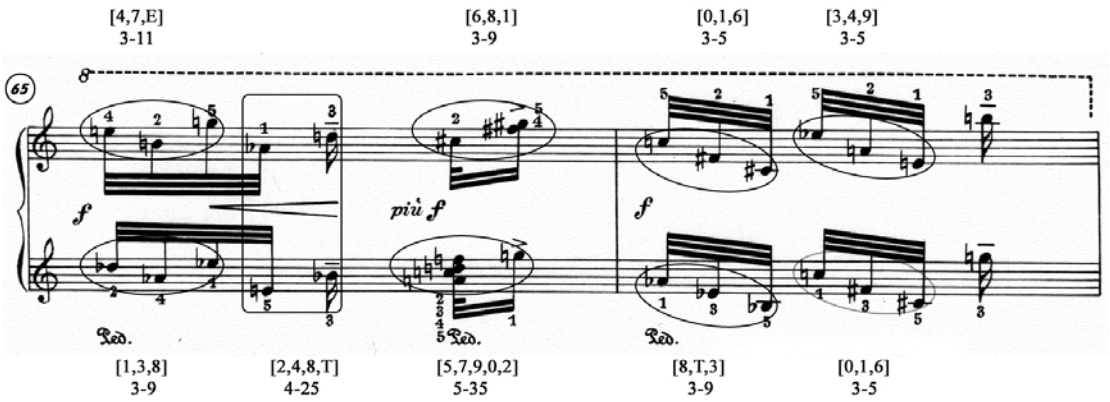
Example 4-10 Fifth movement "Robin," measure 3.

Example 4-11 is taken from the second movement "Le Merle noir." It illustrates how the birdsong figuration, which enters in measure 5, contains the same subsets as those of the color chords contained in the background theme (measures 1-4).



Example 4-11 Second movement "Blackbird," measures 1-6.

And finally, example 4-12 shows a few of the melodic figurations of the skylark's song, in which the motives (3-11, 3-9, 3-5 and 4-25) can be seen as subsets of the CTIs and the 1st CCR types A and B. The subset 5-35 belongs to the pentatonic scale. This example also shows the use of a combination of different types of source harmonies: the color chords as well as a pentatonic scale.



Example 4-12 Sixth movement "Skylark," measures 65-66.

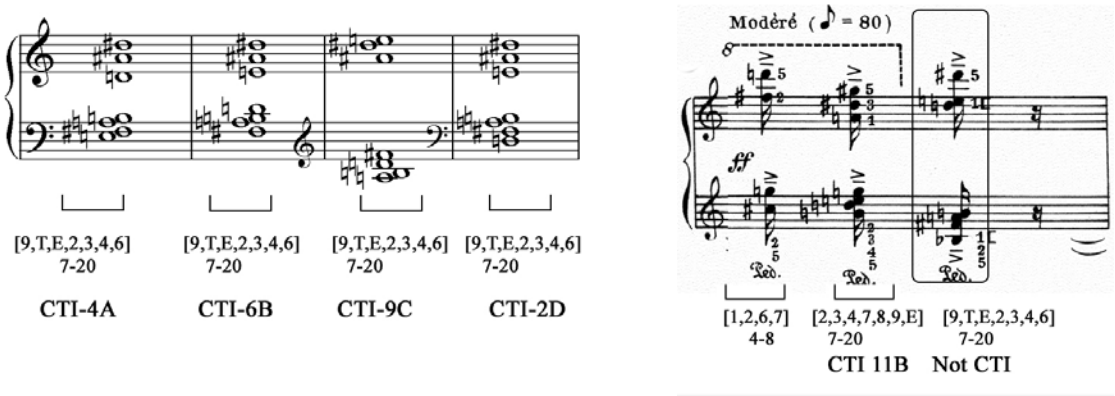
Beside the above mentioned color chords and modal chords, Messiaen also utilizes the technique of "total aggregate" in his harmonic construction. The chord of total chromaticism employs all twelve pitches to form a complete aggregate. There are also measures in the birdsong section where all the pitches in that measure (held under one pedal) together form a complete aggregate of twelve pitches. He also used the reverse of the principle of complete chromaticism: the practice of leaving out certain pitches from the total aggregate, which practice is to be foundin many instances throughout the six movements. There are several measures in which pitch-class sets of birdsong melodic motives contain a near total aggregate, such as 10 or 11 pitches out of 12. Messiaen said the following about color implication of total aggregate and near total aggregate:

> Colour comes from a choice of chromaticism. If you play a cluster, you play all the notes at once and there are no colours. You get grey or black - colours are absent. To produce colours you must suppress something. For example if you'are wearing, say, a yellowy-orange sweater, that colour absorbs certain rays and reflects others. It's the same with a chord: if you have eleven notes out the twelve or ten notes out of the 12, that produces a colour.[253]

[253] Roger Nichols, "Messiaen: Roger Nichols Talks to the Composer, who is 70 on December 10," *Music and Musicians* 27/4 (Dec. 1978), 20-22.

Although the chord of total chromaticism contains all twelve pitches, it is different from a total aggregate cluster because it is divided into two parts: the octachord comes first, and the four complementary pitches enter into the resonance of the first chord. Therefore it does not produce colors of gray or black in Messiaen's mind, but has two zones of colors corresponding to the two parts of the chord.

It is interesting to note that in this last solo piano piece Messiaen uses not only modal and color chords, but a wider variety of chords. There is one instance in *Les Petites Esquisses d'oiseaux* where Messiaen used a chord of set class 7-20 not identifiable to any of his 48 chords of transposed inversion: the third chord in measure 18 of the fourth movement "Song Thrush" (see example 4-13). Chords of transposed inversions CTI-4A, 6B, 9C and 2D have pitch class set of [9,T,E,2,3,4,6]. Other chords that correspond to the same pitch class set [9,T,E,2,3,4,6] but have pc 3,10 and 11 as bass notes are not classified as CTI by Messiaen.

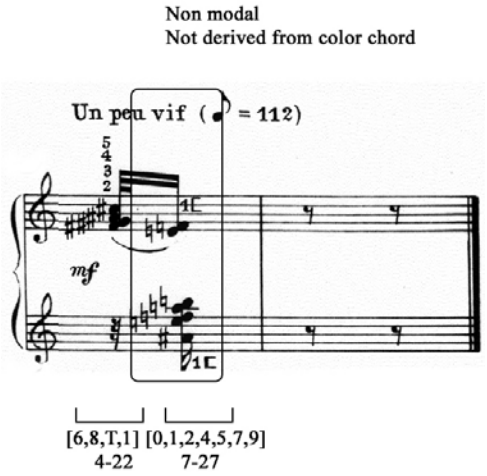


Example 4-13 Chords of transposed inversions CTI-4A, 6B, 9C and 2D have pitch class set of [9,T,E,2,3,4,6]. The third chord in measure 18 of the fourth movement on the

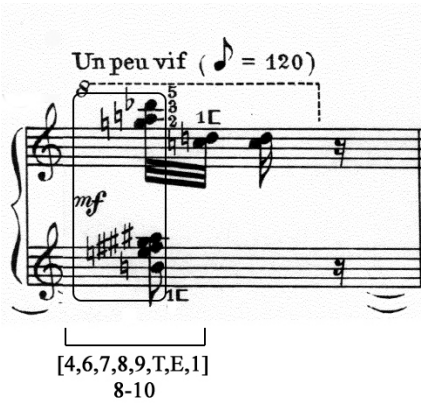
song thrush has the same pitch class set and belongs to set class 7-20 but is not a color chord.

Other chords in this composition that share the same pitch class sets as Messiaen's color chords but are not identified as color chords by him include the chord [1,2,3,6,7,9] of set class 6-Z43 in measure 24 of the fifth movement. It is not a color chord, but has the same pitch class set as the color chord 2nd CCR-10B.

Additionally, there are chords in *Les Petites Esquisses d'oiseaux* that are not derived from any color chord or mode. These chords include the last chord of measure 85 in the fourth movement [0,1,2,4,5,7,9], which belongs to set class 7-27, and the first chord of measure 9 in the fifth movement [4,6,7,8,9,T,E,1], which belongs to set class 8-10 (examples 4-14 and 4-15).



Example 4-14 The last chord of measure 85 in the fourth movement belongs to set class 7-27. It may not be derived from any mode or color chord.



Example 4-15 The first chord of measure 9 in the fifth movement [4,6,7,8,9,T,E,1] belongs to set class 8-10. It is not derived from any mode or color chord.

3 Pedal

The pedal (following Messiaen's detailed and specific markings) plays an important role in the shaping of the phrase and in creating the fluidity and continuity between separate themes of the work. For example, the last chords of the background themes (in all movements that have background theme: the three movements on the robin as well as the second movement on the blackbird) are connected to the birdsong theme by the sustaining pedal. The pedal blends the harmonies together and softens the delineation between the background and birdsong themes.

The pedal is also used to combine harmonic complexes together to create a total chromatic aggregate, to complete a chord, in addition to blending chord colors. For example, every time Messiaen used the CTC in this suite, he utilizes the pedal to connect the first part of the chord of chromaticism (octad 8-16) to the second part of the chord (tetrad 4-16), even if they belong to different themes. In the fourth movement, measure 82, several different chords were linked together under one pedal to create a total aggregate of all twelve pitches. The whole descending and ascending arpeggios found in the "Robin" movements and the "Song Thrush" movement are held under one pedal. The use of pedal is also essential in matters of articulation and phrasing; the pedal is sometimes held over several measures of birdsong figurations together, grouping separate birdsong gestures and motives into one long phrase (for example, first movement, measures 6-10; third movement, measures 6-9).

4 Texture

The texture is sparse, yet the composition is richly complex and codified. It is as if Messiaen was able to write everything he wanted to say in a few notes. The color and

modal chords in their complete chordal forms provide the structural frame for the different movements and for suite as a whole, above which the songs of the birds seem to float freely. The birdsong melody is often doubled inexactly with an additional lower line for color.[254] The main birdsong melody is confined to the high register of the keyboard, while the doubling is often in the middle register, and the intervals between the two voices vary. Sometimes, an additional inner line is added to the inexact doubling, most often in the right hand figuration, though sometimes in the left hand as well. The inexact doubling is occasionally mixed with chromatic dyads and clusters in one or both of its voices, which add variety to the texture.

5 Birdsong

For the birdsong sections, Messiaen chose characteristics that are representative of the birds he is portraying. Having collected, over the years, hundreds of songs of each type of bird, he chose the best of those songs in order to write the composition. Significant features that differentiate the birds' songs from one another include the different tempo and dynamic markings of each of the individual birds' song, the rhythmic changes, the shape and contour of the motives, the accents, and the break and pauses or lack thereof between the birdsong motives. These differences in the tempos, dynamics and characteristics of the songs of the featured birds provide rich contrast and variety to the six movements of the suite.

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[254] Following the style of late birdsong writing, the doubling does not occur at the octave level (as in the two-piano work *Visions de l'Amen*, 1943), but is much more varied; the intervals between the two lines do not stay the same. The contour of the melody is replicated, but not exactly. As Messiaen describes in his analysis of the third movement in the *Petites Esquisses d'oiseaux*: "The two hands play the same melodic line, but the doubling is constantly inexact, that is, the intervals between the two hands are never the same." (Les deux mains jouent la même ligne mélodique, mais la doublure est constamment inexacte, c'est-à-dire que les intervalles entre les mains ne sont jamais les mêmes.). Messiaen, *Traité*, vol.5, bk 1, p. 178.

6 Tempo

The tempo markings of the three "Robin" movements change constantly. They vary widely from very slow (at eighth note equals 40) to fast (at eighth note equals 184). There are seven different tempo markings in each movement, and almost every measure has a different tempo indication. By contrast, the tempo is more uniform and changes less frequently for the "Blackbird," "Song Thrush," and "Skylark" movements. The following Table 4-1 compares the difference in the tempo markings between the "Robin" movements and the "Blackbird," "Song Thrush," and "Skylark" movements.

Tempo	Robin	Blackbird	Song thrush	Skylark
Très lent	40			
Très lent	54			
Un peu lent	63	80	80	
Bien modéré	72			
Modéré	88	88	80	
Un peu vif	120	112	112	104
Vif	184		160	126
Très vif				144

Table 4-1 Comparison of tempo indications given by Messiaen for the different movements. The tempo ranges widely from very slow *(très lent)* to very fast *(très vif)*. The three "Robin" movements have the same tempo markings, the second movement "Blackbird" and the fourth movement "Song Thrush" share similar tempo indications, and the last movement "Skylark" is in mostly fast tempos.

7 Contrast

Stylistically, Messiaen juxtaposes different compositional techniques, to create multi-leveled, richly-colored and harmonically complex sound paintings of the four different types of birds featured in *Les Petites Esquisses d'oiseaux*. The element of contrast plays an important role in this piece. It happens on many levels: rhythmically,

texturally, harmonically, and melodically. Different themes of the piece contrast with each other in register, rhythm, texture and tempo: the background themes, also called themes of scenery, consist of slow-moving, punctuating chords (from eighth-note to half-note durations) in slow tempos, placed mostly in the middle, occasionally in the low register. The rhythm is fast-moving, consisting mostly of sixteenth-notes and thirty-second-notes, with a few eighth-notes at the end of a phrase.

Different sources of harmonies – modal chords and color chords, different types of modes of transpositions in their various transpositions as well as many types of scales – are simultaneously employed together. For example, the chromatic scale is utilized in the same measure and on the same melodic line as the diatonic scale, the whole-tone scale (Messiaen's Mode 1), and/or the pentatonic scale. Also, different transpositions of the same scale, such as the pentatonic scale – white keys versus black keys – as well as white versus black clusters are assigned to alternating right and left hands in the same melodic motive, creating different layers of juxtaposition. Even within only one descending glissando of the robin's song, there can be different transpositions of the chromatic, pentatonic and diatonic scales employed together.

Contrast also occurs in the texture of the birdsong motives themselves. The birdsong themes consist of single lines, inexactly doubled lines mixed with clusters or arpeggiated chords, and small melodic motives, in different tempos from moderate to fast, all in the high register. A birdsong motive written in single lines as in the descending glissandos in the robin movements often ends with small chromatic clusters. The inexact doubling writing, typically found in birdsong sections, is often mixed with

chromatic dyads, triads or tetrads to add variety to the texture. The intervals within the birdsong motives vary widely, from minor seconds to compound intervals.

CHAPTER FIVE

An Analysis of the First, Third and Fifth Movements "Le Rouge-gorge"

Although there are three separate movements about the robin, there are more similarities between them than dissimilarities. Their thematic, harmonic and structural resemblances provide unity, continuity and structure to this suite of birdsongs. The following discussion will focus on the formal structures of the movements, the essential characteristics of the songs of the robin, the harmony, the technique of contrast, the role of synesthesia-produced colors and the importance of pedal in the three movements featuring the songs of the robin. Description and analysis of each chord of the three robin movements are presented in tables I-1, I-3 and I-5 in Appendix I and in the music for the first, third, and fifth movements in Appendix II.

1 Form

The robin plays an important role in this suite of sketches of birds. Three movements – the first, the third and the fifth – are dedicated to the song of the robin and are written in the same harmonic and pianistic style, sharing similar melodic and rhythmic aesthetics representative of the robin. According to Messiaen, the three "Rouge-gorge" movements could be seen as "a single large work, divided into three parts by the songs of other birds."[255] They have the same formal structure: each movement can be divided into three sections; the second and third sections are variations of the first. Each section contains two themes: the general background theme, and the theme of the robin (see table 5-1)

[255] Messiaen, *Traité*, vol. 5, bk 1, pp.177-181.

Table 5-1: Formal Structure and Sectional Division for the Three Movements on the Robin									
	Section 1			**Section 2**			**Section 3**		
Mm. #	**1**	**2-5**	**6**	**7**	**8-32**	**33**	**34**	**35-68**	**69**
1st mov.	**1st Theme of Scenery** (3 chords) CTI-1B | M3MC-7 | CTI-11B	**Birdsong**	**Rest**	**2nd Theme of Scenery** (5 chords) CTI-1B | M3MC-7 | CTI-11B | M3MC-3 | CTC-2 (8-16)	**Birdsong**	**Rest**	**3rd Theme of Scenery** (4 chords) CTI-1B | M3MC-7 | M3MC-3 | CTC-1	**Birdsong**	**Rest**
Mm. #	**1**	**2-5**	**6**		**8-25**	**26**	**27**	**28-68**	**69**
3rd mov.	**1st Theme of Scenery** (3 chords) CTI-1B | M3MC-7 | CTI-11B	**Birdsong**	**Rest**	**2nd Theme of Scenery** (6 chords) CTI-1B | M3MC-7 | CTI-11B | M3MC-3 | M3MC-6 | CTI-7B	**Birdsong**	**Rest**	**3rd Theme of Scenery** (4 chords) CTI-1B | M3MC-7 | M3MC-10 | CTC-9	**Birdsong**	**Rest**
Mm. #	**1**	**2-6**		**7**	**8-29**	**30**	**31**	**32-72**	**73**
5th mov.	**1st Theme of Scenery** (4 chords) CTI-12B | M3MC-6 | CTI-10B | CTC-7(8-16)	**Birdsong**		**2nd Theme of Scenery** (5 chords) CTI-1B | M3MC-7 | M3MC-3 | M3MC-10 | CTI-10B	**Birdsong**	**Rest**	**3rd Theme of Scenery** (3 chords) CTI-1B | M3MC-7 | CTI-11B	**Birdsong**	**Rest**

The two themes (background theme and theme of the robin) contrast greatly in terms of The two themes (background theme and theme of the robin) contrast greatly in terms of tempo, rhythm, texture, and motives. The background themes consist of a series of slow, languorous modal and color chords, anchoring the movement, upon which the songs of the robin flourish in various types of melodic motives in different mixtures of inexact doubling alternating with dyads, triads and other chordal figurations, all while tracing the contour of the melodies of the songs. The silent bar at the end of each section separates and delineates the different divisions of the movement. The silent bar also occurs at the end of the phrases in the birdsong section, commonly after the iambic clivis motive typical of the closing gesture of the robin's song.

The structure of background themes is significant. The background themes of the three robin movements consist mainly of chords of transposed inversions mixed with the model chord of mode 3 and the chords of total chromaticism. The recurring chordal motives in the background themes play an important structural role in the three movements on the robin. For example, the two-chord motive, which consists of the chord of transposed inversions (CTI) followed by the model chord of mode 3 (M3MC) appears at the beginning of all the background themes in all three movements (nine times). It appears in its original transposition (CTI-1B | M3MC-7) eight times, but in the opening of the third movement, it is transposed down half a step (CTI-12B | M3MC-6). Similarly, the background theme's first three-chord motive (CTI-1B | M3MC-7 | CTI-11B) appears in its original transposition five times in the three "Robin" movements. In the first and second movements, it emerges in the first and second background themes and is absent in

the third appearance of the background theme. However, in the last "Robin" movement, this three-chord theme is transposed down half a step to (CTI-12B | M3MC-6 | CTI-10B) in the first background theme, is varied in the second appearance and resurfaces in its original transposition only in the last appearance of the background theme, in a sense of "thematic recapitulations."

The number of the chords in the background theme is also important: they mirror each other. In the first movement, the background theme in first section consist of three chords, the second section has five chords and the last four chords (354). The number is reversed in the fifth movement (453). When the three robin movements are considered together, the number of chords contained in the background themes forms a near-perfect palindrome: 354 364 453. The second background theme—placed in the middle section— of the third movement, has six chords, the highest number of chords. Indeed, this third movement is called "the heart of the work" by Messiaen.[256] The background themes all have the same tempo marking (eighth-note equals 40); thus the duration of the phrasings also forms a near-perfect palindrome. The symmetrical qualities of the phrasing and chord placement give unity and structure to the whole suite. In some ways, *Les Petites Esquisses d'oiseaux* can be seen as a miniature sequel to the *Catalogue d'oiseaux*, in which the number of movements in the seven books also forms a palindrome: 3121213.

[256] Messiaen, Traité, vol. 5,bk 1, p. 171. "Dans cette œuvre, 3 pièces sont dédiées au Rouge-gorge: la 1re, la 3e, la 5e. Ces 3 pièces sont écrites dans le même style harmonique, avec la même écriture pianistique, et la même esthétique mélodique et rythmique qui est celle du Rouge-gorge lui- même. On pourrait dire que c'est une seule grande pièce, coupée en 3 parties, par d'autres oiseaux. Je choisis la 3e pièce, qui est le cœur de l'ouvrage."

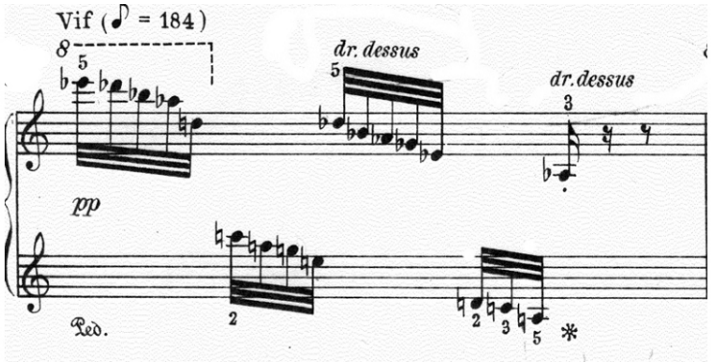
Table 5-1 above shows the similarities of formal structure and sectional division of the three movements on the robin. It also presents the common features among the different sections and movements. The thematic structure of the background themes, which consist of modal chords and color chords, are compared and contrasted to find the correlation among the different appearances of these themes. All the sections of the three movements (except the first section of the fifth movement) end with a measure of brief silence.

2 Characteristics of the Songs of the Robin.

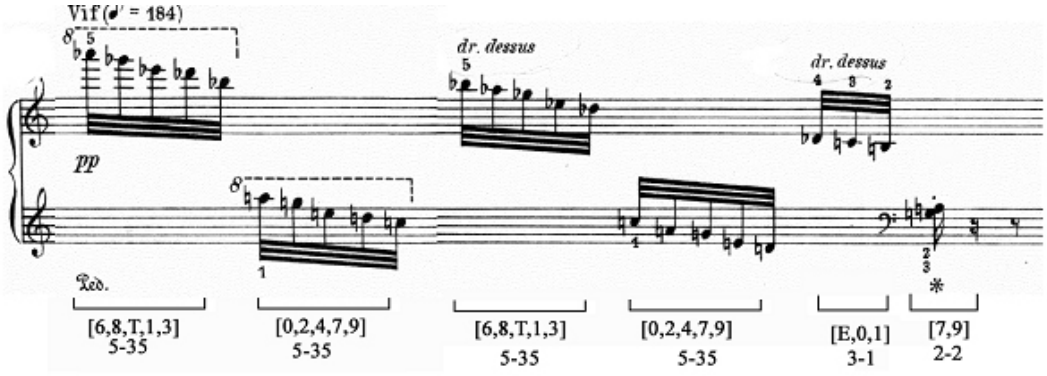
While writing the birdsong sections of *Les Petites Esquisses d'oiseaux*, Messiaen did not merely transfer birdsong melodies from his notebook into the composition, but chose melodic motives and birdsong characteristics that are representative of the type of birds featured. Comparison between the transcriptions in the notebooks of notation on birdsong to the composition itself results in the following observations regarding the essential characteristics of the robin featured in this piece: pearl-like descending glissandos, iambic clivis pairing that is typical of the conclusion of the robin's song, constant change in tempo at every measure, frequent contrast in dynamics, graceful melodic outlines, rise and fall in the melodic contours, repeated notes.

Following are examples of the descending quasi-glissandi in Messiaen's transcription of the robin compared to the descending arpeggios in the robin movements in *Petites Esquisses d'oiseaux*.

Example 5-1a The two quasi-glissandi above are taken from the transcription of Messiaen's notation of the robin's song, written on "route towards Vouznon - the 13th of June, 1984 – 2:30 pm."



Example 5-1b Descending quasi-glissando on measure 4 of the first movement on the robin.



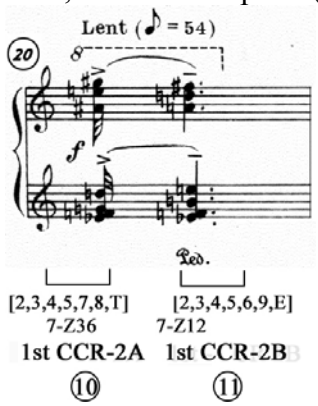
Example 5-1c Descending glissando on measure 18 of the first "Rouge-gorge" movement.

In examples 5-1b and 5-1c, Messiaen retains the essential features of the glissandos, such as the quickness of the tempo, the pianissimo dynamics and alternation

between black-key pitches and white-key pitches (which belong to two different transpositions of the pentatonic scale), but divides the line between the two hands. In the three "Robin" movements, Messiaen wrote a total of nineteen such descending gliassandos, each different from the others, but all have the same tempo and dynamic markings, all alternate between right hand and left hand as well as between white and black keys.

Following are two examples of the iambic clivis gesture that is typical of the ending of the robin's song. One is the transcription of the robin's songs, the other is an example of the same iambic clivis figuration, but harmonized in the first movement featuring the robin.

Example 5-2a The iambic clivis gesture above is taken from the transcription of Messiaen's notation of the robin's song, written on "route towards Vouznon - the 13th of June, 1984 – 2:30 pm." (This example is Example 3-1b in the third chapter)



Example 5-2b Iambic clivis gesture taken from measure 20 of the first "Rouge-gorge" movement.

The above iambic clivis gesture is similar to the same motive in the trascription of the robin's song, with the same dynamics and articulation markings. However, in example 5-2b taken from measure 20 of the first movement on the robin, the tempo is changed from

un peu vif to *lent* and the figuration is harmonized by a pair of color chords first chords of contracted resonance 2A and 2B.

The birdsongs of these three "Robin" movements vary greatly from one section to another. With each section of the movement, the birdsong themes become increasingly extended, each longer than the previous. The majority of the melodic motives are different. As a result, the birdsong sections of these three movements offer a wide variety of melodic motives, always different, always changing, each section containing fresh new materials. Nevertheless, there are many common features and motives among these three movements, although they do not always occur in the same register or transposition. These include:

1. Oppositions between fast and slow, very typical of the robin.

2. Constant contrast in dynamics.

3. Shimmering high double trills in contrary motion, on white and black keys with the right hand on top of the left, giving a prolonged and high-pitched murmur, very delicate, like a *pianissimo* roll of the triangle, typical of the robin.

4. The *pianissimo* descending line, very fast and pearl-like, almost like a glissando, is one of the favorite themes of the robin. The line alternates between the two hands, between white and black keys, and often ends on a little cluster in *pianissimo*, in the same dynamic marking as the whole gesture. Toward the end of the fifth movement, the glissandi become increasingly shorter in length and more disjunctive, no longer in step-wise motion but rather executing increasingly longer leaps in the glissando.

5. The climacus resupinus flexus melodic contour, a little slow and of amicable character, a regular feature of the robin's song.

6. The common conclusion of the robin's phrases, expressed by the two pairs of color chords 1st CCR and 2nd CCR in iambic clivis gesture, forming a brief appoggiatura. These two pairs are sometimes modified by an added note or note of anticipation.

7. Contrast between pentatonic scale (5-35), diatonic scale (7-35) and chromatic clusters.
8. Fall of the augmented fourth, very characteristic of the robin (motive).

3 Harmony

Five types of color chords are used in the three "Rouge-gorge" movements. These include the chord of transposed inversions (CTI), the first chords of contracted resonance (1st CCR) types A and B and second chords of contracted resonance (2nd CCR) types A and B, the turning chords (TC) and the chords of total chromaticism (CTC); the modal chords include the model chord derived from mode 3 (M3MC). The background theme consists of only CTIs, CTCs and M3MC. The birdsong themes contain a mixture of CTIs, CTCs, M3MCs, TCs, and pairs of types A and B of 1st CCR and 2nd CCR. The pair first chords of contracted resonance types A and B and the second chords of contracted resonance types A and B, appear together most of the times and are used frequently throughout the three movements. The three turning chords types A, B and C appear in modified form in measure 37 of the fifth movement. The first chord TC-8A is incomplete (only the bottom four pitches of the chord are present) and there is an added note C on top of the chord. The second chord TC-8B has a missing note F. Only the third

chord TC-8C appears in its complete form. The chord of total chromaticism can often be found at the end of the background theme and frequently serve as a bridge to connect the background theme to the theme of the birdsong.

In addition, there are chordal complexes in the birdsong sections that are not color chords. These are chords that belong to subsets of modes and color chords, as well as subsets of the diatonic scale and pentatonic scale.[257] These chords are identified by their set classes and modal membership in the analysis tables. The birdsong melodies and motives, written mostly in inexact doublings, are also subsets of the same modes, color chords and scales as that of the background themes. The color chords and their pitch-class sets are also used at the end of movements. The first movement ends with 1st CCR-7A embedded within the birdsong figuration, the third movement ends with a pair of 2nd CCR-10 A and B and the fifth movement ends with the completion of the CTC-11.

As harmonic sources for the background theme and the birdsong theme, many different modes of limited transposition are used, as well as different scales such as the diatonic scale, the pentatonic scale, the chromatic scale.[258] In particular, mode 3 and the model chord of mode 3 appear often throughout the whole work in both themes. The theme of scenery and the birdsong themes contrast with each other in almost every other aspect except harmonic. The difference is that the theme of scenery is chordal and vertical, whereas the theme of birdsong is mostly melodic and horizontal. Thus, although the two themes sound different texturally, the harmony – sustained by the pedal – often

[257] Messiaen did use chords that cannot be derived from modes and color chords. For example the first chord of measure 9 in the fifth movement [4,6,7,8,9,T,E,1] is neither a modal chord, nor a chord related to a color chord.

[258] See tables in Appendix I.

links them together. The blending of harmony and utilization of color chords within the birdsong themes and birdsong sections create a more fluid and flexible formal structure in the three robin movements than that of the second movement, where the divisions of the themes are very clear-cut.

Below is a list of the main modal and color chords used in the "Robin" movements.

The chords of transposed inversions (CTI) appear in both chordal form and in arpeggiated form. They are used most often in the scenery themes, with occasional appearance in the birdsong sections (e.g., movement 3, measure 11).[259] These chords are utilized individually, in isolation from their series of three inversions with the common pedal note in the bass, and surrounded by chords of different types. Used as such, the significance of the bass as a pedal note loses its importance. Additionally, their origin as a V9 chord - separated from a context of tonality - is not harmonically significant in this case. Instead, the CTIs can be heard as triadic inversions spiced and colored by added notes.[260]

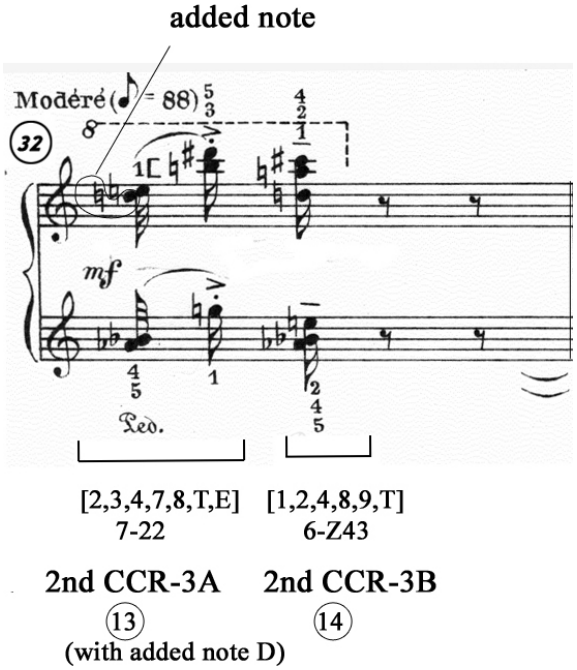
Unlike the CTIs, the chords of contracted resonance (CCR) often appear in pair—types A and B together, one after the other. They appear in the birdsong sections only and harmonize the phrasing conclusion that is common in the robin's songs—an iambic clivis forming an appoggiatura that is prolonged by a long resonance. The CCRs appeared as single chord or harmony only in the midst of birdsong, when they appear as arpeggiated

[259] In the second movement, featuring the blackbird, the CTIs appear only in the theme of scenery. In the fourth movement on the song thrush and the sixth movement on the skylark, the CTIs are incorporated and embedded within the birdsong writing.

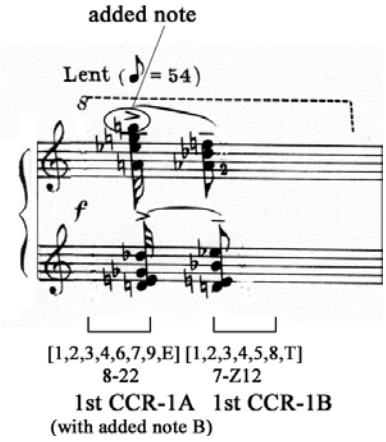
[260] Messiaen, *Traité*, vol. 3, p. 86.

or segmented chords or their harmonic content is contained within the birdsong figurations.

Occasionally, the CCRs are modified by the addition or subtraction of one or more pitches. In the first movement, measure 32 contains the pair of 2nd CCR-3A, pitch class set [3,4,7,8,T,E] of set class 6-Z19 and 2nd-CCR-3B, of pitch-class set [1,2,4,8,9,T] of set class 6-Z43. The first chord is broken into two parts and contains an added note, the extra pc 2 (note D), a note of anticipation that is part of the second chord, 2nd CCR-3B. (See example 5-3a) In the fifth movement, measure 33, a pair of 1st CCR-1A of pitch-class set [1,2,3,4,6,7,9], which belongs to set class 7-Z36, and 1st CCR-1B of pitch-class set [1,2,3,4,5,8,T], which belongs to set class 7-Z12, appear together. However, the first chord—containing pitch-class set [1,2,3,4,6,7, 9,E] of set class 8-22, is modified by an added note, the extra pc 11(pitch B). (See example 5-3b)



Example 5-3a Added note D (pc 2) is a "note of anticipation" to the second chord of contracted resonance 3A. First movement, mm. 32.



Example 5-3b Added note B (pc E) to the first chord of contracted resonance 1A. Fifth movement, mm. 33.

The turning chords (TC) are not mentioned by Messiaen in the preface to *Les Petites Esquisses d'oiseaux* along with the other color chords such as the CTIs, the CTCs and CCRs. However, in measure 37 of the fifth movement, a series of three turning chords TC-8A, TC-8B and TC-8C appears once in modified form. The first turning chord, TC-8A is missing the top pitches F, D flat, E flat and G. The chord has only four of the eight pitches present (the bottom four pitches), and is further modified with an added note C. The second chord TC 8-B is missing only one pitch, the note F, and the last chord TC 8-C is complete. However, despite the fact that the first and the second chords are modified and incomplete, because all three types of TC-8 appear together, they are still recognizable as a series. Measure 43 is an example of turning chord, TC-2B, in arpeggiated form.

The chords of total chromaticism (CTC) often acts as a bridge between the theme of scenery and the birdsong theme; the last chord of the scenery theme contains the first part of the CTC, and the second part—the completion of the CTC chord—is contained within the birdsong figuration. The two parts are linked together by the sustaining pedal,

softening the division between the two themes (e.g., first movement, measures 7-8, and measures 33-34). The CTCs also appear within the birdsong sections, further blurring the harmonic differences between the scenery theme and the birdsong theme (e.g., first movement, measures 15-16, measures 44-45, measures 49-50, and measures 59-60).

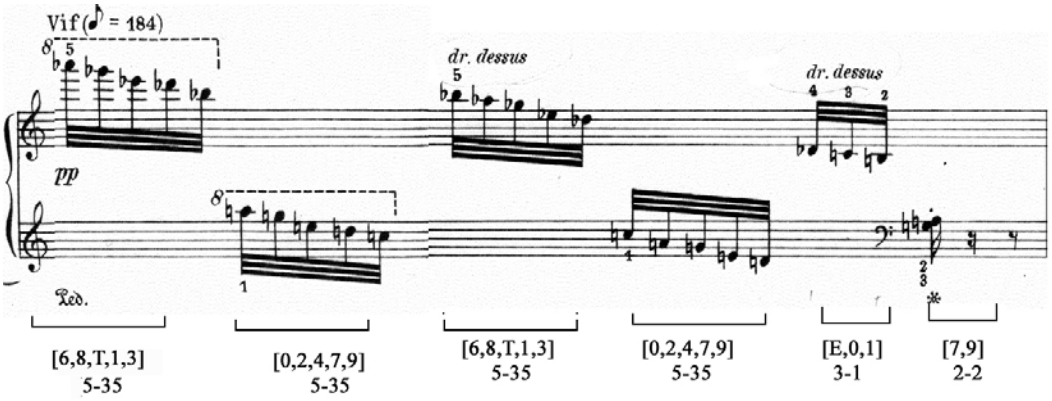
The Mode 3 model chord (M3MC) is a chord constructed by a combination of two triads a major third apart. It has the ability to suggest two tonalities at once and is useful as pivot chord between different harmonies. It belongs to set class 6-15 and is found mostly in the second and third transpositions.[261] It is present in all the background themes of the "Robin" movements, often in between two color chords.

The use of total or near total chromatic can be found throughout the three movements on the robin. In the first movement, measure 18 contains all pitches but pc 5 (see example 5-4a). In fact, after the chord of total chromaticism in measures 15-16, none of the following measures contain pc 5 until measure 20, where pc 5 is repeated twice in the pair 1st CCR-2A and B in iambic clivis, a gesture that signals the end of the phrase in the robin's song. Measure 30 also contains a near aggregate, with two pitches 5 and 9 missing. (See example 5-4b). Measure 42 has complete aggregate of all 12 pitches in birdsong figuration, although it is not the chord of total chromaticism.[262] (See example 5-4c) In the fifth movement, measures 28 and 29 combined to form a total aggregate. (See example 5-4d). These two measures behave in a similar way to the chord of total

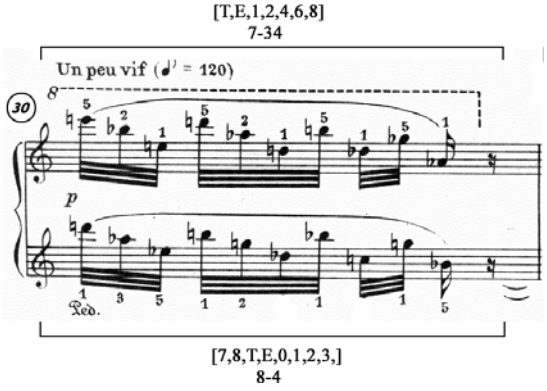
[261] The model chord of Mode 3 (M3MC) is used most frequently in the three movements on the robin, the second movement on the blackbird, and in the "Song Thrush" movement, where it is imbedded within the birdsong figurations. The "Skylark" movement does not have any model chord but does have a chord with the same pitch class set [E,2,3,5,6,7] and set class 6-15 as model chord in transposition 12 (measure 56).

[262] See analysis tables for each of the movements in the Appendix I for all the other places in the music that have total or near total aggregate.

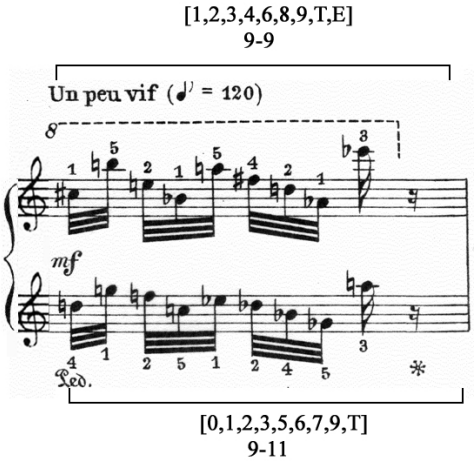
chromaticism, where the model chord of Mode 3 (6-15) in measure 28 sounds first, and the complementary pitches (measure 29) enter into the resonance of the first chord, held by the sustaining pedal, to form a total aggregate.



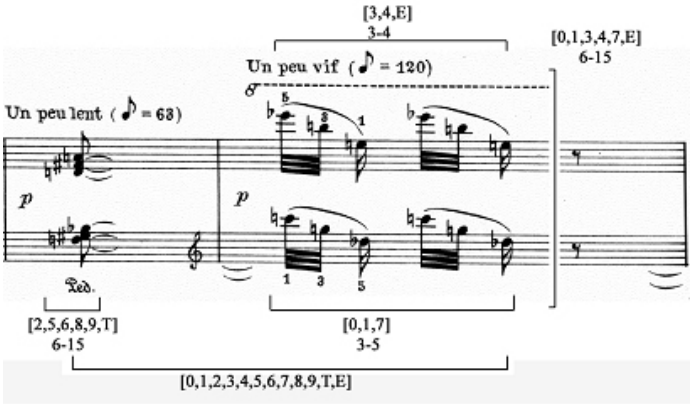
Example 5-4a First movement, measure 18, forms a near aggregate, pc 5 missing.



Example 5-4b First movement, measure 30, forms a near aggregate, pcs 5 and 9 missing.



Example 5-4c First movement, measure 42, forms a total aggregate.



Example 5-4d Fifth movement, measures 28 and 29, form a total aggregate.

Tables 5-2, 5-3 and 5-4 below list the modal and color chords found in the three movements on the robin (the first, the third, and the fifth movements), their pitch-class set and set classes, their level of transpositions and their harmonic implications (if any).[263]

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[263] Messiaen, *Traité*, vol. 3, p. 86. The harmonic implications listed for "chords of transposed inversions" are based on Messiaen's writing in the *Traité de rythme, de couleurs et d'ornithologie*. For the model chords of mode 3 and the chords of total chromaticism, their harmonic implications are derived from the triadic harmonic structures of the chords. Regarding the chords of contracted resonance and the turning chords, Messiaen did not discuss harmonic implications in his explanation about their genesis. As a result, no harmonic implication is listed for these chords.

Table 5-2 Chordal Transposition for the First Movement "Rouge-gorge"

Measure #	Chord #	SC	Pitch class set	Chord	Trans-position	Harmonic Implication
1	1	7-20	[4,5,6,9,T,E,1]	CTI-1B	T_0	A
1	2	6-15	[6,9,T,0,1,2]	M3MC-7	T_0	$D7/F^{\#}$
1	3	7-20	[2,3,4,7,8,9,E]	CTI-11 B	T_{10}	G
7	4	7-20	[4,5,6,9,T,E,1]	CTI-1B	T_2	A
7	5	6-15	[6,9,T, 0,1,2]	M3MC-7	T_0	$D7/F^{\#}$
7	6	7-20	[2,3,4,7,8,9,E]	CTI-11 B	T_{10}	G
7	7	6-15	[2,5,6,8,9,T]	M3MC-3	T_8	B^b7/D
7	8	8-16	[8,9,T,E,1,3,4, 5]	CTC-2	T_0	A/a^b
15	9	8-16	[0,1,2,3,5,7,8,9]	CTC-6	T_4	D^b/c
20	10	7-Z36	[2,3,4,5,7,8,T]	1^{st} CCR-2A	T_0	
20	11	7-Z12	[2,3,4,5,6,9,E]	1^{st} CCR-2B	T_0	
24	12	7-z12	[0,1,2,3,4,7,9]	1^{st} CCR-12B	T_{10}	
32	13	7-22	[2,3,4,7,8,T,E]	2^{nd} CCR-3A	T_0	
32	14	6-Z43	[8,9,T,1,2,4]	2^{nd} CCR-3B	T_0	
34	15	7-20	[4,5,6,9,T,E,1]	CTI-1B	T_2	A
34	16	6-15	[6,9,T,0,1,2]	M3MC-7	T_4	$D7/F^{\#}$
34	17	6-15	[2,5,6,8,9,T]	M3MC-3	T_8	B^b7/D
34	18	8-16	[7,8,9,T, 0,2,3,4]	CTC-1	T_7	A^b/g
38	19	6-Z19	[2,3,6,7,9,T]	2rd CCR-4A	T_{11}	
38	20	6-Z43	[7,8,9,0,1,3]	2rd CCR-4B	T_{11}	
38	21	6-Z19	[2,3,6,7,9,T]	2rd CCR-4A	T_0	

Measure #	Chord #	SC	Pitch class set	Chord	Trans-position	Harmonic Implication
38	22	6-Z43	[7,8,9,0,1,3]	2rd CCR-4B	T_0	
40	23	6-Z19	[8,9,0,1,3,4]	2^{nd} CCR-10A	T_6	
40	24	6-Z43	[1,2,3,6,7,9]	2^{nd} CCR-10B	T_6	
44	25	8-16	[1,2,3,4,6,8,9,T]	CTC-7	T_6	$D/c^{\#}$
48	26	7-Z36	[6,7,8,9,E,0,2]	1^{st} CCR-6A	T_4	
48	27	7-Z12	[6,7,8,9,T,1,3]	1^{st} CCR-6B	T_4	
49	28	8-16	[5,6,7,8,T,0,1,2]	CTC-11	T_4	$F^{\#}/f$
56	29	7-Z36	[9,T,E,0,2,3,5]	1^{st} CCR-9A	T_3	
56	30	7-Z12	[9,T,E,0,1,4,6]	1^{st} CCR-9B	T_3	
57	31	7-Z36	[9,T,E,0,2,3,5]	1^{st} CCR-9A	T_0	
57	32	7-Z12	[9,T,E,0,1,4,6]	1^{st} CCR-9B	T_0	
59	32	8-16	[6,7,8,9,E,1,2,3]	CTC-12	T_1	$G/F^{\#}$

Table 5-3 Chordal Transpositions for the Third Movement "Rouge-gorge"

Measure #	Chord #	SC	Pitch class set	Chord	Trans-position	Harmonic Implication
1	1	7-20	[4,5,6,9,T,E,1]	CTI-1B.	T_0	A
1	2	6-15	[6,9,T,0,1,2	M3MC-7	T_0	$D7/F^{\#}$
1	3	7-20	[2,3,4,7,8,9,E]	CTI-11B	T_{10}	G
5	4	7-Z36	[2,3,4,5,7,8,T]	1^{st} CCR-2A	T_0	
5	5	7-Z12	[2,3,4,5,6,9,E]	1^{st} CCR-2B	T_0	
7	6	7-20	[4,5,6,9,T,E,1]	CTI-1B.	T_2	A
7	7	6-15	[6,9,T, 0,1,2]	M3MC-7	T_0	$D7/F^{\#}$
7	8	7-20	[2,3,4,7,8,9,E]	CTI-11B	T_{10}	G
7	9	6-15	[2,5,6,8,9,T]	M3MC-3	T_8	$B^{b}7/D$

Measure #	Chord #	SC	Pitch class set	Chord	Trans-position	Harmonic Implication
7	10	6-15	[5,8,9,E,0,1]	M3MC-6	T_3	D^b7/F
7	11	7-20	[T,E,0,3,4,5,7]	CTI-7B	T_8	E^b
11	12	7-20	[9,T,E,2,3,4,6]	CTI-2D	T_{11}	D
17	13	6-Z19	[E,0,3,4,6,7]	2^{nd} CCR-7A	T_0	
17	14	6-Z43	[4,5,6,9,T,0]	2^{nd} CCR-7B	T_0	
20	15	8-16	[T,E,0,1,3,5,6,7]	CTC-4	T_0	B/ b^b
23	16	7-Z36	[5,6,7,8,T,E,1]	1^{st} CCR-5A	T_3	
23	17	7-Z12	[5,6,7,8,9,0,2]	1^{st} CCR-5B	T_3	
24	18	7-Z36	[5,6,7,8,T,E,1]	1^{st} CCR-5A	T_0	
24	19	7-Z12	[5,6,7,8,9,0,2]	1^{st} CCR-5B	T_0	
27	20	7-20	[4,5,6,9,T,E,1]	CTI-1B	T_7	A
27	21	6-15	[6,9,T,0,1,2]	M3MC-7	T_1	$D7/F^{\#}$
27	22	6-15	[9,0,1,3,4,5]	M3MC-10	T_3	F7/A
27	23	8-16	[3,4,5,6,8,T,E,0]	CTC-9	T_5	E/ e^b
32	24	6-15	[6,9,T,0,1,2]	M3MC-7	T_9	$D7/F^{\#}$
34	25	7-Z36	[9,T,E,0,2,3,5]	1^{st} CCR-9A	T_4	
34	26	7-Z12	[9,T,E,0,1,4,6]	1^{st} CCR-9B	T_4	
34	27	6-Z19	[3,4,7,8,T,E]	2^{nd} CCR-3A	T_4	
34	28	6-Z43	[8,9,T,1,2,4]	2^{nd} CCR-3B	T_4	
36	29	7-Z36	[2,3,4,5,7,8,T]	1^{st} CCR-2A	T_5	
36	30	7-Z12	[2,3,4,5,6,9,E]	1^{st} CCR-2B	T_5	
48	31	7-Z36	[0,1,2,3,5,6,8]	1^{st} CCR-12A	T_{10}	
48	32	7-Z12	[0,1,2,3,4,7,9]	1^{st} CCR-12B	T_{10}	
50	33	8-16	[6,7,8,9,E,1,2,3]	CTC-12	T_3	$G/f^{\#}$

Measure #	Chord #	SC	Pitch class set	Chord	Trans-position	Harmonic Implication
52	34	6-15	[5,8,9,E,0,1]	M3MC-6	T_{11}	$D^{b}7/F$
54	35	7-20	[0,1,2,5,6,7,9]	CTI-9B	T_{8}	F
63	36	6-Z19	[T,E,2,3,5,6]	2nd CCR-8A	T_{7}	
63	37	6-Z43	[3,4,5,8,9,E]	2nd CCR-8B	T_{7}	
67	38	6-15	[6,9,T,0,1,2]	M3MC-7	T_{1}	$D7/F^{\#}$
67	39	7-20	[1,2,3,6,7,8,T]	CTI-10B	T_{1}	G^{b}
67	40	6-15	[6,9,T,0,1,2]	M3MC-7	T_{0}	$D7/F^{\#}$
68	41	6-Z19	[8,9,0,1,3,4]	2nd CCR-10A	T_{10}	
68	42	6-Z43	[1,2,3,6,7,9]	2nd CCR-10B	T_{10}	

Table 5-4 Chordal Transpositions for the Fifth Movement "Rouge-gorge"

Measure #	Chord #	SC	Pitch class set	Chord	Trans-position	Harmonic Implication
1	1	7-20	[3,4,5,8,9,T,0]	CTI-12B.	T_{0}	A^{b}
1	2	6-15	[5,8,9,E,0,1]	M3MC-6	T_{0}	$D^{b}7/F$
1	3	7-20	[1,2,3,6,7,8,T]	CTI-10B	T_{10}	G^{b}
1	4	8-16	[1,2,3,4,6,8,9,T	CTC-7	T_{0}	$D/c^{\#}$
7	5	7-20	[4,5,6,9,T,E,1]	CTI-1B	T_{3}	A
7	6	6-15	[6,9,T,0,1,2]	M3MC-7	T_{1}	$D7/F^{\#}$
7	7	6-15	[2,5,6,8,9,T]	M3MC-3	T_{8}	$B^{b}7/D$
7	8	6-15	[9,0,1,3,4,5]	M3MC-10	T_{7}	F7/A
7	9	7-20	[1,2,3,6,7,8,T]	CTI-10B	T_{9}	G^{b}
13	10	6-15	[5,8,9,E,0,1]	M3MC-6	T_{5}	$D^{b}7/F$
24	11	7-Z36	[2,3,4,5,7,8,T]	1st CCR-2A	T_{0}	
24	12	7-Z12	[2,3,4,5,6,9,E]	1st CCR-2B	T_{0}	
28	13	6-15	[2,5,6,8,9,T]	M3MC-3	T_{9}	$B^{b}7/D$
31	14	7-20	[4,5,6,9,T,E,1]	CTI-1B	T_{3}	A
31	15	6-15	[6,9,T,0,1,2]	M3MC-7	T_{4}	$D7/F^{\#}$
31	16	7-20	[2,3,4,7,8,9,E]	CTI 11-B	T_{10}	G
33	17	8-22	[1,2,3,4,6,7,9,E	(1st CCR-	T_{11}	

[264] This 1st CCR-1A in measure 33 has an added note B

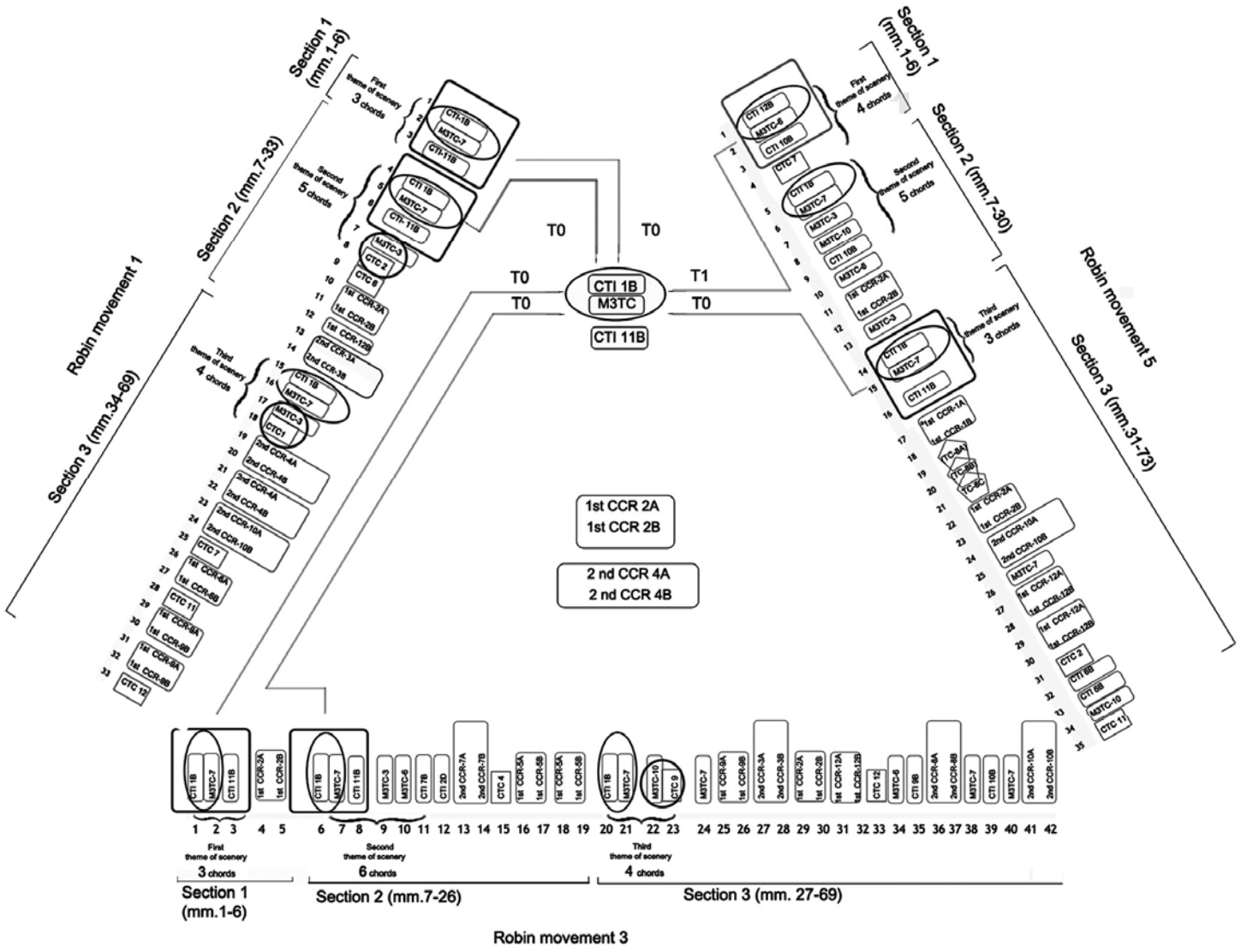
Measure #	Chord #	SC	Pitch class set	Chord	Trans-position	Harmonic Implication
33	18	7-Z12	[1,2,3,4,5,8,T]	1st CCR-1B	T_{11}	
37	19	5-30	[0,2,4,8,9]	(TC-8A)[265]	T_0	
37	20	7-Z38	[0,1,3,4,6,7,8]	(TC-8B)[266]	T_0	
37	21	8-14	[1,3,4,5,6,8,9,T	TC-8C	T_0	
40	22	7-Z36	[2,3,4,5,7,8,T]	1st CCR-2A	T_1	
40	23	7-Z12	[2,3,4,5,6,9,E]	1st CCR-2B	T_1	
41	24	6-Z19	[8,9,0,1,3,4]	2nd CCR-10A	T_0	
41	25	6-Z43	[1,2,3,6,7,9]	2nd CCR-10B	T_0	
45	26	6-15	[6,9,T,0,1,2]	M3MC-7	T_0	$D7/F^{\#}$
48	27	7-Z36	[0,1,2,3,5,6,8]	1st CCR-12A	T_{10}	
48	28	7-Z12	[0,1,2,3,4,7,9]	1st CCR-12B	T_{10}	
48	29	7-Z36	[0,1,2,3,5,6,8]	1st CCR-12A	T_0	
48	30	7-Z12	[0,1,2,3,4,7,9]	1st CCR-12B	T_0	
52	31	8-16	[8,9,T,E,1,3,4,	CTC-2	T_7	A/a^b
63	32	7-20	[9,T,E,2,3,4,6]	CTI-6B	T_7	D
63	33	7-20	[9,T,E,2,3,4,6]	CTI-6B	T_0	D
66	34	6-15	[9,0,1,3,4,5]	M3MC-10	T_3	F7/A
71	35	8-16	[5,6,7,8,T,0,1,2	CTC-11	T_9	$G^{b/}f$

The following table 5-5 shows the chordal content and distribution (for both color and modal chords) of the three movements featuring the robin. It shows the division of the movements into three sections, the importance and the placements of color chords and modal chords in the background themes, the structure of chordal phrasings and the important chordal motives of the background themes in the three robin movements.

[265] The TC-8A in measure 37 is not complete and has been modified by an added note C

[266] The TC-8B in measure 37 is missing note F

Table 5-5 Chordal content and Distribution of Color and Modal Chords of the Three "Robin" Movements.



4 Tempo

The three movements on the robin share the same tempo indications, which vary over an extremely wide range: from very slow (eighth note equals 40) to slow (eighth note equals 54), to somewhat slow (eighth note equals 63), to moderate (eighth note equals 88), somewhat fast (eighth note equals 120) and finally fast (eighth note equals 184).

Très lent	*Lent*	*Un peu lent*	*Bien modéré*	*Modéré*	*Un peu vif*	*Vif*
40	54	63	72	88	120	184

Table 5-6 The Range of Tempo Markings for the three "Rouge-gorge" Movements given by Messiaen.

Table 5-7 below shows how the tempo changes from measure to measure, and compares the tempo markings given by Messiaen for the three "Rouge-gorge" movements.

Table 5-7 Tempo Marking and Indications for the three "Rouge-gorge" Movements (the denominator is eighth note)

Mm.	First movement		Third movement		Fifth movement	
1	*Très lent*	40	*Très lent*	40	*Très lent*	40
2	*Un peu vif*	120	*Un peu vif*	120	*Un peu vif*	120
3	*Modéré*	88	*Un peu vif*	120	*Modéré*	88
4	*Vif*	184	*Un peu vif*	120	*Un peu vif*	120
5	*Un peu lent*	63	*Lent*	54	*Modéré*	88
6	Silence - end of first section		Silence - end of first section		*Un peu vif*	120
7	*Très lent*	40	*Très lent*	40	*Très lent*	40
8	*Un peu vif*	120	*Un peu vif*	120	*Modéré*	88
9	*Un peu vif*	120	*Modéré*	88	*Un peu vif*	120
10	*Modéré*	88	*Modéré*	88	*Un peu vif*	120
11	*Un peu vif*	120	*Un peu vif*	120	*Un peu lent*	63
12	*Modéré*	88	*Un peu lent*	63	*Un peu vif*	120
13	*Modéré*	88	*Un peu vif*	120	*Un peu lent*	63
14	*Un peu vif*	120	*Un peu lent*	63	*Modéré*	88
15	*Un peu lent*	63	*Un peu lent*	63	*Un peu lent*	63

Table 5-7 Tempo Marking and Indications for the three "Rouge-gorge" Movements (the denominator is eighth note)

Mm.	First movement		Third movement		Fifth movement	
16	*Modéré*	88	*Un peu vif*	120	*Modéré*	88
17	*Modéré*	88	*Un peu lent*	63	*Un peu vif*	120
18	*Vif*	184	*Modéré*	88	*Modéré*	88
19	*Modéré*	88	*Vif*	184	*Modéré*	88
20	*Lent*	54	*Un peu lent*	63	*Un peu lent*	63
21	Eighth note rest		*Modéré*	88	*Un peu vif*	120
22	*Un peu vif*	120	*Modéré*	88	*Un peu vif*	120
23	*Un peu vif*	120	*Modéré*	88	*Vif*	184
24	*Modéré*	88	*Modéré*	88	*Lent*	54
25	*Un peu vif*	120	*Un peu vif*	120	Eighth note rest	
26	*Modéré*	88	Silence - end of second section		*Un peu vif*	120
27	*Un peu vif*	120	*Très lent*	40	*Vif*	184
28	*Modéré*	88	*Modéré*	88	*Un peu lent*	63
29	*Bien modéré*	72	*Un peu vif*	120	*Un peu vif*	120
30	*Un peu vif*	120	*Vif*	184	Silence - end of second section	
31	*Vif*	184	*Un peu vif*	120	*Très lent*	40
32	*Modéré*	88	*Un peu lent*	63	*Un peu vif*	120
33	Silence - end of second section		*Un peu lent*	63	*Lent*	54
34	*Très lent*	40	*Bien modéré*	72	*Modéré*	88
35	*Modéré*	88	*Un peu lent*	63	*Un peu vif*	120
36	*Modéré*	88	*Lent*	54	*Vif*	184
37	*Un peu vif*	120	Eighth note rest		*Lent*	54
38	*Modéré*	88	*Un peu vif*	120	*Vif*	184
39	*Un peu vif*	120	*Un peu vif*	120	*Un peu vif*	120
40	*Modéré*	88	*Modéré*	88	*Lent*	54
41	*Vif*	184	*Un peu lent*	63	*Lent*	54
42	*Un peu vif*	120	*Modéré*	88	Eighth note rest	
43	*Un peu vif*	120	*Un peu vif*	120	*Un peu vif*	120
44	*Un peu lent*	63	*Vif*	184	*Vif*	184
45	*Modéré*	88	*Un peu vif*	120	*Un peu lent*	63
46	*Un peu vif*	120	*Un peu lent*	63	*Modéré*	88
47	*Un peu vif*	120	*Un peu vif*	120	*Modéré*	88
48	*Modéré*	88	*Lent*	54	*Lent*	54
49	*Un peu lent*	63	Eighth note rest		*Un peu vif*	120

Table 5-7 Tempo Marking and Indications for the three "Rouge-gorge" Movements (the denominator is eighth note)						
Mm.	First movement		Third movement		Fifth movement	
50	*Modéré*	88	*Lent*	54	*Modéré*	88
51	*Un peu lent*	63	*Modéré*	88	*Un peu vif*	120
52	Eighth note rest		*Un peu lent*	63	*Un peu lent*	63
53	*Un peu vif*	120	*Modéré*	88	*Modéré*	88
54	*Modéré*	88	*Un peu lent*	63	*Un peu vif*	120
55	*Modéré*	88	*Un peu lent*	63	*Un peu vif*	120
56	*Modéré*	88	Eighth note rest		*Vif*	184
57	*Modéré*	88	*Un peu vif*	120	*Un peu vif*	120
58	*Vif*	184	*Modéré*	88	*Un peu lent*	63
59	*Un peu lent*	63	*Vif*	184	*Vif*	184
60	*Un peu lent*	63	*Un peu vif*	120	*Modéré*	88
61	Two eighth note rests		*Modéré*	88	*Vif*	184
62	*Un peu vif*	120	*Un peu vif*	120	*Un peu vif*	120
63	*Un peu lent*	63	*Un peu lent*	63	*Bien modéré*	72
64	*Un peu vif*	120	*Modéré*	88	*Modéré*	88
65	*Modéré*	88	*Un peu vif*	120	*Un peu vif*	120
66	*Bien modéré*	72	*Vif*	184	*Un peu lent*	63
67	*Vif*	184	*Bien modéré*	72	*Modéré*	88
68	*Un peu lent*	63	*Lent*	54	*Un peu lent*	63
69	Silence-end of movement		Silence-end of movement		*Un peu vif*	120
70					*Un peu vif*	120
71					*Un peu lent*	63
72					*Modéré*	88
73					Silence-end of movement	

5 Colors

Messiaen describes the colors that dominate the work as strong colors: blues, reds, oranges, and violets.

> It is the blues, reds, oranges, violets, and "chords of transposed inversions" that dominate. "Chords of contracted resonance" and "chords of the total chromaticism" impart their more violent or more subtle colors.[267]

[267] Messiaen, *Petites Esquisses*, préface. "Ce sont les bleus, les rouges, les oranges, les violets, des 'accords à renversements transposés,' qui dominent. Les 'accords à résonance

Messiaen's synesthesia has an influence on his choice of the harmony and chordal complexes in the scenery themes sections and the harmony in the birdsong sections. While it is impossible to determine the extent of the role his synesthesia has played on his decision to choose certain harmonic complex over another, the color descriptions recounted by him offer interesting observations.[268]

The chords in the background themes of the three robin movements share many common colors, most notably blue, while the chords that introduce the birdsong themes or are connected to the robin's song often contain colors of yellow and orange. It is highly probable that Messiaen chose chords that evoke colors similar to that of the robin in order to portray the bird's plumage. For example, in his analysis of the song of the robin in *Saint François,* Mesisaen describes the "chord CTI-11B as having color citron yellow with red stains, analogous with the orange of the robin."[269] In the same work, he describes chord CCR-4B (which he describes as ruby red, orange, with a little yellow in the bottom) as having "colors which evokes the orange-red colors of the robin'."[270]

In the first movement of *Les Petites Esquisses d'oiseaux*, the background theme in its first appearance has three following chords: CTI-1B | M3MC-7 | CTI 11B. Messiaen describes colors of the first chords CTI-1B as "broad area of sapphire blue, strapped by less intense blue (fluorine blue, clear Chartres blue) and re-strapped by

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contractée' et les 'accords du total chromatique' y ajoutent leurs couleurs plus violentes ou plus subtiles. "

[268] The color description of color chords as well as some of the modes is found in his *Traité*. The colors for "*Accord-type*" of mode 3 (M3MC) is found in his own analysis of the third movement on the robin. See chapter 2 for details.

[269] Messiaen, *Traité*, vol. 5, bk. 1, p. 156. " …accord à renversements transposés no. 11, accord B, dont la couleur est jaune citron avec des tâches rouges (en analogie avec la poitrine orange de l'oiseau)".

[270] Ibid. p. 171. " La couleur de l'accord B évoque la poitrine rouge orangé de l'oiseau."

purple," and for the chord M3MC-7 "blue and green colors, shining a little bit like diamond." The third chord CTI-11B is connected by the pedal to the birdsong theme which follows in the next measure, and is described by Messiaen as "lemon yellow with red stains." As can be seen above, this chord is described by Messiaen as having colors similar to that of the robin.

Again, in the second appearance of background/scenery theme (measure 7), among the colors evoked by the series of five chords (CTI-1B | M3MC-7 | CTI-11B |M3MC-3 | CTC-2), several of the chords have different shades of blue. The third, fourth and last chords all contain some colors of yellow, orange and red. The third chord has "yellow with red stain," while the fourth chord M3MC-3 has "blue and green, with a little orange." The fifth chord – which is the last chord of the background theme – is the octad [8,9,T,E,1,3,4,5] of chord CTC-2. Messiaen describes this chord as "large area of deep gentian blue, surrounded by a circle of violet, red, and orange." The four supplementary pitches [0,2,6,7] (the tetrad of the CTC-2) that complete the total chromaticism and are nested in the middle of birdsong in the next measure (mm. 8) add another brilliant yellow circle on top of the CTC-2 chord.

There are recurrent chordal groupings that often share one or more colors, although they might be in different hues or shades.[271] The pairing of the mode 3 model chord and the chord of total chromaticism occurs three times in the whole suite: two times in the first movement and once in the middle of the third movement. In measure 7 of the first movement, the pairing of M3MC-3 and CTC-2 produce the following colors: green and blue, with a little orange (M3MC-3) and a large area of deep gentian blue, surrounded by a circle of violet, red, and orange – the four supplementary notes add

[271] See tables in Appendix I for color description of chords in the pieces.

another brilliant yellow circle on the top (CTC-2). These two chords share three colors: the primary color blue and secondary color green plus tertiary color orange, with the second chord adding violet and a top color of bright yellow. In measure 34 of the same movement, M3MC-3 paired with CTC-1 evokes for Messiaen colors of green and blue, with a little orange (M3MC-3) and large violet blue area, with pink, pale yellow, and steel gray moons – the four supplementary notes enclose the whole by a clear mossy green circle (CTC-1). They share the colors green and blue, although they might be of different hues. The orange color of the first chord is analogous to the yellow color of the second chord. Additionally, the CTC adds pink and steel gray to the mix. In the third movement, measure 27, these two chord types placed one after the other also share two colors—blue and gray—in common. The first chord (M3MC-10) evokes the colors blue on mauve and gray while the second chord (CTC-9) has two red zones side by side: a big zone of ruby red, and a smaller zone of carmine red – the four supplementary notes add a surrounding circle of clear and bright blue gray (CTC-9).

The three turning chords TC-8 A, TC-8B and TC-8C (which are imbedded within the birdsong section in the fifth movement) share a uniform color yellow. However, the colors of the three turning chords featured in measure 37 of the fifth movement are modified by added notes as well as missing notes. TC-8A has four missing pitches on the top and is further altered by added pc 0. TC-8B has one missing note—pc 5. As a result, the yellow color for these three chords was altered but they still share the same main color.

In the birdsong sections of the robin movements, two types of chords of contracted resonance are grouped together most often. The pair of 1st CCR-A and B was

featured fourteen times, and the pair of 2nd CCR-A and B was featured eight times. While each of the chords belonging to the pair 1st CCR-A and B has its own color descriptions that are not always complementary or analogous to each other, the pair 2nd CCR-A and B share the same color description.[272]

The two-chord motive (CTI-1B | M3MC-7) – a pairing of color chord with modal chord that is one of the building-blocks for the background theme – appears eight times in the three movements on the robin. Coloristically, this two-chord motive (CTI-1B | M3MC-7) evokes for Messiaen "broad area of sapphire blue, strapped by less intense blue (fluorine blue, clear Chartres blue) and re-strapped by purple" (CTI-1B) and "blue and green colors, shining a little bit like diamond" (M3MC-7).[273] Their main coloristic contents share similar primary color blue, while the first one also has a secondary color purple (combination of blue-red), the second chord's secondary color is green (combination of blue and yellow). Perhaps they are grouped together because of the similar colors they evoke to Messiaen due to his synesthesia.

The analysis of the colors that these chordal complexes evoke for Messiaen allows us to see that synesthesia-induced colors indeed had an enormous influence on the way Messiaen heard and composed music. Many of the chords he groups together have common, analogous or complementary colors; when grouped together they create at the same time a visual effect as strong as an auditory one. As a result, consideration should be given to the colors evoked by his harmonies, and this adds another dimension to the

[272] Messiaen indicates that the pair of chords A and B of the 1st CCR and 2nd CCR should always be put together. " 2 sonorités, 2 couleurs, destinées à se succéder toujours." Messiaen, *Traité*, vol.7, p. 151.

[273] Messiaen, *Traité*, vol. 5, bk.1, p. 178.

performance of his music.[274] Color plays an especially important role in performaces of any of Messiaen's works that require scenic staging such as the opera Saint Francoise d'Assissi to make sure the staging does not include colors that might clash with the harmonies and the colors they evoke for Messiaen. For a complete list of the chords in the three movements on the robin and the various colors they evoked for Messiaen, see tables I-1, I-3, I-5 in Appendix I.

6 Summary

Analysis of the three movements on the robin shows that they share similarities on many levels. Despite their brevity, the amount of detail and complexity imbedded within these three movements show the importance of the bird and its song in *Les Petites Esquisses d'oiseaux.* The way the three movements relate to each other structurally, harmonically, motivically and melodically shows Messiaen's intent to use the movements on the robin as the framework to provide unity to the suite. The contrasting movements – the second movement on the blackbird, the fourth movement on the song thrush, and the sixth movement on the skylark – will be discussed in the following chapter.

[274] It is clear that Messiaen's synesthesia has an influence on his choice of chords and harmony for the birdsong. He likes to group together chords that have contrasting colors as well as chords that have analogous color schemes. The analysis tables in Appendix I include his color descriptions for the chords and harmonies he uses in the piece. However, the color for the chords and melodic motives which are subsets of modes and/or color chords cannot be determined, since the color for a mode or a color chord is modified when not all the pitches are present. As a result, the analysis tables only indicate the color for chords and the modal chords for which Messiaen gave specific color descriptions. The rest of the chords and melodic motives are identified by the modes to which they belong. In case that a pitch-class set belongs to several modes at once, the mode that is the most prominent in a measure or passage will be given preference. Set-class theory is used as a tool in recognizing the different types of chords and melodic motifs. The chords are then analyzed according to their pitch-class sets to examine their correspondence to the harmonic content.

CHAPTER SIX
Analysis of the Second Movement "Le Merle noir," the Fourth Movement "La Grive musicienne," and the Sixth Movement "L'Alouette des champs"

I Analysis of the Second Movement, "Le Merle noir"

I.1 Overview

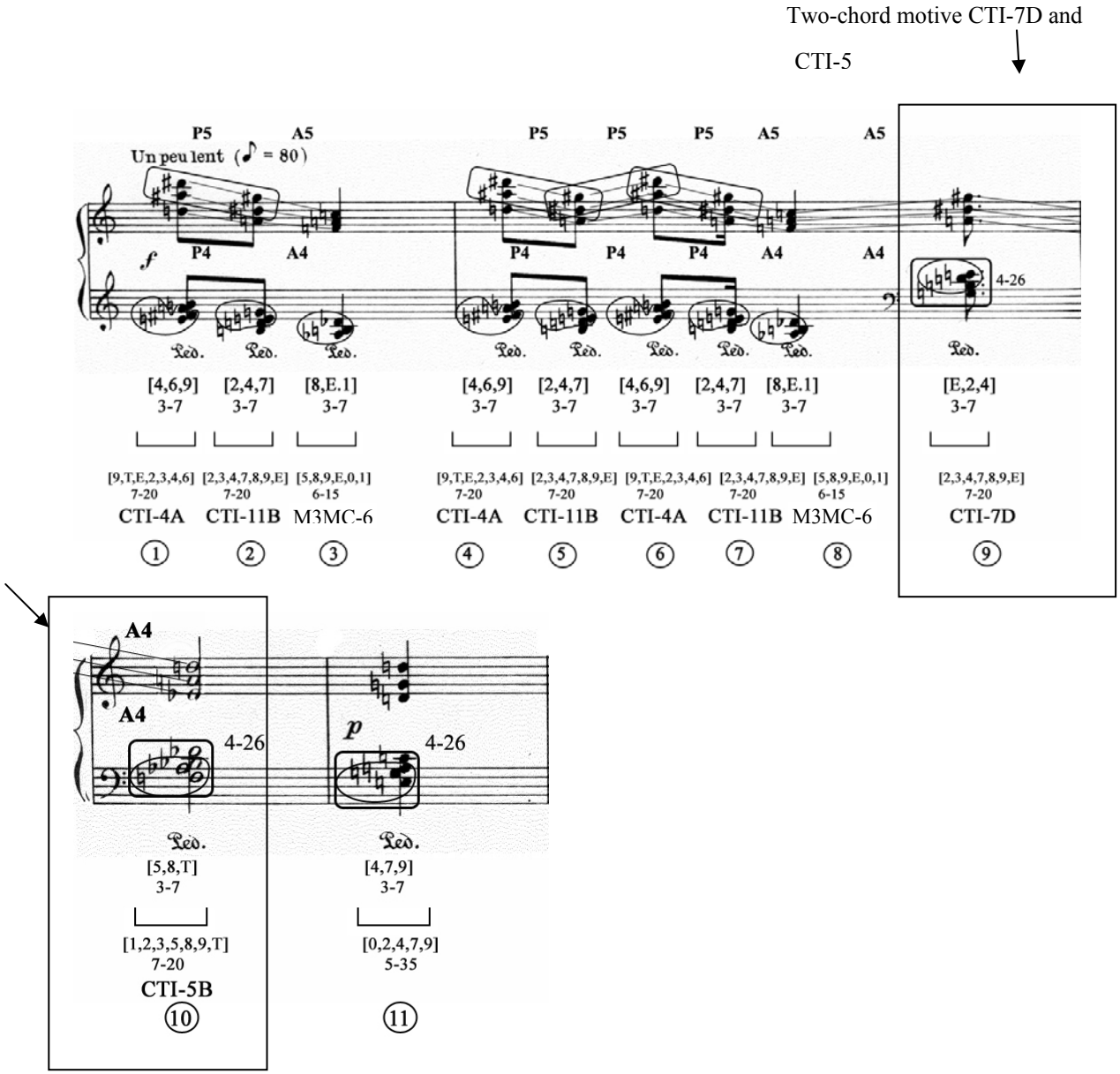
"Le Merle noir," the second movement of the six-movement suite *Les Petites Esquisses d'oiseaux*, is the shortest of the whole suite. It has only forty measures, divided into four more or less equal sections (about nine to ten measures long), each consisting of a theme of scenery followed by a birdsong theme and ending with a short closing gesture and a brief silence. The themes are markedly different from each other in terms of tempo, register, texture and harmony.

The background theme is in the lower register, with the tempo value of an eighth-note equalling 80. Most of the note values are slow eighth-note, quarter-note and half-note chords. The harmony is composed mostly of different types of chords of transposed inversions of set class 7-20 in different transpositions, alternating with the model chord of Mode 3 of set class 6-15 (012458).[275]

The two-chord motive CTI-4A and CTI-11B, which are of set class 7-20 and related at T5, is introduced at the beginning and thereafter repeated many times throughout the background theme in the three subsequent appearances. This motive is frequently followed by the M3MC-6. This chord progression is significant in that the bottom portions of the chords, played by the left hand, are either members of set class 3-7 or contain set class 3-7 within them. The ones that are subsets of 7-20 – the chords of transposed inversions – are related to each other by transposition, and related to the

[275] Please see Table 6-1 for graph of levels of transposition between the chords.

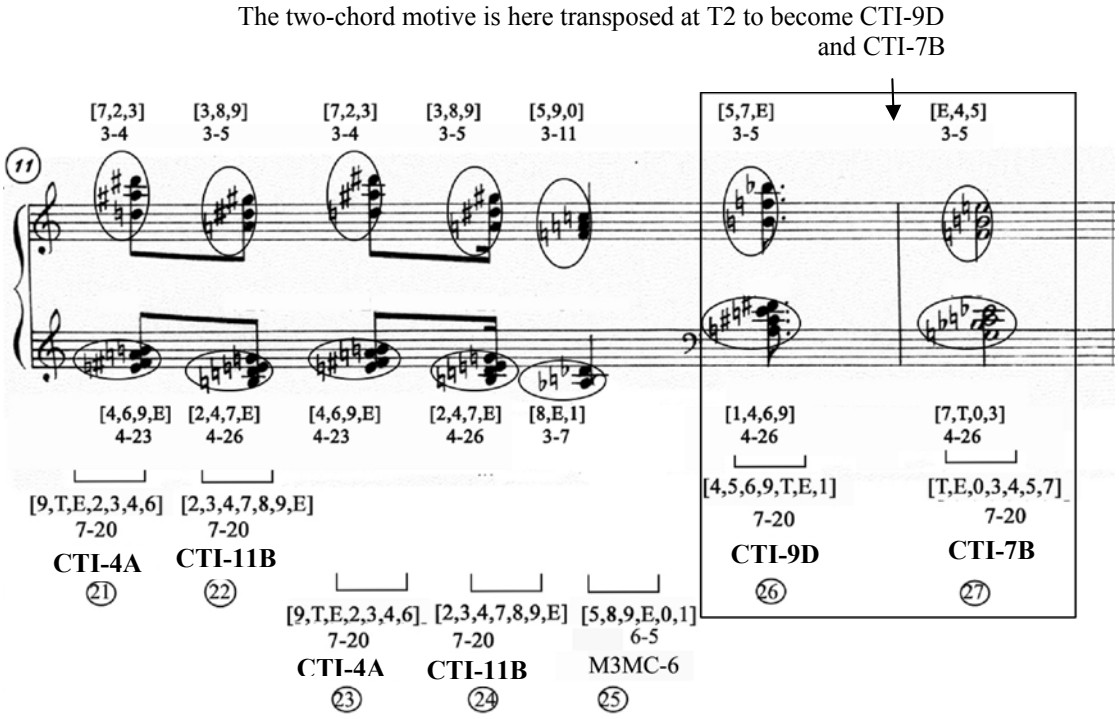
subsets of 6-15 –the model chords of mode 3 – by inversion. The top portions of the chords, played by the right hand, move in parallel motion in perfect fourths and fifths as well as tritones (augmented fourths), mirroring those between the members of the chords.



Example 6-1 Background theme, first appearance, measures 1-4.

The first, second and last background themes are very similar in form, contruction, and chordal content, with only slight variations at the end. The ending of the first background theme contains an important two-chord motive (chords 9 and10 in

example 6-1 above), which is transposed, repeated and sequenced in subsequent appearances. Both of the above chords belong to set class 7-20 and are related at transposition level T6. In the first background theme, they appear as CTI-7D of pitch-class set [2,3,4,7,8,9,E] followed by CTI-5B of pitch-class set [8,9,T,1,2,3,5]. At the end of the second appearance background theme, these chords are transposed at level T2 to become CTI-9D [4,5,6,9,T,E,1] and CTI-7B [T,E,0,3,4,5,7] (chords 26 and 27 in example 6-2 below).

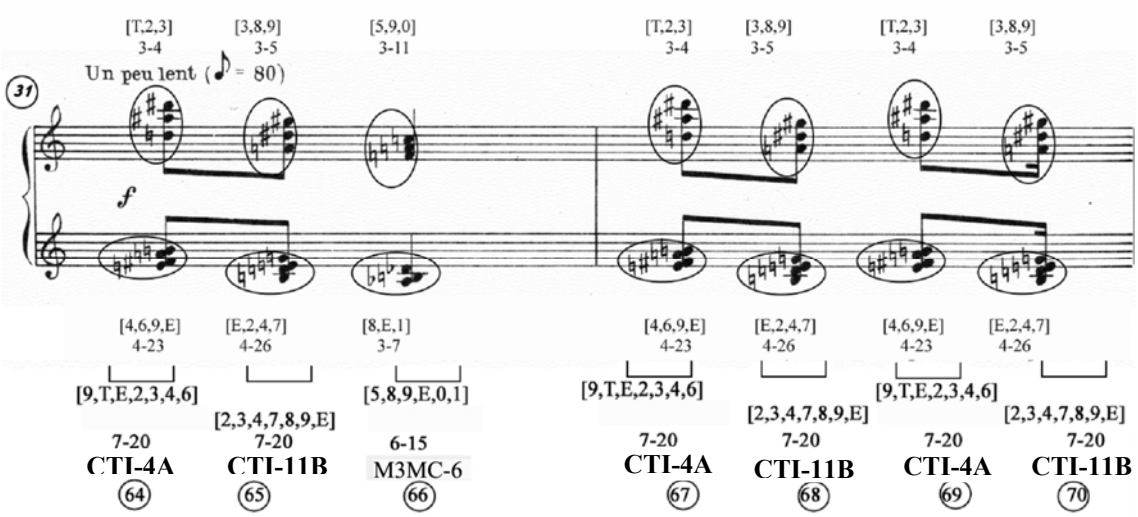


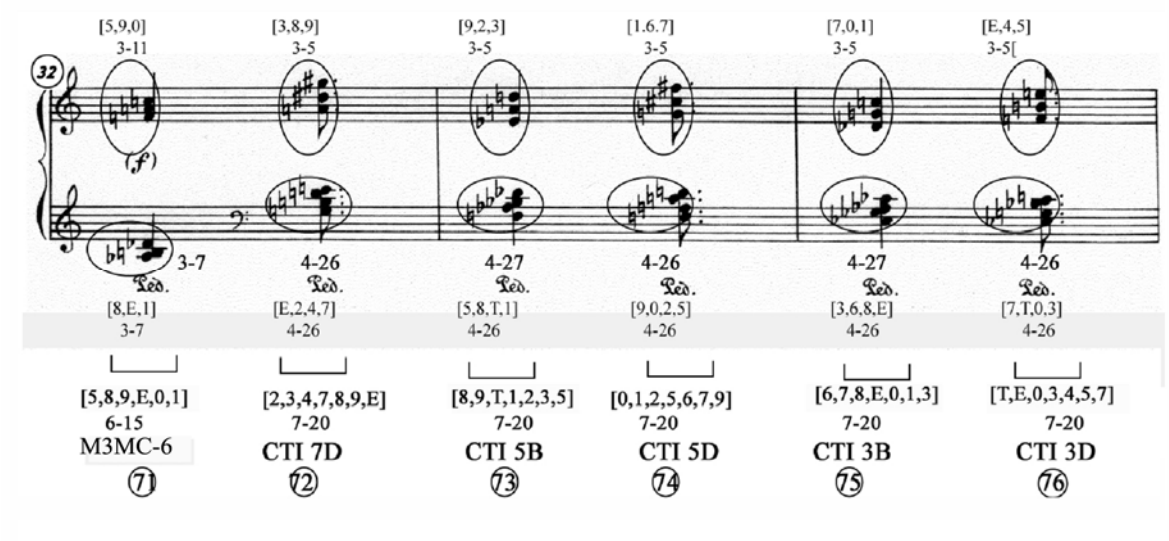
Example 6-2 The ending of the second background theme, measures 11-12.

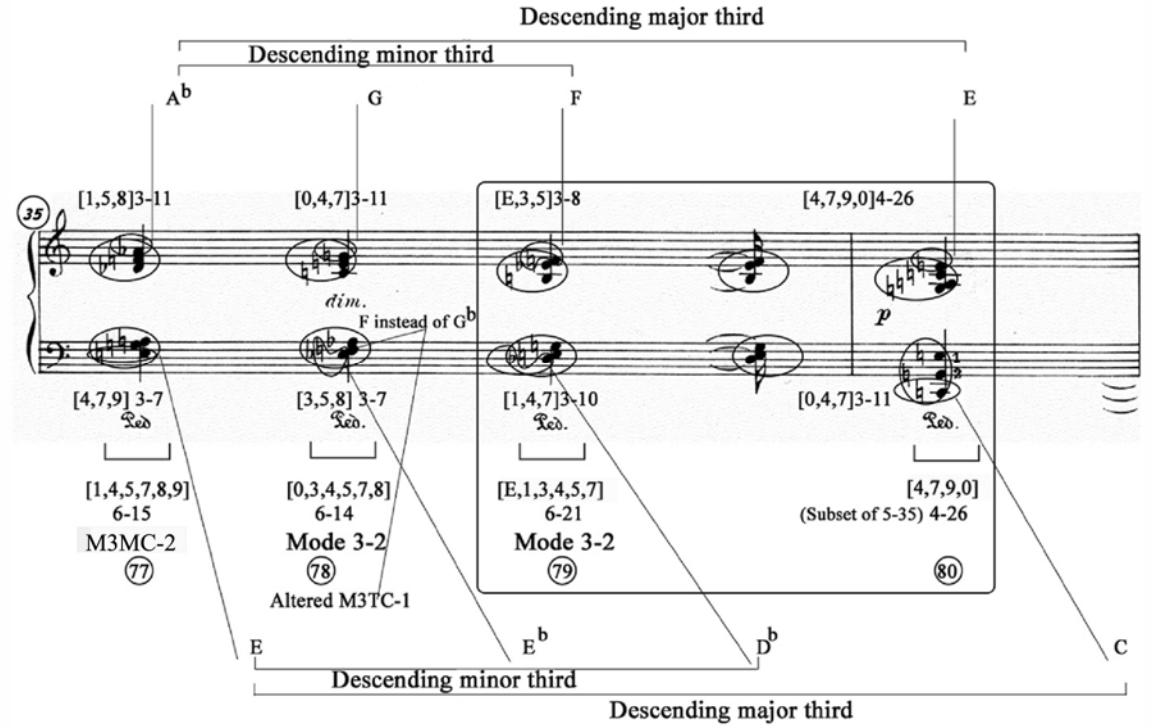
The beginning of the last background theme is identical to the first, but its ending is significantly longer. Added harmonies creating a descending chromatic progressions lead the phrase to a beautiful cadence in C major with an added sixth. Two pairs of CTIs types B and D in their fifth and third transpositions – CTI-5B, CTI-5D, CTI-3B and CTI-3D (chords number 73 -74 and 75-76 in example 6-3 below) – are added, followed by

three descending hexachords of mode 3-2 (chords number 77, 78 and 79 in example 6-3) , the first of which is M3MC-2 and the second is an modified M3MC-1. The third hexachord (6-21) resembles the first two chords but is not a model chord of mode 3. The CTI-7D (chord number 72 in example 6-3) is combined with the added chords CTI-5B, CTI-5D, CTI-3B and CTI-3D to create a descending pattern, with the outer pitches (G-sharp, F-sharp and E in the top voice and G, F and E-flat in the bottom voice) outlining a major third interval (see example 6-3). The added chords also combined to form two repetitions of the two-chord motive CTI-7D and CTI-5B, CTI-5D and CTI-3B, related at level T10.

The three added hexachords of set classes 6-15, 6-14 and 6-21 also create a similar descending line, but the major third descent is not completed until the final chord of the background theme (chord number 80 in example 6-3) – the all-white keys chord of set class 4-26 (which is a subset of the diatonic scale and the pentatonic scale). The top pitches of the hexachords descend from A-flat in the top voice down to G, F, and reach E only in the last chord. Similarly, the bottom voice descends from E to E-flat and D-flat, and reaches C in the final chord. The last chord acts as a consonant resolution (in the key of C major) to the dissonant previous chords and brings the background theme to a close. The dynamic markings given by Messiaen also emphasizes this effect: the whole background theme is marked *forte*, but the last chord is marked *piano* (after a *diminuendo*).


[T,2,3] 3-4
[3,8,9] 3-5
[5,9,0] 3-11
Un peu lent (♪ = 80)
31
f
[4,6,9,E] 4-23
[E,2,4,7] 4-26
[8,E,1] 3-7
[9,T,E,2,3,4,6]
[2,3,4,7,8,9,E]
[5,8,9,E,0,1]
7-20
7-20
6-15
CTI-4A
CTI-11B
M3MC-6
64
65
66
[T,2,3] 3-4
[3,8,9] 3-5
[T,2,3] 3-4
[3,8,9] 3-5
[4,6,9,E] 4-23
[E,2,4,7] 4-26
[4,6,9,E] 4-23
[E,2,4,7] 4-26
[9,T,E,2,3,4,6]
[2,3,4,7,8,9,E]
[9,T,E,2,3,4,6]
[2,3,4,7,8,9,E]
7-20
7-20
7-20
7-20
CTI-4A
CTI-11B
CTI-4A
CTI-11B
67
68
69
70

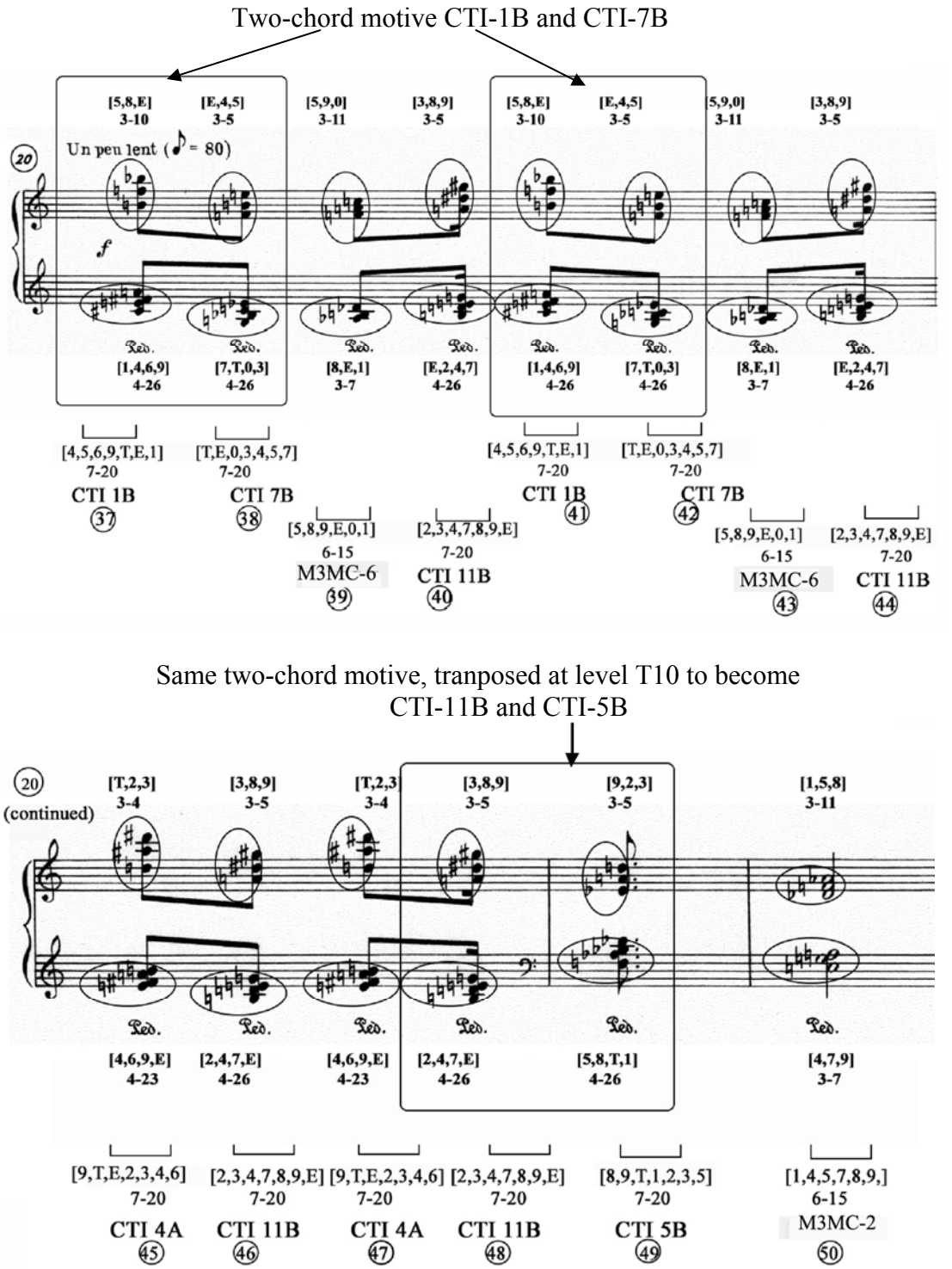

[5,9,0] 3-11
[3,8,9] 3-5
[9,2,3] 3-5
[1.6.7] 3-5
[7,0,1] 3-5
[E,4,5] 3-5[
32
(f)
3-7
4-26
4-27
4-26
4-27
4-26
Ped.
Ped.
Ped.
Ped.
Ped.
Ped.
[8,E,1] 3-7
[E,2,4,7] 4-26
[5,8,T,1] 4-26
[9,0,2,5] 4-26
[3,6,8,E] 4-26
[7,T,0,3] 4-26
[5,8,9,E,0,1]
[2,3,4,7,8,9,E]
[8,9,T,1,2,3,5]
[0,1,2,5,6,7,9]
[6,7,8,E,0,1,3]
[T,E,0,3,4,5,7]
6-15
7-20
7-20
7-20
7-20
7-20
M3MC-6
CTI 7D
CTI 5B
CTI 5D
CTI 3B
CTI 3D
71
72
73
74
75
76



Example 6-3 Last background theme (measures 31-36).

The third background theme begins differently from all the rest. The first measure of the third background theme contains a long extended series of ten modal and color chords. The two-chord motive CTI-1B [4,5,6,9,T,E,1] and CTI-7B [T,E,0,3,4,5,7] – the same motive which appears at the end of the first and second background themes – is added together with chords M3MC-6 and CTI-11B to form the four-chord motive CTI-1B | CTI-7B | M3MC-6 | CTI-11B, which is repeated twice (chords 37 to 44 in measure 20, example 6-4).[276] The last four chords of the measure (chords 45 to 48) consist of two repetitions of the original two-chord motive CTI-4A and CTI-11B (the same motive that is present at the beginning of the first, second and last background themes).

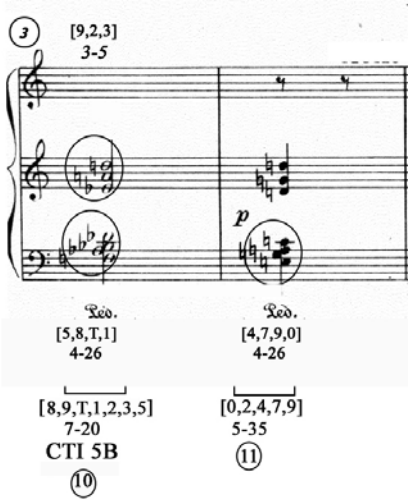
[276] The chord CTI-1B at the beginning of the third background theme is the pitch-class equivalent to CTI-9D which appears at the end of the first and second background theme, with the same same pitch-class content of [4,5,6,9,T,E,1]. Even though the bottom halves of the chords are arranged differently, they sound very similar and and have similar color description by Messiaen.



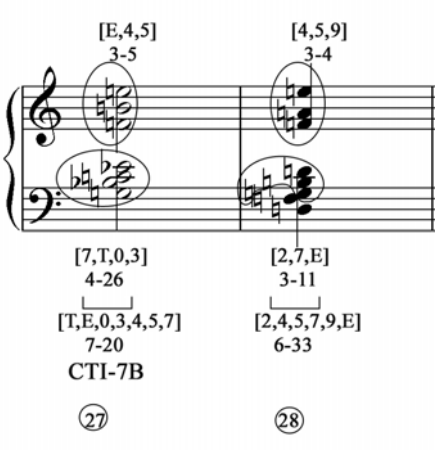
Example 6-4 The third background theme begins with a repeated four-chord motive CTI-1B | CTI-7B | M3MC-6 | CTI-11B, before returning to the original two-chord motive CTI-4A and CTI-11B that is present at the beginning of the first, second and last background themes.

A consistent feature of all the background themes is that the final chords of the themes consist of all-white keys. The last chord [0,2,4,7,9] of the first background theme (chord number 11) is a member of set class 5-35, the pentatonic scale, in all-white keys. The bottom half of the chord – played by the left hand – is a member of the same set class 4-26 as the chords of transposed inversions type B, C and D. The consonant nature of the chord contrasts with the highly dissonant nature of the previous chords of contracted resonance and model chord of mode 3. This chord is approached in all voices by descending motion, except for the top voice, where the top note D stays the same. The rhythm slows down from eighth-note beat and quarter-note beat to half-note as the end of the phrase comes near. The dynamics move from *forte* at the beginning of the phrase to *piano* for the last chord of the phrase. All these components contribute to a feeling of resolution and repose at the end of the phrase and serve to emphasize the cadence at the end of the background theme (example 6-5a).

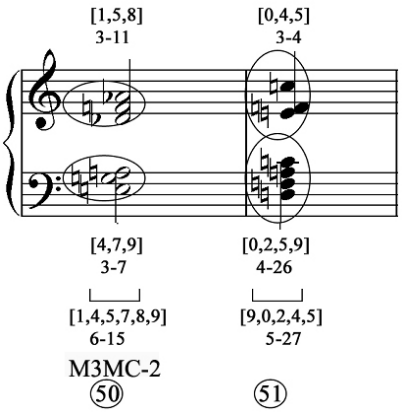
The last chord of the second background theme belongs to set class 6-33, in all-white keys and is a subset of the diatonic scale. All the voices of the chord are approached by descending motion from the previous chord CTI-7B, except for the top voice, which remains at E (see example 6-5b). The last chord of the third background theme is the only one which is not approached by descending motion, but it contains only white-key pitches, and belongs to set class 5-27, which is another subset of the diatonic scale (example 6-5c). Finally, the last chord of the fourth background theme is a modified C major chord, with an added sixth, and is a subset of the pentatonic scale (see example 6-5d).



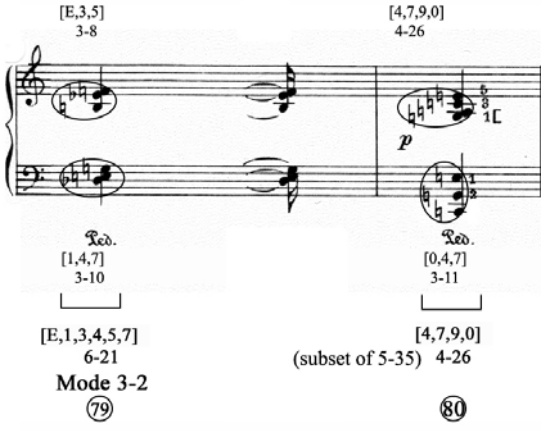
Example 6-5a Last two chords of the first background theme.



Example 6-5b Last two chords of the second background theme.



Example 6-5c Last two chords of the third background theme.

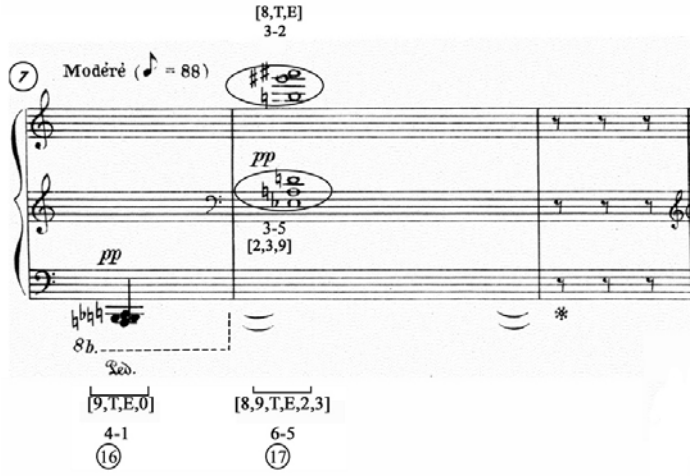


Example 6-5d Last two chords of the fourth background theme.

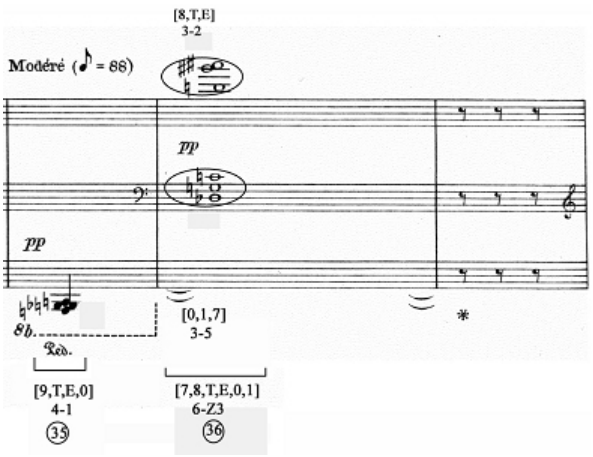
The themes of the blackbird arrive after the background theme. In the first section of the movement, the blackbird's song (measure 5-6) bursts into the scene in *Fortissimo* dynamics, in thirty-second notes, with the tempo marking of "Moderate, a little fast" with eighth-note equals one hundred and twelve. The beginning of the themes of the blackbird's song are connected to the final chords of the background themes by the pedal, in this manner juxtaposing the lower harmonic bass to the higher-register burst of the blackbird's song. The blackbird's song as portrayed in this movement is sharp, shrill and

energetic, painted by means of melodic doublings of sixths whose consonant quality enhances the brilliancy of the songs and provides contrast to the chromatic dissonant quality of the modal and color chords in the background themes. The song of the blackbird is written in short motifs, often consisting of rising or falling thirds and fourths intervals. One of the main motive [3,4,7,8,T,0] belongs to set class 6-31, and is varied and repeated many times in subsequent appearances of the blackbird's theme.

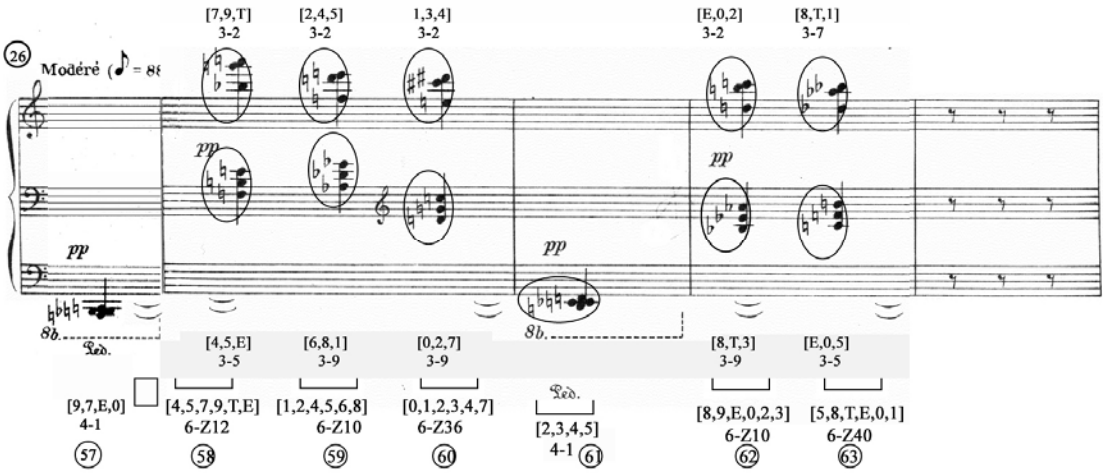
The short closing gestures at the end of each section are marked *pianissimo*, in moderate tempo, a little faster than the background theme but slower than the theme of the blackbird (Moderate*,* eighth-note equals eighty eight). The first, second and last appearances of the closing gestures consist of a low-register chromatic cluster of set class 4-1, followed by a long, sustained hexachord in whole-note value in the high register of the keyboard. These two contrasting harmonies are connected together by the pedal and are both marked *pianissimo*. The closing gesture of the third section is slightly elongated, lasting five measures instead of two in the other sections. A brief pause lasting three eighth-note rests divides one section from the next. See examples 6-6a, 6-6b, 6-6c and 6-6d presented below.



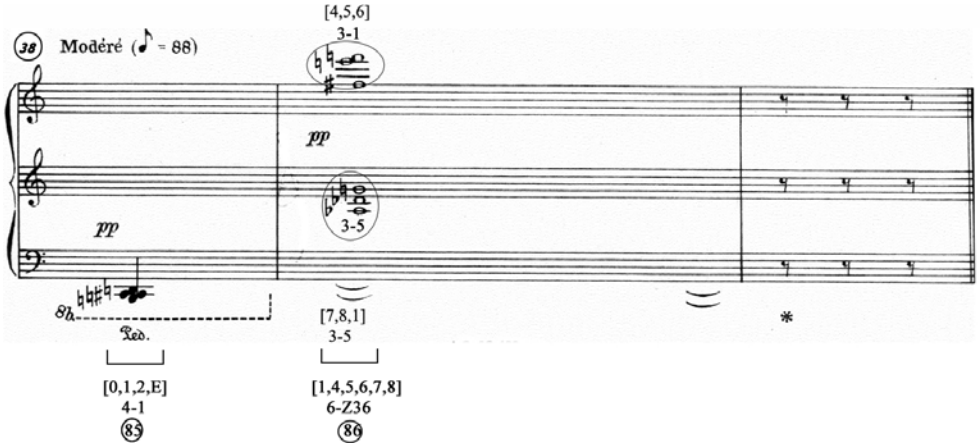
Example 6-6a Closing gesture of the first section.



Example 6-6b Closing gesture of the second section.



Example 6-6c Closing gesture of the third section.



Example 6-6d Closing gesture of the last section.

The following Table 6-1 shows the harmonic content of all the thematic materials found in the second movement on the blackbird, their specific pitch-class sets, set classes, their interconnection to each other (level of transposition), their harmonic implications (if possible) and their modal membership. The first column shows the division of each section. The second column indicates the numbering of the harmony (in chord form in the background themes and closing gestures, and in melodic motive in the the birdsong themes: see music of second movement in appendix II for details). The third column shows the measure numbers in which the chord or pitch-class sets can be found. The fourth, fifth and sixth columns show the pitch-class sets and set classes of those harmonies, as well as Messiaen's names for those chords. The seventh column indicates the unordered transpositions among the sets of the same classes, calculated with the first appearance of the set as T_0. Subsequent transpositions are computed with reference to the last appearance of the set. The list of chords and harmonies contained in this movement shows that the progression of the first nine or ten chords of each section (the beginning of the background themes) consists of an alternation of 7-20 (the chords of transposed inversions and 6-15 (the model chord of Mode 3). The rest of the chords belong mostly to either mode 7 or modes 3 and 4 or a combination of those modes. The last three columns show the common-tone connections between successive chords and harmonies, and indicate the voice leading relationships between these chords. For example, the common-tone connections between the first two chords of set class 7-20 is pitch-class set [9,E,2,3,4] of set class 5-14, which in itself is a subset of 7-20. The common-tone connection between the second chord 7-20 and the third chord 6-15 is pitch-class set [8,9,E] of set class 3-2, which is a subset of 7-20 and 6-1.

Table 6-1 " Merle Noir" Movement: Chords and Common -Tone Connection

Sec-tion	Chord #	Mm. #	SC	PC Set	Chord Type	Trans-position	Mode	Harmonic implication	Common Connection between chords Chord No.| Set Class | PC Set		
Section 1: mm.1-9	1	1	7-20	[9,T,E,2,3,4,6]	CTI-4A	T0	Mode 7	E_7			
	2		7-20	[2,3,4,7,8,9,E]	CTI-11B	T5	Mode 7	$G_{6/3}$	1:2	5-14	[9,E,2,3,4]
	3		6-15	[5,8,9,E,0,1]	M3MC-6	T0	Modes 3,7	Db/F	2:3	3-2	[8,9,E]
	4	2	7-20	[9,T,E,2,3,4,6]	CTI-4A	T7	Mode 7	E_7	3:4		[9,E]
	5		7-20	[2,3,4,7,8,9,E]	CTI-11B	T5	Mode 7	$G_{6/3}$	4:5	5-14	[9,E,2,3,4]
	6		7-20	[T,E,2,3,4,6,9]	CTI-4A	T8	Mode 7	E_7	5:6	5-14	[9,E,2,3,4]
	7		7-20	[2,3,4,7,8,9,E]	CTI-11B	T4	Mode 7	$G_{6/3}$	6:7	5-14	[9,E,2,3,4]
	8		6-15	[5,8,9,E,0,1]	M3MC-6	T0	Modes 3,7	Db/F	7:8	3-2	[8,9,E]
	9		7-20	[2,3,4,7,8,9,E]	CTI-7D	T0	Mode 7	G	8:9	3-2	[8,9,E]
	10	3	7-20	[8,9,T,1,2,3,5]	CTI-5B	T6	Mode 7	$Db_{6/3}$	9:10	4-9	[2,3,8,9]
	11	4	5-35	[0,2,4,7,9]	Pentatonic	T0	Mode 7	C/G	10:11		[2,9]
	12	5	6-31	[3,4,7,8,T,0]		T0	Modes 3,7		11:12	3-11	[0,4,7]
	13		8-19	[6,7,8,T,E,0,2,3]		T0	Mode 3		12:13	5-27	[7,8,T,0,3]

Table 6-1 " Merle Noir" Movement: Chords and Common -Tone Connection

Sec-tion	Chord #	Mm. #	SC	PC Set	Chord Type	Trans-position	Mode	Harmonic implication	Common Connection between chords Chord No.| Set Class | PC Set		
Section 1: mm.1-9	14	6	6-Z38	[0,1,2,3,7,8]		T0	Modes 4,7		13:14	5-20	[0,2,3,7,8]
	15		4-21	[0,2,4,6]		T0	Modes 1,3, 7		14:15		[0,2]
	16	7	4-1	[9,T,E,0]	Chromatic cluster	T0	Modes 4, 7		15:16		0
	17	8	6-5	[8,9,T,E,2,3]		T1	Modes 4, 7		16:17	3-1	[9,T,E]
Section 2: mm. 10-19	18	10	7-20	[9,T,E,2,3,4,6]	CTI-4A	T1	Mode 7	E_7	17:18	5-6	[9,T,E]
	19		7-20	[2,3,4,7,8,9,E]	CTI-11B	T5	Mode 7	$G_{6/3}$	18:19	5-14	[9,E,2,3,4]
	20		6-15	[5,8,9,E,0,1]	M3MC-6	T0	Modes 3,7	Db/F	19:20	3-2	[8,9,E]
	21	11	7-20	[9,T,E,2,3,4,6]	CTI-4A	T7	Mode 7	E_7	20:21		[9,E]
	22		7-20	[2,3,4,7,8,9,E]	CTI-11B	T5	Mode 7	$G_{6/3}$	21:22	5-14	[9,E,2,3,4]
	23		7-20	[9,T,E,2,3,4,6]	CTI-4A	T7	Mode 7	E_7	22:23	5-14	[9,E,2,3,4]
	24		7-20	[2,3,4,7,8,9,E]	CTI-11B	T5	Mode 7	$G_{6/3}$	23:24	5-14	[9,E,2,3,4]
	25		6-15	[5,8,9,E,0,1]	M3MC-6	T0	Modes 3,7	Db/F	24:25	3-2	[8,9,E]

Table 6-1 " Merle Noir" Movement: Chords and Common -Tone Connection

Sec-tion	Chord #	Mm. #	SC	PC Set	Chord Type	Trans-position	Mode	Harmonic implication	Common Connection between chords Chord No. | Set Class | PC Set		
Section 2: mm. 10-19	26		7-20	[4,5,6,9,T,E,1]	CTI-9D	T2	Mode 7	A	25:26	4-24	[9,E,1,5]
	27	12	7-20	[T,E,0,3,4,5,7]	CTI-7B	T6	Mode 7	$Eb_{6/3}$	26:27	4-Z29	[4,5,T,E]
	28	13	6-33	[2,4,5,7,9,E]		T1	Mode 7	G	27:28	4-Z29	[4,5,7,E]
	29	14	4-26	[7,T,0,3]			Modes 2,3,7		28:29		7
	30		4-10	[6,8,9,T]			Modes 2,7		29:30		T
	31	15	6-Z43	[0,2,3,6,7,8]		T0	Modes 3,4,7		30:31		[6,8]
	32		6-22	[2,3,4,6,8,T]		T0	Modes 3,6,7		31:32	4-Z15	[2,3,6,8]
	33	16	6-Z49	[0,1,3,4,7,9]		T0	Modes 2,3,7		32:33		[3,4]
	34		6-Z49	[E,0,2,3,6,8]		T11	Modes 2,3,7		33:34		[0,3]
	35	17	4-1	[9,T,E,0]	Chromatic cluster	T0	Modes 3,7		34:35		[0,E]
	36	18	6-Z3	[7,8,T,E,0,1]		T0	Mode 7		35:36	3-1	[T,E,0]
Section 3	37	20	7-20	[4,5,6,9,T,E,1]	CTI-1B	T4	Mode 7	$A_{6/3}$	36:37	3-2	[T,E,1]
	38		7-20	[T,E,0,3,4,5,7]	CTI-7B	T6	Mode 7	$Eb_{6/3}$	37:38	4-9	[4,5,T,E]

Table 6-1 " Merle Noir" Movement: Chords and Common -Tone Connection

Sec-tion	Chord #	Mm. #	SC	PC Set	Chord Type	Trans-position	Mode	Harmonic implication	Common Connection between chords Chord No.| Set Class | PC Set		
Section 3: mm. 20-30	39		6-15	[5,8,9,E,0,1]	M3MC-6	T0	Modes 3,7	Db/F	38:39	3-2	[E,0,5]
	40		7-20	[2,3,4,7,8,9,E]	CTI-11B	T4	Mode 7	$G_{6/3}$	39:40	3-2	[8,9,E]
	41		7-20	[4,5,6,9,T,E,1]	CTI-1B	T2	Mode 5	$A_{6/3}$	40:41	3-9	[9,E,4]
	42		7-20	[T,E,0,3,4,5,7]	CTI-7B	T6	Mode 5	$Eb_{6/3}$	41:42	4-Z29	[4,5,T,E]
	43		6-15	[5,8,9,E,0,1]	M3MC-6	T0	Modes 3,7	Db/F	42:43	3-5	[E,0,5]
	44		7-20	[2,3,4,7,8,9,E]	CTI-11B	T4	Mode 7	$G_{6/3}$	43:44	3-2	[8,9,E]
	45		7-20	[9,T,E,2,3,4,6]	CTI-4A	T7	Mode 7	E_7	44:45	5-14	[9,E,2,3,4]
	46		7-20	[2,3,4,7,8,9,E]	CTI-11B	T5	Mode 7	$G_{6/3}$	45:46	5-14	[9,E,2,3,4]
	47		7-20	[9,T,E,2,3,4,6]	CTI-4A	T7	Mode 7	E_7	46:47	5-14	[9,E,2,3,4]
	48		7-20	[2,3,4,7,8,9,E]	CTI-11B	T5	Mode 7	$G_{6/3}$	47:48	5-14	[9,E,2,3,4]
	49	21	7-20	[8,9,T,1,2,3,5]	CTI-5B	T6	Mode 7	$Db_{6/3}$	48:49	4-9	[2,3,8,9]
	50	22	6-15	[1,4,5,7,8,9]	M3MC-6	T8	Modes 3,7	A/Db	49:50	4-19	[5,8,9,1]
	51	23	5-27	[9,0,2,4,5]		T0	Modes 3,7	d_7	50:51	3-4	[4,5,9]

Table 6-1 " Merle Noir" Movement: Chords and Common -Tone Connection

Sec-tion	Chord #	Mm. #	SC	PC Set	Chord Type	Trans-position	Mode	Harmonic implication	Common Connection between chords Chord No.| Set Class | PC Set		
Section 3: mm. 20-30	52	24	6-31	[0,3,4,7,8,T]			Modes 3,7		51:52		[0,4]
	53		7-26	[0,2,3,4,6,7,T]			Modes 3,7		52:53	5-32	[T,0,3,4,7]
	54	25	6-31	[3,4,7,8,T,0]			Modes 3,7		53:54	5-32	[0,3,4,7,T]
	55		7-5	[0,1,2,3,5,6,7]			Mode 7		54:55	3-11	[0,3,7]
	56		5-22	[7,8,E,2,3]		T0	Modes 3,6,7		55:56	3-4	[2,3,7]
	57	26	4-1	[9,T,E,0]	Chromatic cluster	T0	Modes 4,7		56:57		E
	58	27	6-Z12	[4,5,7,9,T,E]		T0	Modes 6,7		57:58	3-1	[9,T,E]
	59		6-Z10	[1,2,4,5,6,8]		T0	Modes 3,7		58:59		[4,5]
	60		6-Z36	[0,1,2,3,4,7]		T0	Mode 7		59:60	3-2	[1,2,4]
	61	28	4-1	[2,3,4,5]	Chromatic cluster	T5	Modes 3,7		60:61	3-1	[2,3,4]
	62	29	6-Z10	[8,T,E,0,2,3]		T0	Modes 3,7		61:62		[2,3]
	63		6-Z40	[5,8,T,E,0,1]		T0	Modes 6, 7		62:63	4-2	[8,T,E,0]
	64	31	7-20	[9,T,E,2,3,4,6]	CTI-4A	T1	Mode 7	E_7	63:64		[T,E]

Table 6-1 " Merle Noir" Movement: Chords and Common -Tone Connection

Sec-tion	Chord #	Mm. #	SC	PC Set	Chord Type	Trans-position	Mode	Harmonic implication	Common Connection between chords Chord No.| Set Class | PC Set		
Section 4: mm. 31-40	65		7-20	[2,3,4,7,8,9,E]	CTI-11B	T5	Mode 7	$G_{6/3}$	64:65	5-14	[9,E,2,3,4]
	66		6-15	[5,8,9,E,0,1]	M3MC-6	T4	Modes 3,7	Db/F	65:66	3-2	[8,9,E]
	67	32	7-20	[9,T,E,2,3,4,6]	CTI-4A	T0	Mode 7	E_7	66:67		[9,E]
	68		7-20	[2,3,4,7,8,9,E]	CTI-11B	T5	Mode 7	$G_{6/3}$	67:68	5-14	[9,E,2,3,4]
	69		7-20	[9,T,E,2,3,4,6]	CTI-4A	T0	Mode 7	E_7	68:69	5-14	[9,E,2,3,4]
	70		7-20	[2,3,4,7,8,9,E]	CTI-11B	T5	Mode 7	$G_{6/3}$	69:70	5-14	[9,E,2,3,4]
	71		6-15	[5,8,9,E,0,1]	M3MC-6	T0	Modes 3,7	Db/F	70:71	3-2	[8,9,E]
	72		7-20	[2,3,4,7,8,9,E]	CTI-7D	T0	Mode 7	G	71:72	3-2	[8,9,E]
	73	33	7-20	[8,9,T,1,2,3,5]	CTI-5B	T6	Mode 7	$Db_{6/3}$	72:73	4-9	[2,3,8,9]
	74		7-20	[0,1,2,5,6,7,9]	CTI-5D	T4	Mode 7	F	73:74	4-19	[1,2,5,9]
	75	34	7-20	[6,7,8,E,0,1,3]	CTI-3B	T6	Mode 7	$Cb_{6/3}$	74:75	4-9	[0,1,6,7]
	76		7-20	[T,E,0,3,4,5,7]	CTI-3D	T4	Mode 7	Eb	75:76	4-19	[E,0,3,7]
	77	35	6-15	[1,4,5,7,8,9]	M3MC-2	T8	Modes 3,7	A/Db	76:77	3-2	[4,5,7]

Table 6-1 " Merle Noir" Movement: Chords and Common -Tone Connection

Sec-tion	Chord #	Mm. #	SC	PC Set	Chord Type	Trans-position	Mode	Harmonic implication	Common Connection between chords Chord No.| Set Class | PC Set		
Section 4: mm. 31-40	78		6-14	[0,3,4,5,7,8]		T0	Mode 3	Ab/C	77:78	4-3	[4,5,7,8]
	79		6-21	[E,1,3,4,5,7]		T0	Modes 3,7		78:79	4-2	[3,4,5,7]
	80		6-21	[E,1,3,4,5,7]		T0	Modes 3,6,7		79:80	6-21	[E,1,3,4,5,7]
	81	36	4-26	[4,7,9,0]		T0	Modes 2,3,7	C/a	80:81		[4,7]
	82	37	6-31	[0,3,4,7,8,T]			Mode 7		81:82	3-11	[0,4,7]
	83		6-31	[0,2,3,6,7,T]			Mode 7		82:83	4-26	[7,T,0,3]
	84		7-26	[8,9,E,0,1,3,5]		T0	Modes 3,7		83:84		[0,3]
	85	38	4-1	[E,0,1,2]	Chromatic cluster	T2	Modes 4,7		84:85	3-1	[E,0,1]
	86	40	6-Z36	[1,4,5,6,7,8]		T1	Mode 7		85:86		1

I.2 Characteristics of the Song of the Blackbird

The writing of the blackbird's song in the score is somewhat rigid, as if Messiaen were trying to fit the song of the birds within a restricted formal structure of a few measures. There is not as much variety in the melodies of the blackbird's song featured in the second movement as in the songs of the other birds in the other five movements. When comparing the blackbird's song featured in *Les Petites Esquisses d'oiseaux* with the transcription of its song, the birdsong in the transcription is much more free and colorful. The blackbird's song in the score is very brief, lasting only two or three measures. Its motives are repeated often, with only small variation from one section to another. This is an interesting deviation from Messiaen's description of the blackbird's singing as extremely inventive. According to Messiaen's description: "the blackbird accumulates a great variety of themes, and as it connects them, embroiders them, inverts them, varies them infinitely, it can align strophes and strophes for half an hour or more, without ever repeating itself."[277]

The dynamic markings for the blackbird's song are also changed. In the transcription, there are many variations in the dynamics, ranging from piano to fortissimo, whereas in the score, the blackbird's song is always marked fortissimo. Also, in the score the tempo is marked "moderate, a little fast" (*modéré, un peu vif*) with eighth-note equals 112, where as in the transcription, it is marked only moderate (*modéré*).

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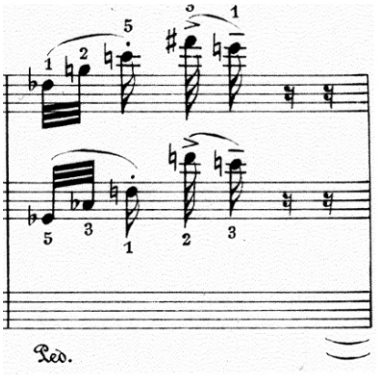
[277] Messiaen, *Traité*, vol. 5, bk.1, p. 484. "Il accumule ainsi une grande quantité de thèmes, et comme il les relie, les brode, les intervertit, les varie à l'infini, il peut aligner des strophes et des strophes, pendant une demi-heure et plus, sans jamais se répéter."

The example below illustrates Messiaen's use of the rhythmic motive of the blackbird's song.

Example 6-7a A motive from the blackbird transcription by Messiaen, written on "route toward Vouznon – 9:30 pm – the 26th of June, 1984."[278]



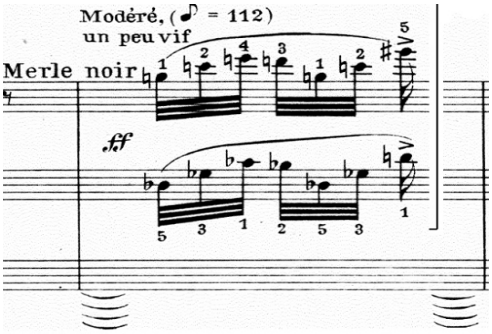
Example 6-7b Measure 6 of the second movement "Blackbird."

Below is an example of the blackbird's motive from Messiaen's transcription, very similar to that found in the published score.

Example 6-8a Melodic motive of the blackbird's song, taken from transcription by Messiaen, written on "route toward Vouznon – 9:30 pm – the 26th of June, 1984."[279]

[278] Messiaen. *Cahiers de notation des chants d'oiseaux*, microfilm 19099, p.5.

[279] Messiaen. *Cahiers de notation des chants d'oiseaux*, microfilm 19099, p.5.



Example 6-8b The blackbird's melodic motive as featured on measure 5.

In the above example, the blackbird's motive is transcribed so that all the pitches of the melody stay the same, but the order of pitches and melodic contour is different. Also, the melody is inexactly doubled, so that the left hand figuration is in similar but not parallel motion with the blackbird's melody in the right hand figuration. The beginning of the above motive is repeated several times in the movement, with only slight variation at the end.

I.3 Graph of Thematic Structure

The formal structure of this Blackbird movement may be represented by the following graph of harmonic content. The following graph shows the formal structure of the second movement on the blackbird and summarizes the harmonic content of the piece as well as its different themes and recurring motives.

Table 6-2 "Merle noir" Movement: Graph of Thematic Structure

	Section 1		Section 2		Section 3		Section 4	
	mm.	chd.	mm.	chd.	mm.	chd.	mm.	chd.
Background theme	1	1 7-20 (CTI-4A)	10	18 7-20 (CTI-4A)	20	37 7-20 (CTI-1B)	31	64 7-20 (CTI-4A)
		2 7-20 (CTI-11B)		19 7-20 (CTI-11B)		38 7-20 (CTI-7B)		65 7-20 (CTI-11B)
		3 6-15 (M3MC-6)		20 6-15 (M3MC-6)		39 6-15 (M3MC-6)		66 6-15 (M3MC-6)
	2	4 7-20 (CTI-4A)	11	21 7-20 (CTI-4A)		40 7-20 (CTI-11B)	32	67 7-20 (CTI-4A)
		5 7-20 (CTI-11B)		22 7-20 (CTI-11B)		41 7-20 (CTI-1B)		38 7-20 (CTI-11B)
		6 7-20 (CTI-4A)		23 7-20 (CTI-4A)		42 7-20 (CTI-7B)		39 7-20 (CTI-4A)
		7 7-20 (CTI-11B)		24 7-20 (CTI-11B)		43 6-15 (M3MC-6)		70 7-20 (CTI-11B)
		8 6-15 (M3MC-6)		25 6-15 (M3MC-6)		44 7-20 (CTI-11B)		71 6-15 (M3MC-6)
		9 7-20 (CTI-7D)		26 7-20 (CTI-9D)		45 7-20 (CTI-4A)		72 7-20 (CTI-7D)
	3	10 7-20 (CTI-5B)	12	27 7-20 (CTI-7B)		46 7-20 (CTI-11B)	33	73 7-20 (CTI-5B)
	4	11 5-35	13	28 6-33		47 7-20 (CTI-4A)		74 7-20 (CTI-5D)
						48 7-20 (CTI-11B)	34	75 7-20 (CTI-3B)
					21	49 7-20 (CTI-5B)		76 7-20 (CTI-3D)
					22	50 6-15 (M3MC-2)	35	77 6-15 (M3MC-2)
					23	51 5-27		78 6-14
								79 6-21
							36	80 4-26
Birdsong	5	12 6-31	14	29 4-26	24	52 6-31	37	81 6-31
		13 8-19		30 4-10		53 7-26		82 6-31
	6	14 6-Z38	15	31 6-Z43	25	54 6-31		83 7-26
		15 4-21		32 6-22		55 7-5		
			16	33 6-Z49		56 5-22		
				34 6-Z49				
Closing gesture	7	16 4-1	17	35 4-1	26	57 4-1	38	84 4-1
	8	17 6-5	18	36 6-Z3	27	58 6-Z12	39	85 6-Z36
						59 6-Z10		
						60 6-Z36		
					28	61 4-1		
					29	62 6-Z10		
						63 6-Z40		
	9	Silence Three eight-note pauses	19	Silence Three eight-note pauses	30	Silence Three eight-note pauses	40	Silence Three eight-note pauses

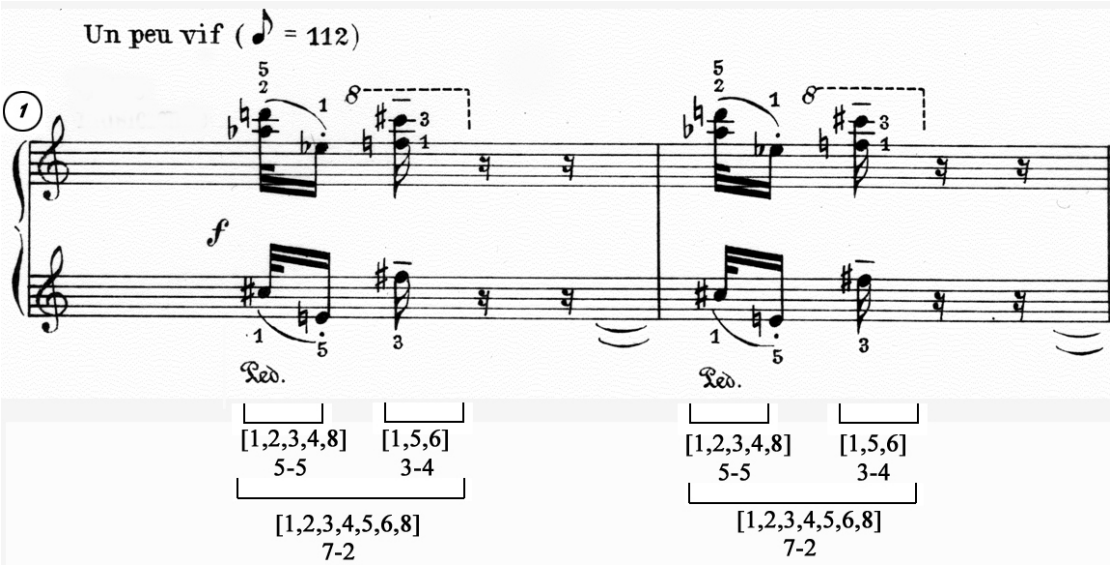
II Analysis of the Fourth Movement, "La Grive musicienne"

II.1 Overview

As a contrasting movement, the fourth movement, which offers a lively and picturesque sonic portrayal of the song thrush, differs from the movements on the robin and the blackbird on many levels. Firstly, this movement does not have any additional themes other that of birdsong, so its form is more free-flowing and unstructured. Secondly, the tempo remains more or less steady, with only a few fluctuations. Additionally, the dynamics remains bright and loud, the birdsong melodies often in *forte* or *fortissimo,* only seldom in *mezzoforte and piano*. In this movement, the texture of the birdsong melodies is considerably thicker than in previous movements. Unlike the previous movements where the background themes are chordal and the birdsong themes contain inexact doubling of melodic figurations, this movement includes chords that are imbedded within the birdsong figurations. The texture of the birdsong varies from dyads to trichords, tetrachords, up to nonachords. The song thrush in this movement sings uninterrupted, with only a small pause at the very end before the piece finishes. Its song is energetic and vivacious, and is in quick and lively tempo.

There are a number of diverse motivic gestures of the song thrush. These include ascending and descending arpeggiated glissandos in *forte*, ascending step-wise motion glissandos in *piano*, upward and downward leaps, chordal leaps, distropha, tristropha and many motivic repetitions. The rich collection of melodic motives and the variety of rhythmic gestures in this movement portray a vivacious and lively song thrush, leaping and sauntering while pouring out its torrents of songs. The articulations include many accented and sharp attacks, and the harmony is strongly dissonant and includes many

seconds and tritones. Although there are changes in the tempo indications from time to time, the tempo in this piece does not change with every measure as is the case in the movements on the robin or the blackbird.



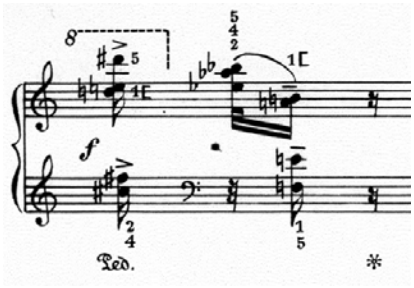
Example 6-9 Mms. 1-2. Theme of the Song Thrush

II.2 Characteristics of the Songs of the Song Thrush

The song thrush's main vocal characteristics as can be seen from Messiaen's transcriptions include ascending as well as descending glissandos, iambic podatus, with the accent placed on the second note, wide leaps, frequent use of tritones, repetition of motives, *forte* dynamics, tempo mostly fast, with a few, small fluctuations. Comparing the published score with Messiaen's notations of the song thrush shows that he retains the important characteristics of the song thrush's singing in order to recreate its song, while enriching the melodic motives with harmonic complexes and inexact doubling to add color.

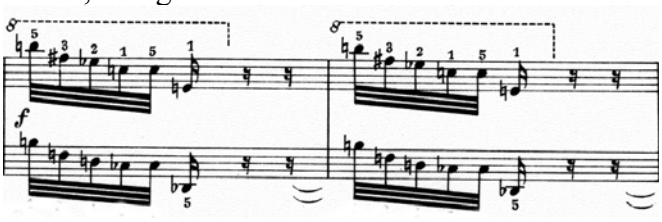
Below are some examples of the melodic and rhythmic motives taken from Messiaen's transcriptions of the song thrush, compared to the published score.

Example 6-10a Iambic podatus motive, which has an accent placed on the second note, found in Messiaen's song thrush transcription, made near La Sauline, the 13th of April 1985.[280]



Example 6-10b. The same iambic podatus motive is found in measure 11, harmonized by chordal complexes.

Example 6-11a Two instances of descending glissandi found in Messiaen's song thrush transcription made near La Sauline, the 13th of April 1985, "8:30 pm - magnificent sunset, orange."[281]



Example 6-11b Descending glissando motive found in measures 59 and 60 of the fourth movement. Messiaen inexactly doubles the song thrush's melody in the right hand figuration to give richness of colors.

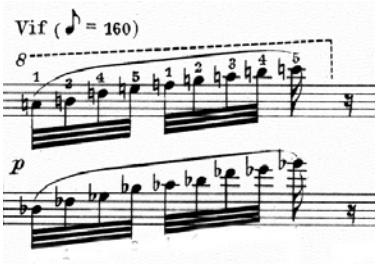
[280] Messiaen. *Cahiers de notation des chants d'oiseaux*, microfilm 19099, p.33.

[281] Ibid.

Example 6-12a The ascending glissando found in Messiaen's song thrush transcription made near La Sauline, the 13th of April 1985.[282]

Example 6-12b Ascending glissando motive in measure 19.

Example 6-12c Another ascending glissando motive, found in measure 83.



Example 6-12d Measures 41, 51 and 52 all share the same ascending glissando motive. Here Messiaen uses the effect of contrast: the right hand figuration is constricted to white-key pitches, while the left hand figuration – inexactly doubling the melodic motive in similar motion – is restricted to the black-key pitches.

II.3 Birdsong

The birdsong melody has many constantly recurring melodic fragments and repetitions of motives. The same motives can be repeated two or more times in one

[282] Messiaen. *Cahiers de notation des chants d'oiseaux*, microfilm 19099, p.33.

measure (e.g. measure 7). Also, there are several instances where two or more measures contain the same melodic and rhythmic gestures (for example, in measures 1-2, 3-5, 9-10, 14-16, 22-23, 29-31 and 44-46). The chords are also treated as ostinatos, such as in measures 48, 55, and 62). As Messiaen explains, the song thrush's singing is similar to an incantation because of its incessant reiteration of refrain. Its melodies consist of short motives in a variety of different rhythms, containing many wide leaps, as well as strong accents in the articulation. The glissandos of the song-thrush sound like the reverse of the descending glissandos of the Robin. These are ascending glissandos, some are arpeggiated and marked *forte*, others in step-wise motion and marked *piano*. In addition to the glissandos, there are ascending flourishes in *forte* dynamics that alternate between the two hands and between white and black keys, ending in repetition of the major third on A (e.g. measure 74-75). These ascending gestures form a near total chromatic aggregate of pitches.

II.4 Dynamics and Tempo

The overall character of the fourth movement on the song thrush is vivacious, bright and chant-like. The song thrush's singing is portrayed in mostly *forte* and *fortissimo* dynamics throughout the whole movement, and has the general tempo marking of *un peu vif* (a little fast), which is indicated as eighth-note equals one hundred and twelve. Throughout the whole movement, there are only five measures in *piano* dynamics and are marked as *vif* (fast) with eighth-note equals one hundred and sixty (measures 19, 47, 51-52 and 83). Three of these measures (measures 47, 51 and 52) are ascending glissandos, the top line has all-white keys and the bottom line is all-black keys, together forming a complete aggregate of twelve pitches. The measures containing accented

chordal complexes in *forte* and *fortissimo* dynamics are marked *modéré* (moderate) and have slower tempo indication of eighth-note equals eighty (mm. 18, 36, 44-47, 50, 53, 63, 82, and 84) and seventy-two (mm. 72).

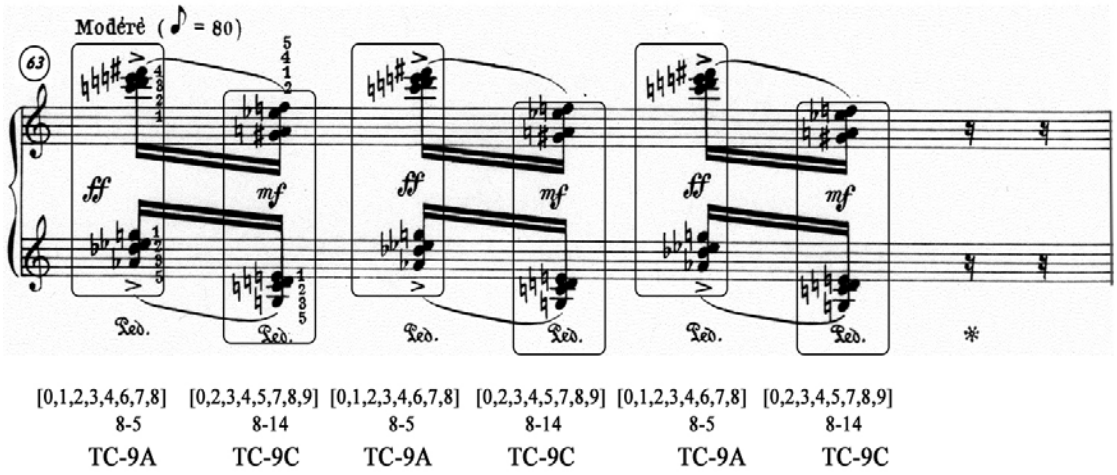
II.5 Harmony

There are many chordal complexes imbedded within the birdsong figurations. These include both modal chords and color chords, as well as other harmonic verticalities derived from modes of limited transpositions and color chords.[283] The chords appear in complete form as well as in broken-up and arpeggiated form. They appear as part of the harmonic complexities that provide harmonic support, as well as color and timbre for the birdsong melodies. Since they are not part of a harmonic progression, their harmonic funtions and implications are not as important in this movement as in the three movements on the robin and the movement on the blackbird. As a result, a graph of chordal transposition is not relevant for this movement.

There are several instances of the chord of total chromaticism as well as melodic motives held together by the pedal whose total aggregate forms a complete (mm. 24, mm. 47-48, mm. 51-52) or near complete (mm. 9-12, mm. 27-28, mm. 55-57) chromatic.

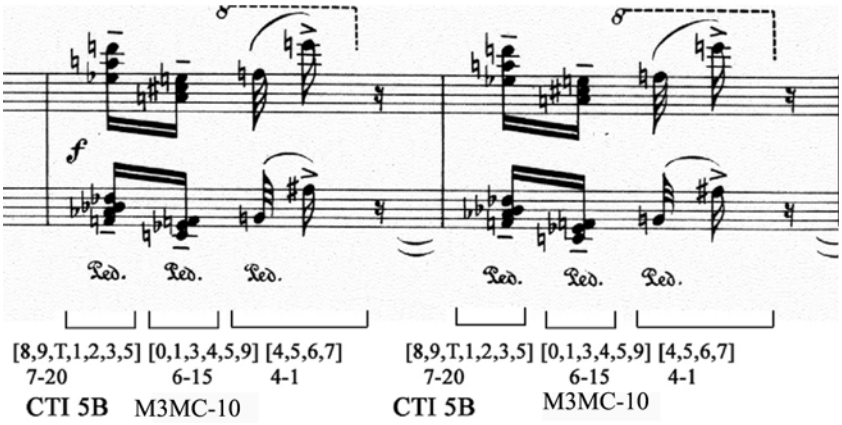
Unlike the movements on the robin and on the blackbird, the turning chords are frequently used throughout this movement on the song thrush. The TC appear both as individual chord by itself or as a series of two or three of the types A, B, and C. The example below shows the use of the turning chord number 9 in both types A and C.

[283] The only chord that is not derived from any modes or color chords is the movement last chord [0, 1,2,4,5,7,9] of set class 7-27.

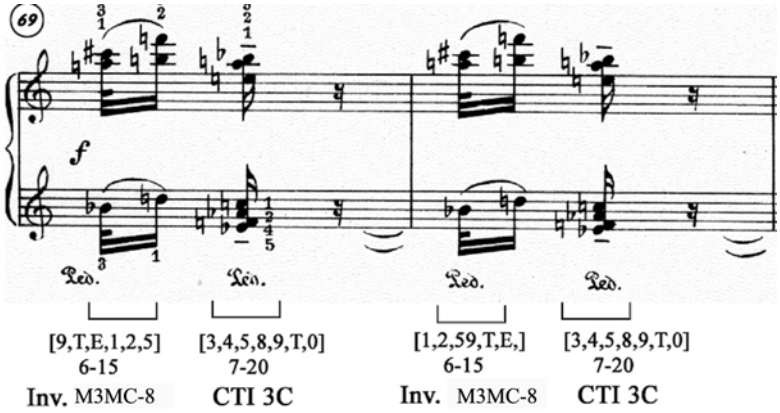


Example 6-13 Movement 4, m. 63.

The only appearance of the model chord of Mode 3 can be found in the middle of the movement in three identical measures 65-67, in its tenth transposition M3MC-10 (see example 6-14). Example 6-15 shows the first chords in measures 69 and 70 belonging to the same set class 6-15 as the model chord, but they have pitch class set of [9,T,E,1,2,5], which is the inversion of M3MC-8.

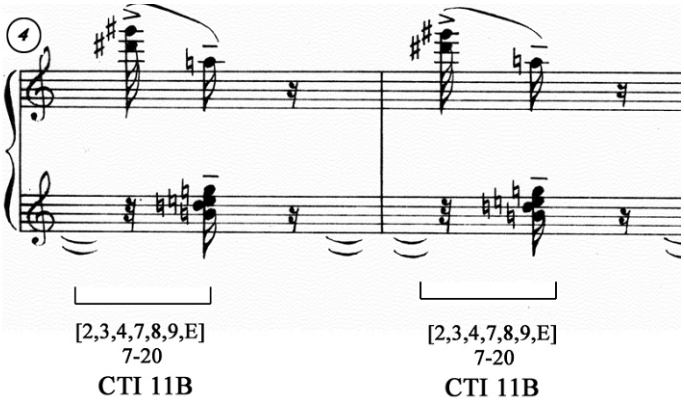


Example 6-14 M3MC-10 in movement 4, measures 65-66.

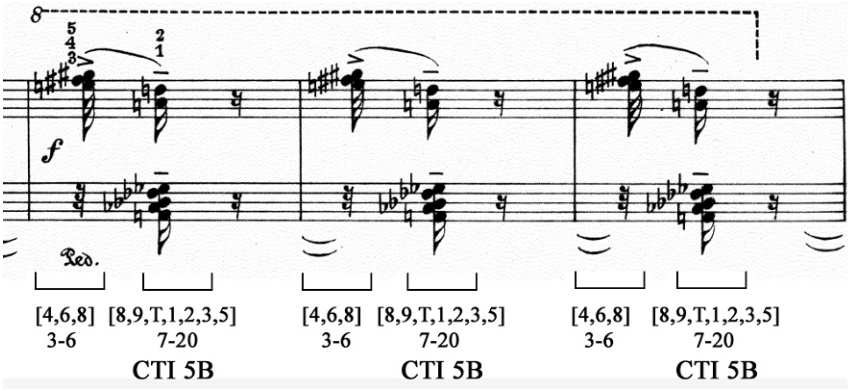


Example 6-15 Inversion of M3MC-8 in movement 4, measures 69-70.

Chords of transposed inversions appear frequently as individual chords, not as a series of four different inversions, and in both broken-up format and complete chords.



Example 6-16a CTI-11B in broken-up form in movement 4, measures 4 and 5.



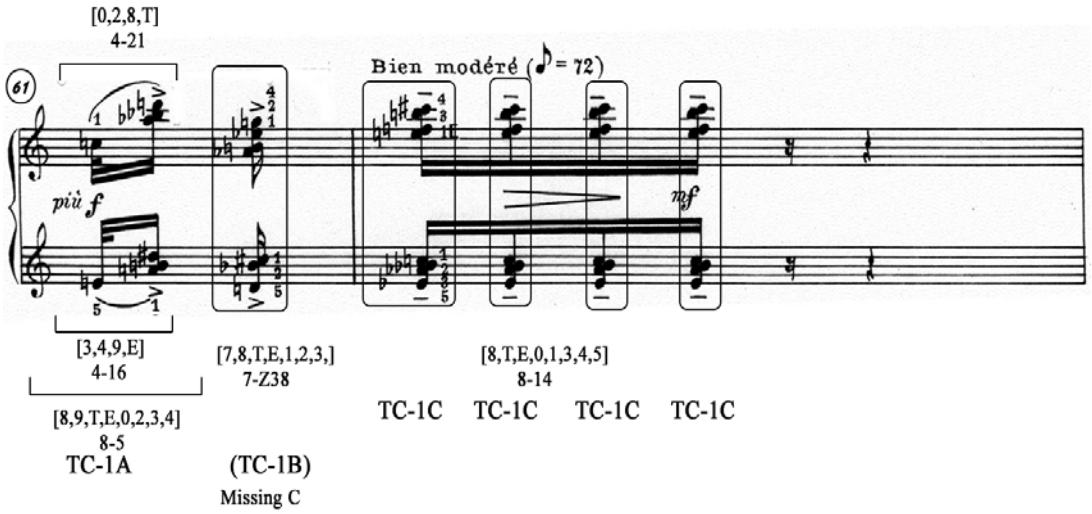
Example 6-16b CTI-5B appear as single chord in its complete form in movement 4, measures 29-31.

The first and second chords of contracted resonance types A and B can be found frequently in this movement. Nonetheless, they often appear in modified form, with added notes or missing notes. For example, in mm. 44-46, the first of the two chords is a hexachord [1,2,3,4,6,7,9] and is first chord of contracted resonance no. 1, type A. The second chord is a pentad [1, 3,5,8,T] of set class 5-35, which is a subset 7-Z12. The second chord is the first chord of contracted resonance no. 1, type B, but the two bottom pitches, 2 and 4, are missing. Nevertheless, since these two chords are connected by the pedal, pitches 2 and 4 in the bass of the chord can be heard as being held over by the pedal from the first chord 1st CCR-1A.

Another example can be found in measure 53, where two tetrachords are followed by a hexachord. The first tetrachord is [3,4,9,T]; the second tetrachord is [7,8,E,3] of set class 4-19 (subset of 6-Z19). The second chord belongs to the second chord of contracted resonance no. 11, type A, with the two bottom pitches missing, pc 0 and 2. The hexachord is a complete second chord of contracted resonance no. 11, type B. Pitches 0 and 2, which are lacking in 2nd CCR-11A, is supplied by 2nd CCR-11B, because pc 0 and 2 are two bass pitches that they share in common. The three chords are connected by the pedal and the total aggregate of all the pitches in these three chords forms the complete twelve-pitch class set.

Additionally, there are chords that belong to the same set class as the color chords but are not categorized as color chords by Messiaen. For example, the last chord of measure 18 belongs to set class 7-20 – the same set class as the chords of transposed inversions – but is not classified as a chord of transposed inversion by Messiaen.

There are other chords that closely resembles color chords, but have different spacing and arrangements of pitches. For example, in measure 61, there are three turning chords number 1 types A, B and C: the first chord and last chords are complete, but the second chord is missing pitch 0 and the notes of the chords are arranged differently. However, since these three turning chords number 1 appear together as a whole set, the second chord can still be heard as a modified TC-1B (see example 6-17)



Example 6-17 The turning chords in movement 4, measure 61.

II.6 Summary

The fourth movement is a sparkling and spirited sonic portrayal of the song thrush, wedged between two movements on the robin. The different levels of contrast in the formal structure, texture, tempo and dynamics between the robin's song and that of the song thrush emphasize and juxtapose the characteristic differences in the songs of the two birds. The vivacity of the song thrush's song serves as a counterpoint to the songs of the robin, which is more intricate, delicate, and subdued.

III Analysis of the Sixth Movement "L'Alouette des champs"

III.1 Overview

The sixth movement on the skylark has many similarities with the fourth movement on the song thrush. It contains only birdsong without any additional theme. However, there are occasional punctuating background chords in the lower register of the keyboard (they are tetra-chords, penta-chords and hexa-chords in dotted eighth-note value), which interrupt the flow of birdsong melodies from time to time.[284] These chords contrast with the birdsong sections of the piece in markings, rhythmic value and register. The bottom halves of the chordsare located in the bass, and the top parts are placed in the middle register. All are marked *mezzoforte* and have durational value of a dotted eighth note.

The skylark's song is depicted in mostly fast thirty-second notes combined with sixteenth and eighth note rhythms. The majority of the dynamic markings for the birdsong section are *forte* and *fortissimo*, with a few measures marked *pianissimo* and *mezzoforte*. The melodic motives of the birdsong are often inexactly doubled to create colorful timbre and effects. These inexact doublings are sometimes combined and mixed with additional inner lines and chordal complexes to thicken the texture. There are many repeated motivic cells, chordal clusters, leaps, distropha and tristropha in the birdsong figurations. The color chords are used in the movement as part of the birdsong, imbedded within the birdsong motives, both as verticalities and as melodic figurations.

Messiaen's musical painting portrays both the virtuosic song of the skylark and its characteristic flight course of soaring ascents and dramatic descents. The overall effect

[284] These lower-register chords occur at the following measures: mm. 1, mm. 11, mm. 17, mm. 24, mm. 38, mm. 46, mm. 57, mm. 72.

is an exciting and vivid characterization of the humble skylark, which lives on the ground, yet is a high-spirited, virtuosic and vibrant bird, whose unique song brightens up the blue sky with its piercing cry of joy.

III.2 Comparing the Transcription of the Skylark to the Published Score

Messiaen explains that his most important notations of the skylark took place at two different locations: the first in 1965 at Bengy sur Craon (located in Cher, in central France) and the second from 1977 and 1978 at Rouvres les Vignes (in Aube, northeast of France).[285] He further states that these two notations served as materials for his works from the *Catalogue d'oiseaux* for piano, *Chronochromie* for orchestra, to the opera *Saint François d'Assisse* and the *Les Petites Esquisses d'oiseaux* for piano.

Below are examples of a typical figuration of the skylark's melody, consisting of several climacus and frequent use of fourth intervals. Comparing the original transcription and the published score, it appears that Messiaen did not copy exactly the melodies from the transcriptions. He retains the shape and contour as well as note values (thirty-second notes) of the melodic figurations, then doubles the melodies inexactly for richness of colors and timbre.

Example 6-18a Measure 24 of Messiaen's transcription of the skylark's song, notated at Bengy sur Craon (Cher), on the first of April 1965, at 11:30 am.[286]

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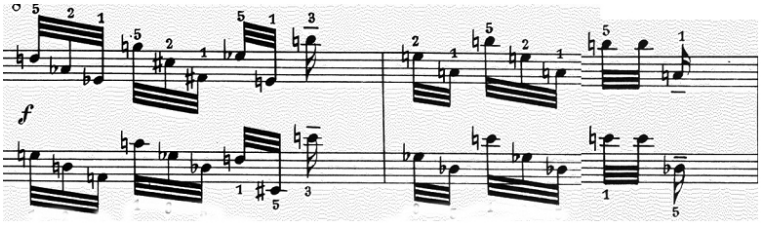
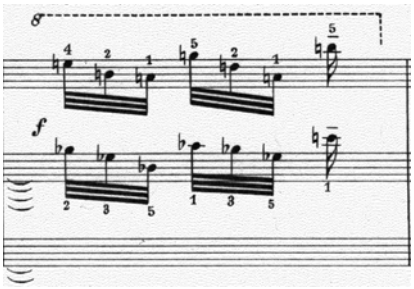
[285] Messiaen, *Traité*, vol. 5,bk 1, p. 248.

[286] Messiaen, *Traité*, vol. 5, bk 1, pp. 249-252.



Example 6-18b Measures 86-87 from the sixth movement "Skylark."

Example 6-19a Measure 126 of Messiaen's transcription of the skylark, notated at Bengy sur Craon (Cher), on the first of April 1965, at 11:30 am.[287]



Example 6-19b Measure 25 of the same movement.

In the following example, a typical melodic motive of the song of the skylark – in which high notes alternate with low notes – was imported exactly from the transcription and used at the beginning of the sixth movement on the skylark. Messiaen explains that the song of the skylark follows the phases of its flight. He portrays its rise from the ground up by treating a short motive with repetition coupled with crescendo. The second to fourth measures of the "Skylark" movement portray the skylark in the sky with its song turning non-stop to the sharp high pitch B, and the lower pitch A.[288]

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[287] Messiaen, *Traité*, vol. 5, bk.1, pp. 249-252.

[288] The melody at the beginning of the sixth movement "Skylark" is almost identical to the beginning of the skylark section in the *Fauvette des jardins* (1970) and measures 4 and 5 of the

Example 6-20a The skylark's melody.[289]

Example 6-20b Measures 2-4 of the "Skylark" movement.

Below are examples of the sequence of iambic clivis gestures in the skylark's song, presented for comparing the difference between the transcription and the score in the sixth movement "Skylark." These examples illustrate that Messiaen retained the rhythmic pattern of the skylark's song but did not copy its melodic motive exactly.

Example 6-21a Measure 55 of Messiaen's transcription of the song of the skylark, notated at Bengy sur Craon (Cher), on the first of April 1965, at 11:30 am.[290]

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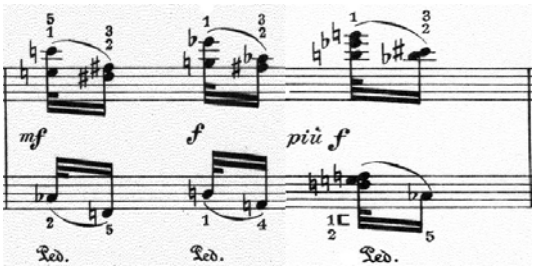
transcription. Apparently, Messiaen uses this melodic fragment more than once when portraying the skylark's songs. Perhaps he picked the melodies that he loved most from several different transcriptions in order to compose a work featuring the skylark's songs.

[289] Messiaen, *Traité,* vol. 5, bk 1, p. 245. This example is taken from Messiaen's transcription of the skylark's song, which he lists as example 1 in the fifth volume of his *Traité de rythme, de couleur et d'ornithologie*.

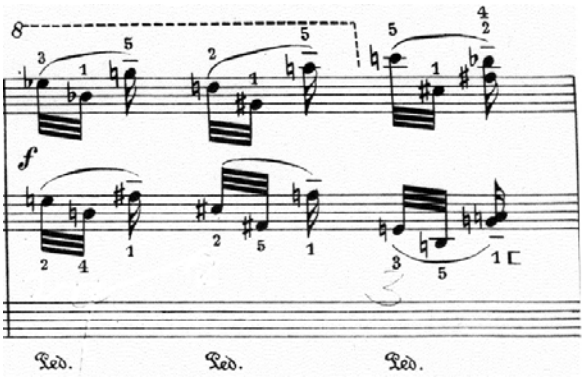
[290] Messiaen, *Traité*, vol. 5, bk 1, pp. 249-252.



Example 6-21b Measure 28 of the "Skylark" Movement.

The following examples illustrate Messiaen's utilization of the "anapest" rhythmic pattern from his transcription of the skylark.

Example 6-22a Measure 67 of Messiaen's transcription of the song of the skylark, notated at Bengy sur Craon (Cher), on the first of April 1965, at 11:30 am.[291]



Example 6-22b Measure 49 of the same movement.

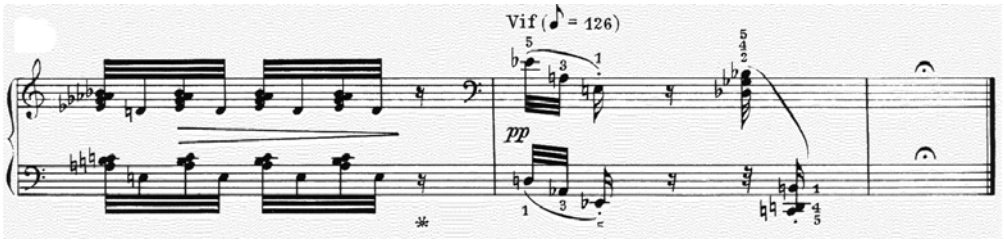
The ending of the skylark's song follows its flight pattern. The melody at the end of the song is a rapid descending line, going from loud to soft, mimicking the flight of the skylark diving down to the ground from high up in the sky. The repeated notes in the transcription imitate the flapping of its wings. In the published score, these repeated descending pitches are embelished and transformed into repeated descending sequences

[291] Ibid.

of clivis. Messiaen then harmonized the melodies with chordal clusters and chromatic clusters, all while respecting the dynamics, speed, and overall contour. The final landing of the skylark is portrayed in the transcription and in the score by an iambic clivis in pianissimo as seen in the examples below.

Example 6-23a The ending of the skylark's song, (measure 132) as notated in Messiaen's transcription of the song of the skylark, at Bengy sur Craon (Cher), on the first of April 1965, at 11:30am.[292]

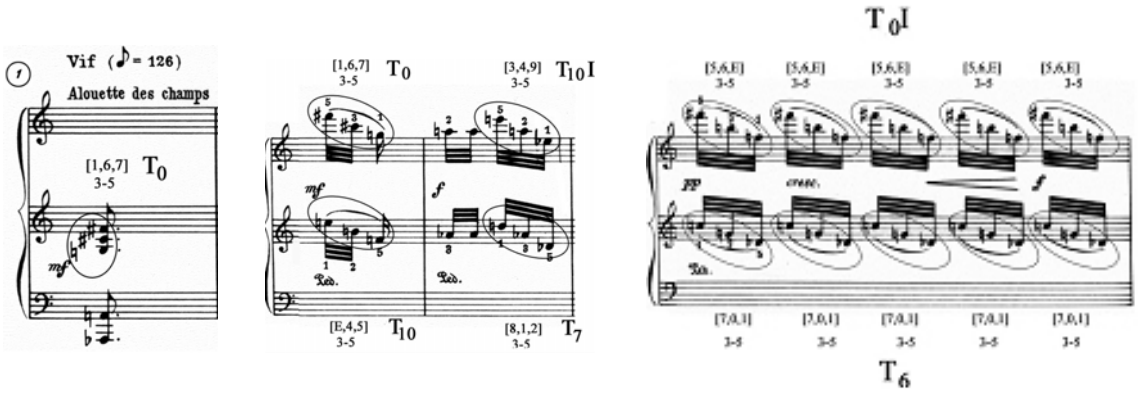
[292] Messiaen, *Traité*, vol. 5, bk.1, pp. 249-252.



Example 6-23b The ending of the "Skylark" movement, in which the descending sequence in softening dynamics featuring the skylark's song mimics the dive of its flight from the height to the ground.

III.3 Melodic Motives and Figurations

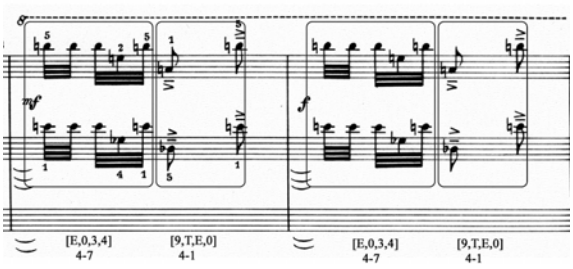
The song of the skylark is characterized by short motivic cells of three pitches, appearing often as triplets in set classes derived from the color chords (such as set classes 3-5, 3-7, 3-8, 3-9, and 3-11). These triplets are repeated, inverted, and transformed into different configurations such as scandicus, climacus, torculus, and porrectus. The birdsong motives consist of mostly large intervals, often larger than a fourth, and frequent use of bright and dissonant intervals such as tritones, fourths, fifths and seventh intervals. The example 6-24 below shows the motive [1,6,7] of set class 3-5 (the top part of CTI-9B) in different inversions and transposition. This motive, introduced in the very first background chord, is then later used as part of birdsong figuration in measures 5 and 6, measure 10 as well as in other birdsong melodies throughout the movement in different transpositions and inversions.



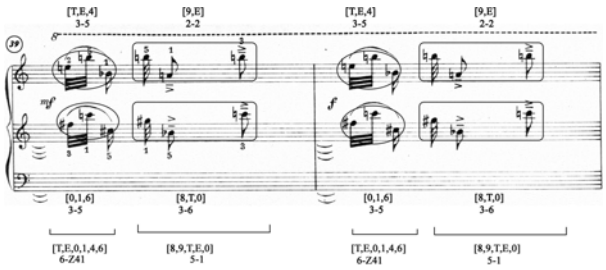
Measure 1 Measures 5 and 6 Measure 10

Example 6-24 The background chord and the birdsong figuration share the same set class 3-5 in different inversions and transpositions.

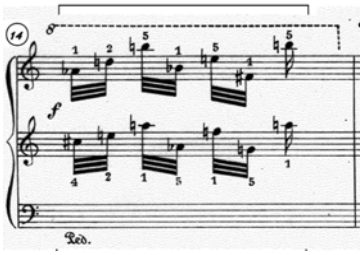
Another feature of the skylark's song is the "spondee," consisting of a low note followed by a high dominant note. In this movement, these two notes are A_6 and B_7, a major ninth apart. These two notes are introduced from the very first measures of the birdsong theme and appear throughout the movement, sometimes doubled inexactly to form the chromatic pitch-class set of [9,T,E,0] of set class 4-1. The high-pitched B – the second highest B of the whole keyboard – is the highest note of the whole movement, and is featured both in the middle and at the end of a motive or phrase. Examples 6-25a and 6-25b show the pitch A followed by B a major ninth above in spondaic rhythm. Examples 6-25c and 6-25d show the high B prominently featured within the skylark's melodic motives.



Example 6-25a Measures 2-3.



Example 6-25b Measure 14.



Example 6-25c Measures 39-40.

Example 6-25d Measure 58.

III.4 Sequence and Repetition

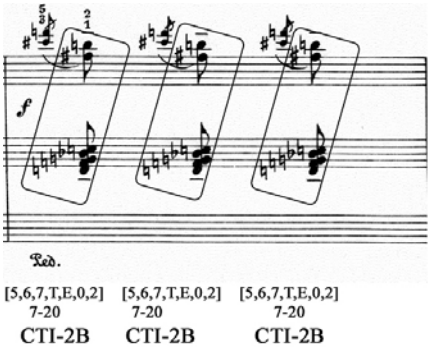
The song of the skylark is characterized by repetition of short motives. Its melodies include small (two-note and three-note) motives that are repeated and sequenced. These motives are also arranged in climbing series of descending three-note arpeggios. The dynamics often increase with each repetition, moving from *mezzoforte* to *fortissimo* or from *pianissimo* to *forte*, sometime moving from *pianissimo* to *fortissimo* in a very short amount of time (two measures). The ending of the movement has a series of repeated and sequenced clivis, each sequence longer than the previous one, e.g., the first sequence has two repetitions, the second one has three, the third one has four, the fourth sequence has six and the final sequence has twelve.

III.5 Harmony

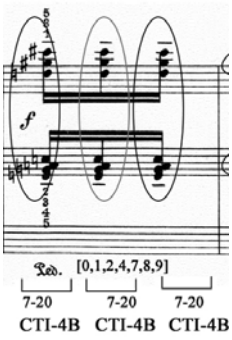
The birdsong motives contain mostly inexact doubling. However, occasionally, chordal complexes are used to accompany melodic motives to create thicker texture and build up tension and volume. Some of these chords are color chords, the rest are derived from the modes of limited transposition as well as from color chords. The chords are often used at the end of a long ascending birdsong figuration as it builds up in intensity and excitement or as accented chords in *fortissimo* in climatic sections. The only color

chords used in this movement in their complete form are the chords of transposed inversions and the chords of contracted resonance.

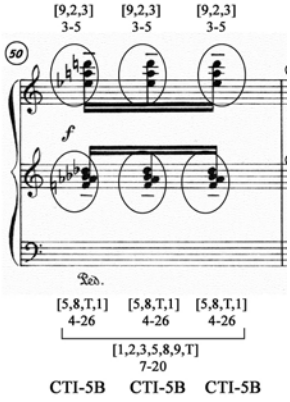
The chords of transposed inversions appear frequently as individual chords, not as part of a complete series of different inversions A, B, C and D. They are frequently featured in a series of accented ostinato in eighth-note rhythm in contrast with the faster moving flourishes of birdsong melodies in thirty-second notes and doubled inexactly. Example 6-26a, b, c and d show the chords of transposed inversions CTI-2B, CTI-4B, CTI-5B, CTI-2B and a modified CTI-12B in accented ostinato in *fortissimo* (measures 13, 20, 55, 91 and 92 of the sixth movement). The accented chords build up the energy and momentum, and create a feeling of ecstatic exultation.



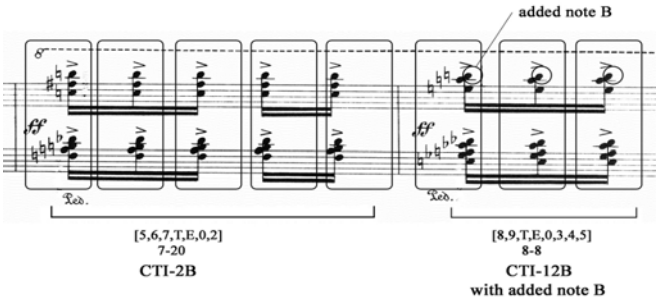
Example 6-26a Measure 13



Example 6-26b Measure 20

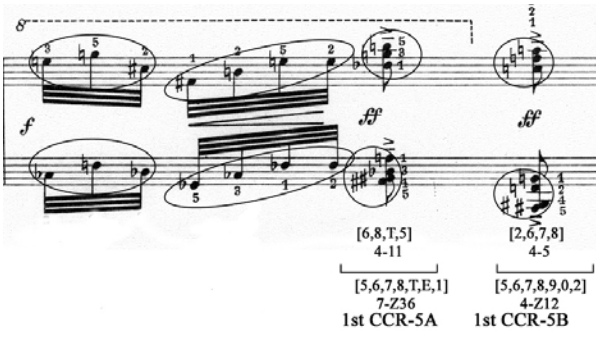


Example 6-26c Measure 55

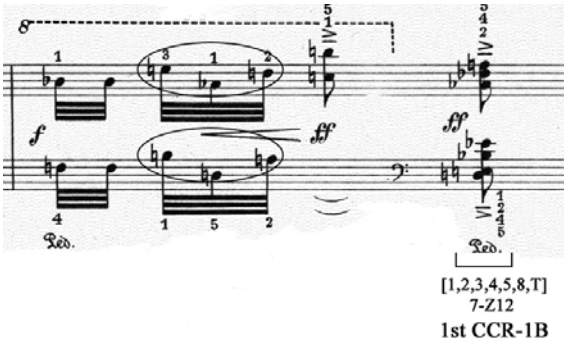


Example 6-26d Measure 91-92

The chords of contracted resonance appear both as a pair of types A and B and as single chords. They are often used at the end of a long ascending birdsong figuration as a point of emphasis and arrival. Example 6-27 shows the accented chords of contracted resonance appearing at the end of long motivic flourishes of birdsong in measures 29 and 33.



Example 6-27a Measure 29



Example 6-27b Measure 33

III.6 Dynamics

The skylark's song is energetic, exuberant and joyous. The dynamic markings for the movement on the skylark is mostly *forte* and *fortissimo* throughout the piece. However, there are a few instances where the dynamics drop all the way down to *pianissimo*, then builds up the momentum and excitement by *crescendo* to *fortissimo* to portray the jubilatory nature of its song. Additionally, the background chord at the beginning of the movement is marked *mezzoforte*, then in the following three identical measures of birdsong motives the dynamics increase from *mezzoforte* to *forte*, then to *fortissimo,* as if to portray the ascent of the bird's flight. Similarly, the dynamics decrease from *fortissimo* to *pianissimo* to mimic the sharp dive of the skylark from the sky to the low ground at the end of the piece.

III.7 Tempo

Unlike the other movements where the tempo fluctuates frequently, the "Skylark" movement has a more uniform tempo. The entire movement is in quick rhythm, with the majority of the piece marked as *vif* (fast), with eighth-note equals 126. In the middle of the piece there are two short sections, each two measures long (mm. 68-69 and 84-85), where the tempo is marked *un peu vif* (a little fast) with one eighth-note's value set as equal to 144.

The intensity is ratcheted up as the piece approaches the end: the texture thickens, the dynamic is thrust into the *forte-fortissimo* realm, and the pitch level climbs into ever higher regions. The ending of the movement is a vivid sound painting of the flight of the skylark as well as a sonic portrayal of its singing capabilities. As a gesture that brings the whole movement to an end, this part depicts the skylark diving from high up in the blue sky down to earth. The frenzied excitement of the song reaches dizzying heights before reversing to commence an abrupt nose-dive. It is during this fall that the skylark sings a series of repeated and descending clivis in fast tempo (*très vif)* with one-eighth note equaling 144. The skylark's song – marked *fortissimo* in measure 103 – descends from the very top registers of the piano to the very bottom register – ending in *pianissimo* within the space of only three measures.

At the end of the skylark's dive, the bird gently opens and flaps its wings to soften the landing. This movement of its flight is illustrated in the music by a climacus in *pianissimo*, with a slight pause followed by a soft chromatic chordal cluster in iambic podatus in measure 105. The tempo then returns to the original tempo (eighth-note equals 126). The skylark as featured in this movement sings without resting or stopping. There is

no moment of repose until the very end of the piece, where a long silence is indicated with a fermata over the last measure.

CHAPTER SEVEN

Performance Suggestions and Conclusion

I. Performance Suggestions

Performers of *Les Petites Esquisses d'oiseaux* face many challenges. Given the importance of the subject to Messiaen, the first challenge is to get to know the characteristics of birds, as well as experiencing firsthand the way they sing to learn the articulations, the phrasing and the rhythm. Messiaen recommends: "As the pianist is called on imitate the sounds of a great number of birds..., I recommend walks in the woods, in spring, especially early in the morning, to get to know the birds themselves."[293] When Loriod was learning the *Réveil des oiseaux,* she played the work for the composer for the first time and Messiaen said to her: "There are no mistakes, but that's nothing like it. You haven't got the timbres of the birds." After Loriod conducted some research and had driven to the forest to experience the birdsong in nature, her playing was much more satisfactory and he described her playing as "much more authentic." [294] It's not an easy task for an artist; for example the skylark depicted in *Les Petites Esquisses d'oiseaux* is a bird of France and birds of the same family in America do not sing the same way. Reading a book of ornithology and listening to birdsongs from recordings can be helpful in learning the inflections, timbres and intonations of the birds's songs.

The second challenge to the performer of this brief yet beautiful and complex work is to understand the formal structure, the different themes, the phrasing as well as harmony and color. Yvonne Loriod emphasizes the importance of analysis for

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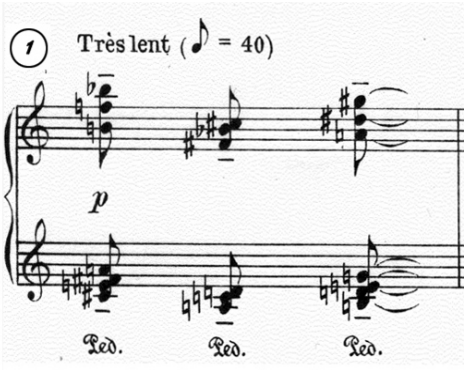
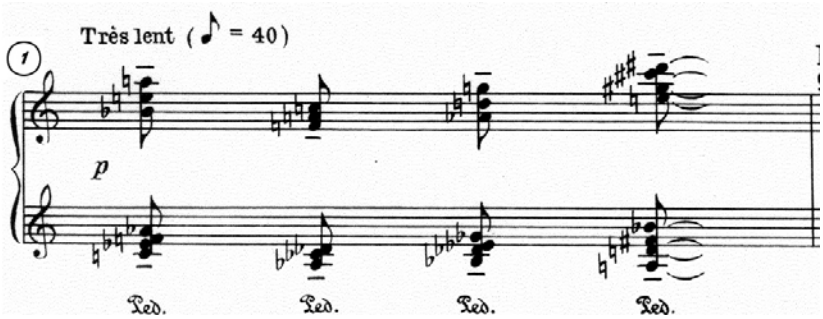
[293] Peter Hill, Messiaen, p. 209.

[294] Ibid., p. 208.

performers: “The quality of performance also depends on theoretical knowledge of the work. To analyze, to analyze always and it will be there one of our best means of continuing progress.” [295] For example, in the opening of the fifth movement “Rouge-gorge,” the background theme first appears in a different transposition, which is half a step lower than elsewhere.



Example 7-1a The background themes in its original transposition, at the beginning of the first and the third movements.



Example 7-1b The background theme appears half a step lower in the opening of the fifth movement, and is extended to contain four chords instead of three as in the original.

Although the dynamic markings are the same for all the three movements, all indicated that they should be played *piano,* the background theme in the opening of the

[295] “La qualité d’exécution dépend aussi de la connaissance théorique des œuvres. Analyser, analyser toujours et ce sera là, l’un de nos meilleurs moyens de progresser encore.” Catherine Lechner-Reydellet, “Messiaen: l’empreinte d’un géant.” (Séguier, Paris, 2008), p.63.

fifth movement should be played softer and more subdued, to highlight the slightly off-key feeling this lowered transposition produces.

Overall, care should be taken to perform the different movements with a great deal of contrast in character, dynamic, rhythm, timbres, and tonal colors. Just as the birds themselves are all different, no two consecutive movements are alike. The first, third and fifth movements "Rouge-gorge" contain many delicate passages such as soft pearl-like descending glissandos, high trills, and graceful iambic gestures that are typical closing of the robin's songs. The background themes of these three movements contain slow-moving chords with beautiful harmonies and are marked *piano.* The opening themes for the whole suite as well as for the three movements "Rouge-gorge" establish a peaceful mood and atmosphere and prepare for the arrival of the cheerful songs of the robin. These opening chords of the background theme should be voiced to highlight the gemlike colors created by the dissonances, produced by Messiaen's color chords (chords of transposed inversions and model chords of Mode 3). When considering all the three chords of the first background theme, the top and bottom pitches of these chords move in similar but not parallel motion. However, the first chord CTI-1B descends a major second to the third chord CTI-11B, creating a downward motion to the melodic line of the phrase. As a result, the dynamic of the opening background theme should decrease, going from *piano* on the first chord then *diminuendo* through the second to the third chord, preparing the background atmosphere and providing contrast to the birdsong theme which follows in the second measure.

In the three movements featuring the robin, the tempo and dynamics change almost every measure. This constant change proves to be very difficult to execute with precision. Yvonne Loriod advises that the tempo changes are to be relative to each other, not to be taken too literally or metronomically. The pedal plays an extremely important role in shaping the phrases, in grouping the harmonies together to form complete color chords, as well as in giving emphasis to certain chords or notes. The pedal also provides continuity between different themes of the piece by connecting them together harmonically. Therefore, the pedal markings should be followed meticulously. On the other hand, the pauses, which often occur at the end of a section or phrase, serve to delineate different sections of the piece and should be without pedal.

Regarding the melodies of the robin's song, Yvonne Loriod explains that the robin changes its themes but there are always refrains and repetitions. The nineteen descending glissandos in the movements featuring the robin are very difficult to memorize and execute, since they have to be very fast and even, like "pearls" (according to Messiaen), all in *pianissimo* dynamics. Since they involve the alternation of hands and switching between the white and black keys, the performer is required to move the hands very fast while placing them gently on the keyboard to avoid creating any accents. Loriod advises that pianists practice this passage by grouping the notes into block form for each hand, to practice switching the positions quickly. According to her, all the descending glissandi of the robin must be rapid and even, executed without stop or hesitation and played as softly as possible. They must also always be faster than the rest of the

movement. [296] The end of the descending glissandi have to be dry and therefore the pedal has to be lifted at the same time.

Loriod also recommends that all the birdsong figurations be very expressive and that the rise and fall of the melodic contour be followed with poetic sensitivity. In the three robin movements, each measure contains a different birdsong figuration, no two measures being the same. The dynamics and character of those birdsong motives are also different, calling for a diverse range of colors, phrasing and articulation. The iambic clivis closing figure that Messiaen describes as "typical" of the robin should be loud and emphatic, a little bit proud (such as in the first movement, measures 20, 40, 48, or in the third movement, measures 5, 36, 48, etc…). The occasional iambic podatus that can be found in measure 51 and 53 in the third movement of the robin should be a little bit sharp and emphasized. The high trills (such as the ones found in measure 55 in the first movement or measures 34 and 47 in the fifth movement) must be in *pianissimo* and be as fast as possible, and there should be no hesitation or pause after the trills.

In contrast to the "Rouge-gorge" movements, the second movement "Le Merle noir" indicates strong dynamics for the chords of the background themes. Although the background theme of the second movement also contain chords of transposed inversions and the model chords of Mode 3, they are treated differently here and are given a different character. The chords in the first two measures of the background theme skip upward and downward in fourth and tritone intervals, in varied angular rhythms, thus giving a pompous and extroverted opening to the second movement. The pace slows

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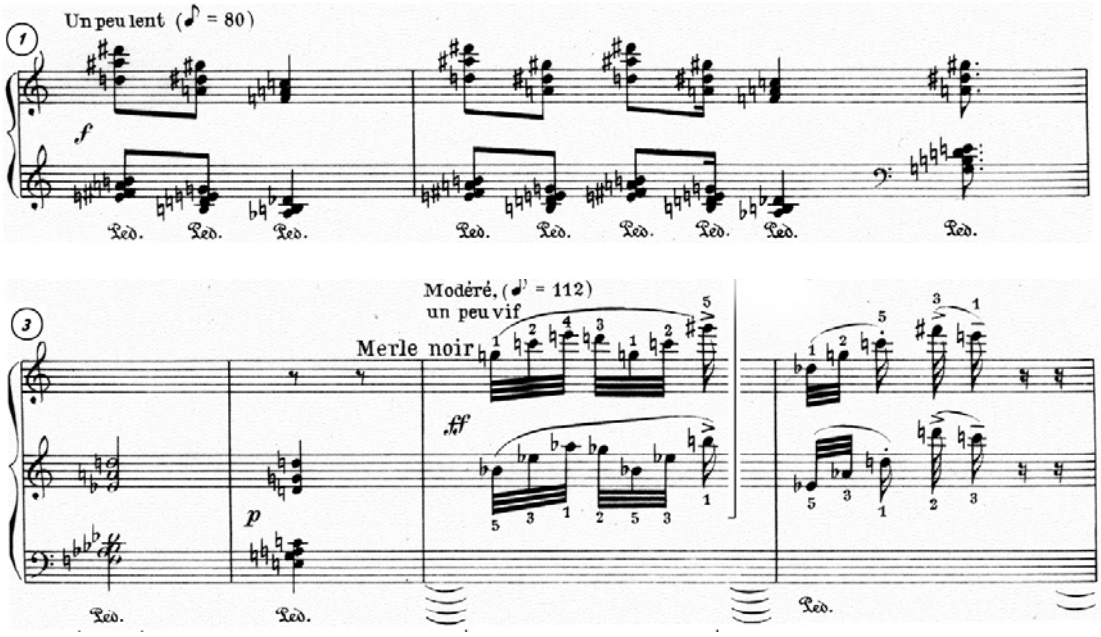
[296] "Toutes les descendes du rouge-gorge doivent être rapides et sans arrêts, sans hésitation et elles sont toujours plus vite que tout le reste." Yvonne Loriod commented during piano lesson with Quynh Nguyen, Paris, 2005.

down during the last two measures of the background theme, and the top pitch of the chords stay the same while the other voices move down a second. The dynamic decreases to *piano* at this point, signifying the cadence at the end of the background theme.



Example 7-2 First background theme, in mm. 1-4 (movement 2), concluding with a cadence in *piano*, before the burst of birdsong in mm. 5-6.

All of the background themes in this movement conclude with a cadence in *piano*. These cadences are preceded by descending chromatic movements of the bass as well as the inner voices. The end of the phrase should be prepared by softening dynamic to reflect this descending movement. Regarding these series of chords in the background and scenery themes at the beginning of each section, Loriod advises: "Before the final chord in piano (where the dynamics change from *forte* to *piano*), one needs to change the attack and the approach to the piano by raising the hand to prepare the attack and change the color for that final chord." Messiaen treated these final chords of the background themes differently from the rest of the chords: they consist only of white keys and serve

as a denouement to the phrase. They are approached by a descending line and act as a more consonant resolution to the dissonant chords that preceded them. Loriod described the chords at the end of the sections (the closing themes) as resonances, "one cannot say that it is truly the scenery, nor the birds. It is a frame, something that surrounds the songs of the birds."[297]

The songs of the blackbird appear as ascending motives in very fast rhythms and are marked *fortissimo*, fitting Messiaen's description of the blackbird as a very proud, extroverted bird, whose songs can be shrill and mocking. Regarding the songs of the blackbird in particular, Yvonne advises strong articulations, *forte* dynamics and brilliant sound. It is important that the performer observe these sensitive changes in rhythm, attack, dynamic and pedal in order to effectively portray the various moods of the different themes as well as to vividly evoke the cheerful image of the proud and exuberant blackbird.

The closing themes of the second movement are very quiet in character, consisting of only two slow *pianissimo* chords, one chromatic cluster low in the bass followed by a more widely-spaced chord placed in the very high register, both held by the same pedal. For these chords, Loriod recommends that the sound be firm, with presence, even with a little accent and strength added so that they can clearly be heard, since they are the harmonies that add color to the scenery and depict the surroundings of the birds. One must take care to create the ambience for those chords of the closing theme, which is marked *pianissimo,* so that it sounds rather distant and does not intrude into the birdsong melodies.

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[297] Ibid.

For the fourth movement on the song thrush, the dynamics are frequently *forte*, or even louder than *forte*. Yvonne Loriod describes the song thrush as a great soloist, very proud and even authoritarian. Generally speaking, there is no dialogue; when this bird sings in the woods, nobody else sings and there is no noise, not even a cry. The song thrush has a great imagination and it invents many new themes that are quite incredible. But it should also be noted that, between the themes, there are little rests and silences that should not be missed because it is during those pauses that the song thrush seeks new themes.

The last movement, featuring the skylark, is virtuosic. This movement contrasts greatly with the melodic sweetness of the robin, with the proud and happy songs of the blackbird and the authoritarian singing of the song thrush. The skylark's song is effulgent and sparkling, and contains an unique motive of alternating high and low pitches, which are repeated many times. Messiaen put the song of the skylark as the last movement to serve as a vivid, dazzling and resplendent conclusion to this suite of four different types of birdsongs. There are very few rests or pauses in the whole movement because the skylark is depicted as singing continuously, indefatigably, with energy and brilliancy. The quality of the sound should be crystal clear and sharp like a diamond. The accents should be observed carefully, since they portray the sharpness and brightness of the skylark's song. The majority of the movement is in *forte* to *fortissimo* dynamics, but there are a few places where the dynamic drops to *pianissimo* in order to build up to *fortissimo*. These moments of soft dynamics should be followed strictly to provide contrast and prepare the building up of intensity and excitement.

In this movement, the birdsong dominates and so there are only a few punctuating chords that serve as background harmonies from time to time. These chords are always in *mezzoforte* dynamics and are written in dotted eighth notes in contrast with the thirty-second notes in the birdsong melodies. They add variety to the color palette of the movement and act as resonant harmonies framing the skylark's lively virtuosic torrent of songs. As such, the color and timbre of these chords are darker and should be set off to contrast with the bright song of the skylark.

The sixth movement "L'Alouette des champs" ends with a depiction of the skylark swooping down from the sky while singing. This dive is portrayed in the music by descending sequences followed by two small motives illustrating the flapping of the wings at the end of the flight. The whole phrase is in very fast tempo, one of the fastest in the whole suite, with the eighth note equal to 144. The performer must take care to keep the tempo and all the notes even and steady while gradually turning softly from *mezzoforte* to *pianissimo*, in order to create a vivid picture of the skylark's descent. The whole movement and the whole suite end in silence, with a long fermata over the last measure. As the last sound is fading away, the fermata over the empty last measure suggests that the music continues on. As such, the performer should take care to let the acoustic vibrate a bit longer and not to interrupt the atmosphere at the end of the piece by finishing too quickly.

Example 7-3 The descending motivic sequence in the music vividly portrays the skylark's singing while diving to the ground from the heights of the sky. Movement 6, mm 104 -106.

The dazzling complexity and virtuosity of the birdsong melodies and figurations involving a wide range of dynamics, touches, and articulations require a good control and accuracy of the touch, balance of sound, nimble and even fingers. Loriod offers the following comments regarding understanding and performing *Les Petites Esquisses d'oiseaux*: "You must be patient and work slowly because this piece is very difficult, more difficult than the *Catalogue d'oiseaux*. Technically, among the most difficulties passages are the descending glissandos of the robin, very intricate and always changing, always different. The music is also difficult to read. When you practice the work, you

should not learn all the movements together at the same time. For example, you must first practice all the movements on the robin, and the blackbird, then work on the rest of the movements on the other birds. The easiest movement is the second movement on the blackbird. There are nineteen descending glissandos of the robin. First do all the descending glissandos, and then work on all the movements on the robin. Then work on the movement on the skylark. You must not get nervous or impatient. It's a difficult work."[298] The birdsong melodies should always be played more prominently than the inexact doubling which accompanies them to give timbre to the sound. The background themes should have different colors, timbre and dynamics to contrast with the birdsong themes.

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II. Conclusion

Messiaen wrote and dedicated his last solo piano piece *Les Petites Esquisses d'oiseaux* to his wife Yvonne Loriod, who found it "very delicate, and marvelous."[299] The focus of *Les Petites Esquisses d'oiseaux* is simple: each movement features a single bird soloist, without the songs of other birds and insects in the background or

[298] "Il faut être très patient et travailler lentement parce que c'est vraiment très difficile, plus difficile que le *Catalogue d'oiseaux.* Techniquement, les difficultés sont les descentes du rouge gorge. Il faut faire attention aux changements de mesures. Il faut vraiment avoir la sensation de la mélodie. C'est quand même difficile à lire. Il ne faut pas travailler tout l'ensemble. Quand vous travaillez, vous faites par exemple tous les *Rouge gorge*, après c'est *le Merle*, puis les autres oiseaux. Le plus facile c'est le *Merle*. Il faut être patient. Il faut se dire: c'est difficile, je vais travailler chaque jour un petit peu. Il y a dis neuf descentes du rouge gorge. D'abord je travaille tous les descentes. Ensuite je travaille tous les *Rouge gorge*. Ensuite je travaille *l'Alouette*. Il ne faut pas s'énerver. Il faut être très patient. C'est difficile." Conversation with Yvonne in Paris, 2005.

[299] Hill, *Messiaen Companion,* p. 301.

programmatic depiction of the bird's habitat. One also finds harmonic passages there, but such passages play only a small part and, as harmonic framework, serve to highlight and support the birdsong melodies. According to Yvonne Loriod, *Les Petites Esquisses d'oiseaux* is very different musically, more modern aesthetically, and more difficult in a distinct way from the other solo works for piano such as the *Vingt Regards sur l'Enfant Jésus* (1944) or the *Catalogue d'oiseaux* (1956–58). This birdsong suite came more than forty years after the *Vingt Regards sur l'Enfant Jésus,* which is inspired by a religious subject and contains many different themes beside birdsongs, such as the themes of God, the theme of stars, and the theme of chords. The main focus of the *Catalogue d'oiseaux* (1956–58) is birdsong, but in this work, birds from a whole region are notated along with depictions of their habitat that includes ponds, waterfalls, cliffs and the sea. In the *Catalogue d'oiseaux,* there are portrayals of the screeching owl and "the raucous, ferocious cawing and the grumbling of the Raven," while in *Petites Esquisses d'oiseaux,* the featured robin, blackbird, song thrush and skylark are "happy" and "friendly" birds.[300]

Les Petites Esquisses d'oiseaux marked an evolution of Messiaen's composition style. This beautiful, brief and intricate work is an example of Messiaen's late technique. Messiaen utilizes, synthesizes and juxtaposes a vast number of different compositional materials and techniques in this work. His harmonic sources include modes of limited

[300] "Here is the call of the Tawny Owl: sometimes lugubrious and mournful, sometimes vague and distressing (with a strange tremor), sometimes horrifyingly vociferous like the scream of a murdered child!...Silence. The howl is more distant, like the toll of a bell from another world." [Voici l'appel de la Hulotte: tantôt lugubre et douloureux, tantôt vague et inquiétant (avec un tremblement étrange), tantôt vociféré dans l'épouvante comme un cri d'enfant assassiné! …Silence. Ululement plus lointain, semblant une cloche de l'autre monde…]. Olivier Messiaen, Catalogue d'oiseaux, (Paris: A. Leduc, 1964), préface to "La Chouette Hulotte," book 3 ; "the raucous, ferocious cawing and the grumbling of the Raven " [Croassement rauques et féroces, grognements du Grand Corbeau], Messiaen, Catalogue d'oiseaux, préface to "Le Chocard des Alpes," book 1.

transpositions, modal chords, traditional scales such as pentatonic and diatonic scales, as well as several types of color chords, such as chord of transposed inversions, chord of contracted resonance, turning chordand chord of total chromaticism. These color chords are incorporated and imbedded into birdsong gestures to recreate the timbre of birdsong. His melodic writing includes a mixture of arpeggios, glissandos, and trills, and several different types of birdsong melodic figuration such as podatus, clivis, climacus, torculus, scandicus, distropha, tristopha, and porrectus.[301] Rhythmically, the birdsong motives contain various rhythms such as iamb, trochees, bacchius, anapest, spondee, and dactyl.[302] The birdsong melodies, consisting of small motivic cells, are inexactly doubled, tripled and often mixed with chromatic dyads, triads or tetrads to add variety to the texture. The intervals within the birdsong motives vary widely, from the minor seconds to compound intervals. There are many tempo and dynamic changes throughout the work. The contrast in different registers for the different themes, the different melodic textures, dynamics and tempos create a swirling kaleidoscope of dazzling colors and figurations.

Les Petites Esquisses d'oiseaux is written in mostly high register. There is very little bass since the whole suite is dominated by birdsong. There are only a few chords in the low registers acting as the framework and background, on top of which the birdsong melodies float freely. As a result, the suite of birdsong *Les Petites Esquisses d'oiseaux* has an ethereal, intricate and sparkling quality.

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[301] Podatus, clivis, climacus, torculus, scandicus, distropha, tristropha, and porrtectus are neumes that Messiaen himself uses to describe birdsong melody and motives in his analysis of the birdsong. See chapter 2, part II.

[302] Iamb, trochees, bacchius, anapest, spondee, and dactyl are terms of Greek meter that Messiaen uses to describe rhythmic motives. See chapter 2, part III.

It is hoped that this dissertation contributes to the study of *Les Petites Esquisses d'oiseaux* and inspires further study and performance of this work. Possible topic includes examination of the voice-leading among Messiaen's color chords, or analysis of birdsong melodies and phrasings. In its purity, complexity and intricacy, *Les Petites Esquisses d'oiseaux* is to some extent unlike anything Messiaen had written before. It is codified and sparse in texture, yet charming, lovely and rich in harmonic colors and variety of touch, articulation, and dynamics. In this suite, Messiaen pays homage to his favorite birds, whose songs continue to give him joy and inspiration, and whose inventiveness makes him exclaim that "in the artistic hierarchy, birds are the best musicians that exist on our planet."[303]

[303] "Il est probable que dans la hiérarchie artistique, les oiseaux sont les plus grands musiciens qui existent sur notre planète." Samuel, *Musique et couleur* (1983), p. 91.

Appendix I

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
First theme of scenery	1	CTI-1B.[304]	[4,5,6,9,T,E,1]	7-20	Broad area of sapphire blue, strapped by less intense blue (fluorine blue, clear Chartres blue) and re-strapped by purple.	Chords and modal chords. Porrectus	*Très lent* (Very slow) ♪= 40, *piano*
		Mode 3-3 M3MC-7	[6,9,T,0,1,2]	6-15	Blue and green colors, shining in ways that vaguely resemble the glint of a diamond.[305]		
		CTI-11 B	[2,3,4,7,8,9,E]	7-20	Lemon yellow interspersed with red stains.		
Robin's song	2	Mode 3-1	R.H.: [8,0,2,3]	4-Z29		Inexact doubling of two hands: M7, M7, M7, M7, M9. Porrectus followed by a podatus.	*Un peu vif* (A little fast) ♪=120, *mezzoforte*
		Mode 3-2	L.H.: [9,0,1,4]	4-17			
		Mode 7-2	Total; [8,9,0,1,2,3,4]	7-6			
	3	Mode 3-2	R.H.: [3,7,9]	3-8		Inexact doubling in two hands. Intervals between two hands: M7, M9, M7, M7.	moderate ♪= 88 *Mezzoforte*
		Mode 3-3	L.H.: [8,T,1]	3-7			
	4	Mode 7-2	[8,T,1,3]	4-23 (subset of 5-35)		Descending arpeggio, alternating between two hands and between	*Vif* (Fast) ♪= 184

[304] Messiaen, *Traité*, vol. 7, pp. 141-147. Colors of all CTIs are described by Messiaen.

[305] Messiaen, *Traité*, vol. 5, bk. 1, p. 178.

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Mode 7-2	[0,2,4,7,9]	5-35		black and white keys, in two different transpositions of the pentatonic scale.	*pianissimo*
		Mode 7-2	[6,8,T,1,3]	5-35			
		Mode 7-2	[9,0,2]	3-7 (subset of 5-35)			
	5	Mode 3-1	R.H.: Top voice: [8,0,2,3]	4-Z29		R.H.: inexact doubling with added inner middle voice in the treble voice. Porrectus followed by torculus.	Un peu lent (A little slow) ♪= 63 *forte*
		Mode 4-1	R.H. Bottom voice: [E,0,1,2]	4-1			
		Mode 7-1	R.H. Both voices: [8,E,0,1,2,3]	6-Z36			
		Mode 3-3	L.H.: [6,8,T,1]	4-22		L.H.: single voice following the melodic contour of the R.H./porrectus followed by torculus.	
	6	Silence					

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Second theme of scenery	7	CTI-1B.[306]	[4,5,6,9,T,E,1]	7-20	Broad area of sapphire blue, strapped by less intense blue (fluorine blue, clear Chartres blue) and re-strapped by purple.	Chords and modal chords. Porrectus followed by a podatus.	*Très lent* (Very slow) ♪ = 40 *piano*
		Mode 3-3 M3MC-7	[6,9,T, 0,1,2]	6-15	Blue and green colors, shining in ways that vaguely resemble the glint of a diamond.		
	7	CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow interspersed with red stains.		
		Mode 3-3 M3MC-3	[2,5,6,8,9,T]	6-15	Blue and green colors, with a little orange.		
		CTC-2 (Octad - first part of CTC 2)	[8,9,T,E,1,3,4,5]	8-16	Broad spectrum of colors around a deep gentian blue that is surrounded by a widening circle of violet, red, and orange with the four supplementary notes adding another brilliant yellow hue at the top.		

[306] Messiaen, *Traité*, vol. 7, pp. 141-147.

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	8	Mode 2-3	R.H.: [2,3,5,8,9,E]	6-30	The four supplementary notes (imbedded in the middle of birdsong) add another brilliant yellow hue at the top.	Completion of CTC2 follows in birdsong melody in measure 8. Inexact doubling in two hands: M9, P4, M9, m9, m3, M7, m7. Torculus followed by two podatus.	Un peu vif (A little fast) ♪=120. *Mezzoforte*
		Mode 2-1	L.H.: [6,7,T,0,1,3]	6-Z50			
	9	Mode 4-2	R.H.: [1,3,6,8]	4-23 (subset of 5-35)		R.H.: Pair of dyads in major seconds. L.H.: pentatonic chord/ Motive in torculus.	*forte*
		Mode 7-1	L.H.: [5,7,9,0,2]	5-35			
	10	(TC-11B)	R.H.: [T,0,1,2,3,4,5]	7-2		Inexact doubling of two hands: A4, M9, m9, P4, A2, A2, A4. Porrectus flexus followed by a distropha, which overlaps a clivis.	*Modéré* (Moderate) ♪= 88 *piano*
		Mode 3-3	L.H.: [6,8,T,1]	4-22			
			Total: [T,0,1,2,3,4,5,6,8]	9-6			
	11	Mode 3-1	R.H.: [E,0,2,4,6,8]	6-34	Cobalt blue, deep green of malachite.	Inexact doubling of two hands: A2, M7, M3, m9, A2, M9, M3, m9, m9.	*Un peu vif* (A little fast) ♪= 120
		Mode 7-2 (1st CCR-6B)	L.H.: [6,7,8,9,T,1,3]	7-Z12			

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Near total chromatic	Total: [012346789TE]			Arpeggiated chord in L.H.	
	12	Mode 2-2 DS-1	R.H.: [2,4,5,7]	4-10		R.H.: Pair of major seconds dyads in white keys, contrasting with black keys chord in L.H.	*Modéré* (Moderate) ♪= 88 *forte*
		Mode 4-3 DS-2 PS-7	L.H.: [8,T,1,3]	4-23 (subset of 5-35)			
		Mode 7-3	Total: [1,2,3,4,5,7,8,T]	8-13			
	13	Mode 4-3	White keys group: [2,4,7,9]	4-23 (subset of 5-35)		Two pairs of major seconds dyads in both hands, contrasting between black keys and white keys. Trochaic podatus.	*Modéré* (Moderate) ♪= 88 *forte*
		Mode 4-3	Black keys group: [1,3]	2-2			
		Mode 4-3	Total : [1,2,3,4,7,9]	6-Z41			
	14	Mode 4-1	R.H.: [6,8,E,0,1,2]	6-Z41		R.H.: Three major seconds descending dyads. L.H.: All black keys non-modal chord in pentatonic scale. A climacus motive for the right hand is	*Un peu vif* (A little fast) ♪= 120 *mezzoforte*
		Mode 7-2	L.H.: [6,8,T,1,3]	5-35			

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Non-modal	Total [6,8,T,E,0,1,2,3]	8-11		followed by a pentatonic chord for the left.	
	15	CTC-6 (Octad - 1ST part CTC-6)	[0,1,2,3,5,7,8,9]	8-16	Two superimposed spectra: a lower one mossy green hues and an upper one that glides over pale yellow and mauve.	First part of CTC 6 followed by a clivis.	*Un peu lent* (A little slow) ♪= 63 p*iano*
	16	CTC 6 (tetrachord - 2nd part CTC-6)	[4,6,T,E]	4-16	The four supplementary notes add on the top a thin band of leathery chestnut which is later toned down to white.	Pair of leaping thirty-second notes, consisting of the four supplementary pitches to complete the total aggregate of CTC-6.	*Modéré* (Moderate) ♪= 88 *Mezzoforte*
	17	Mode 3-4	R.H.: [1,2,3]	3-1		Inexact doubling in the two hands: M7, M9, d7, P4, M9. Podatus followed by scandicus.	*Modéré* (Moderate) ♪= 88
		Mode 3-3	L.H.: [0,4,T]	3-8			
		Mode 7-2	Total: [T,0,1,2,3,4]	6-2			
	18	Mode 7-2	R.H.: [6,8,T, 1,3]	5-35		A descending arpeggio that alternates between right hand and left hand, contrasting between white keys and black keys, the two transpositions of the pentatonic key.	*Vif* (Fast) ♪=184 *pianissimo*
		Mode 7-2	L.H.: [0,2,4,7,9]	5-35			
		Mode 7-2	R.H.: [6,8,T,1,3]	5-35			
		Mode 7-2	L.H.: [0,2,4,7,9]	5-35			

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Mode 3-2	R.H.: [E,0,1]	3-1			
		Mode 3-2	L.H.: [7,9]	2-2			
		Near total chromatic	Total: [012346789TE]	11-1			
	19	(1st CCR-6B)	[6,7,8,9,T,1,3]	7-Z12	Cobalt blue, deep green of malachite.	Inexact doubling in the two hands: m9, m9, M9, m9, m9, m3. Two distrophas. alternating with clivis.	*Modéré* (Moderate) ♪= 88 *piano*
	20	1st CCR-2A	[2,3,4,5,7,8,T]	7-Z36	Purple violet, yellow, orange red.	A pair of 1st CCR 2-A & B forms the conclusion typical of the robin's phrases. Iambic clivis.	*Lent* (Slow) ♪= 54 *forte*
		1st CCR-2B	[2,3,4,5,6,9,E]	7-Z12	Clear green, clear gray, red.		
	21	Silence					
	22	Mode 4-2	R.H.: [7,8,9,0,1,2,3]	7-7		Inexact doubling in two hands: M9, m6, M7, M7, m3, m9, m9, M7, M7, M7, m9, m7. Three motives of the porrectus flexus.	*Un peu vif* (A little fast) ♪=120 *piano*
		Mode 7-2	L.H.: [6,7,8,9,T,0,1,3]	8-13			
		Mode 7-2	Total [6,7,8,9,T,0,1,2,3	9-5			
	23	Mode 3-1	[8,T]	2-2		Descending gesture, alternating between two	*mezzoforte*

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Mode 3-2	[9,E,4]	3-9 (subset of 5-35)		hands and between white and black keys. An accented dyad, followed by a climacus.	
		Mode 3-3	[5,6,8,T,0]	5-24			
	24	Mode 7-2	R.H.: [1,3,4,6,8,T]	6-33		Porrectus flexus and inexact doubling in R.H. Pentatonic chord in L. H. Contrasting clusters of white and black keys in two hands.	*Modéré* (Moderate) ♪= 88 *mezzoforte*
		Mode 7-2	L.H.: [0,2,4,7,9]	5-35			
		Mode 7-2 1st CCR-12B	Chord 1: [0,1,2,3,4,7,9]	7-Z12	Bursting yellow gold, purple violet stained with white, gold and black.		
		Mode 7-2	Chord 2: [0,2,4,6,7,9]	6-33			
	25	Mode 3-4	R.H.: [7,9,E,2]	4-22		Inexact doublings in two hands: m9, M7, m9, m9. Porrectus flexus in both hands.	A little fast ♪= 120 *piano*
		Mode 3-1	L.H.: [3,6,8,T]	4-22			
			Total: [6,7,8,9,T,E,2,3]	8-7			
	26	Mode 3-1	R.H.: [0,3,8]	3-11		Inexact doublings in two hands: m9, m9, m9, d3. Climacus resupinus.	*Modéré* (Moderate) ♪= 88 *piano*
		Mode 3-4	L.H.: [1,2,7,E]	4-Z29			
		Mode 7-1	Total: [7,8,E,0,1,2,3]	7-6			

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	27	Mode 7-4	R.H.: [3,6,8,9,T,E]	6-Z40		Descending gesture, with inexact doubling in R.H. followed by a chordal cluster in L. H.	*Un peu vif* (A little fast) ♪= 120
		Mode 3-2	L.H.: [1,5,7,8]	4-Z29			
	28	Mode 3-1	R.H.: [E,0,2,3,6,7]	6-Z19		Inexact doublings in two hands: M3, M9, A2, M9, m3, m9. L.H. is in pentatonic key. A porrectus that is followed by a torculus.	*Modéré* (Moderate) ♪= 88 *mezzoforte*
		Mode 7-2	L.H.: [6,8,T,1,3]	5-35			
		Non-modal	Total: [6,7,8,T,E,0,1,2]	9-4			
	29	Mode 4-3	R.H.: [1,2,3,4]	4-1		Two pairs of leaping major second dyads alternating between black keys and white keys in R.H., small cluster of both white and black keys in L. H. Intensely chromatic. Two iambic clivis.	*Bien Modéré* (More moderate) ♪= 72 *mezzoforte*
		Mode 4-2	L.H.: [0,1,3]	3-2			
		Mode 7-2	Total: [0,1,2,3,4]	5-1			
	30	Mode 7-6	R.H.: [T,E,1,2,4,6,8]	7-34		Parallel motion, inexact doubling in the two hands: M9, M9, m9, m3, m9, m9, m9, m9, M7, m7. Two climacus followed by two clivis.	*Un peu vif* (A little fast) ♪= 120 *piano*
		(TC-1B)	L.H.: [7,8,T,E,0,1,2,3]	8-4			

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Near total chromatic	Total: [0,1,2,3,4,6,7,8,T,E]	10-4			
	31	Mode 7-2	[6,8,T,1,3]	5-35		Descending arpeggio alternates between right hand and left hand, and contrast between white keys and black keys, the two transpositions of the pentatonic key.	*Vif* (Fast) ♪=184
		Mode 7-2	[0,2,4,7,9]	5-35			
		Mode 3-1	[3,6,8]	3-7			*Pianissimo*
	32	(2^{nd} CCR-3A) (with added note of anticipation D, which belongs to the following chord 2^{nd} CCR-3B)	[2,3,4,7,8,T,E]	7-22 (w/o D, is 6-Z19)	A translucent amber color that comprises yellow and clear chestnut, with veins of purple and brown chocolate and some stains of pale blue also discernible.	Inexact doublings in both hands, ending with a color chord. An iambic podatus, followed by an accented chord.	*Modéré* (Moderate) ♪= 88 *mezzoforte*
		2^{nd} CCR-3B	[1,2,4,8,9,T]	6-Z43			
	33	Silence					

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Theme of scenery, third appearance	34	CTI 1B	[4,5,6,9,T,E,1]	7-20	Clear purple.	Color chords and modal chords. Clivis and podatus.	*Très lent* (Very slow) ♪= 40 *piano*
		Mode 3-3 M3MC-7	[6,9,T,0,1,2]	6-15	Blue and green colors, and shines vaguely like a diamond.		
		Mode 3-3 M3MC-3	[2,5,6,8,9,T]	6-15	Blue and green colors, and shines vaguely like a diamond.		
		CTC-1 (octad- 1st part)	[7,8,9,T, 0,2,3,4]	8-16	Green and blue, with a slight mixture of orange.		
Robin's song	35	CTC-1 (2nd part)	[E,1,5,6]	4-16		Pair of leaping thirty-second notes, consisting of the four supplementary pitches to complete the total aggregate of CTC-1. Accented iambic clivis.	*Modéré* (Moderate) ♪= 88 *forte*
	36	Mode 3-1	R.H.: [2,3,8]	3-5		Inexact doublings in two hands: P5, m6, m6, M3. Podatus followed by a distropha and then a clivis.	*Modéré* (Moderate) ♪= 88 *piano*
		Mode 3-4	L.H.: [7,T,1]	3-10			
		Mode 4-3	Total: [7,8,T,1,2,3]	6-18			
	37	Mode 3-2	R.H.: [7,8,9,E,0,1,3]	7-13		Inexact doublings in two hands: M7, A2, M6, m7,	*Un peu vif* (A little

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Mode 4-2	L.H.: [1,2,3,6,8]	5-14		M7, d5, A4. A torculus is followed by a porrectus flexus.	fast) ♪= 120 *mezzoforte*
			Total: [6,7,8,9,E,0,1,2,3]	9-5			
	38	2rd CCR-4A	[2,3,6,7,9,T]	6-Z19	Pale translucent yellow with inklings of gray and pale blue.	Two pairs of color chords. Two iambic clivis	*Modéré* (Moderate) ♪= 88 *mezzoforte*
		2rd CCR-4B	[7,8,9,0,1,3]	6-Z43			
		2rd CCR-4A	[2,3,6,7,9,T]	6-Z19			
		2rd CCR-4B	[7,8,9,0,1,3]	6-Z43			
	39	Mode 7-4	R.H.: [8,9,T,E,0,3]	6-Z36		Inexact doublings in two hands: M9, A3, M9, M9, d5, M9. A torculus is followed by a porrectus.	*Un peu vif* (A little fast) ♪= 120 *mezzoforte*
		Mode 7-2	L.H.: [6,8,T,1,3]	5-35			
	40	2nd CCR-10A	[8,9,0,1,3,4]	6-Z19	Huge point of rock, iron spear, black gray, mauve gray, pale gray-with the golden yellow on the top.	A pair of color chords. An iambic clivis.	*Modéré* (Moderate) ♪= 88 *Mezzoforte*
		2nd CCR - 10B	[1,2,3,6,7,9]	6-Z43			
	41	Mode 3-3	[6,8,T,1,2]	5-30		Descending arpeggio alternates between right hand and left hand, and contrasts between white	*Vif* (Fast) ♪= 184 *pianissimo*
		Mode 3-1	[6,8,T,0,3]	5-34			
		Mode 3-3	[6,8,T,1]	4-22			

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Mode 3-3	[0,2,4]	3-6			
	42	Non modal	R.H.: [1,2,3,4,6,8,9,T,E]	9-9		Inexact doublings in two hands: M7, M3, M7, m7, A4, A3, M3, M9, d5. Two torculus followed by a porrectus.	*Un peu vif* (A little fast) ♪= 120 *mezzoforte*
		Non modal	L.H.: [0,1,2,3,5,6,7,9,T]	9-11			
		Total aggregate	Total: [0,1,2,3,4,5,6,7,8,9,T,E]	12-1			
	43	Mode 7-2	R.H.: [6,7,8,9,T,1,2]	7-6		Inexact doublings: m9, M6, M9, M7, m6, m3, m9. Two porrectus, the second of which is a porrectus flexus.	*mezzoforte*
		Mode 7-2	L.H.: [0,1,3,4,6,8,T]	7-34			
	44	CTC-7 (octad-first part of CTC-7)	[1,2,3,4,6,8,9,T]	8-16	A big area of tender green, sprinkled with small brownish yellow pebbles, lightly blackish.	Chords. Distropha overlapped with clivis.	*Un peu lent* (A little slow) ♪= 64 *piano*
	45	CTC-7 (second part)	R.H.: [E,0,2,3,5,7]	4-16	The four supplementary notes form all around a white circle.		*Modéré* (Moderate) ♪= 88 *forte*

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	46	Mode 7-1	L.H.: [6,8,T,1,3]	6-Z24		Inexact doubling M9, P5, m6, M3, m3, M9. Two torculus.	*Un peu vif* (A little fast) ♪= 120 *mezzoforte*
		Mode 7-2		5-35			
	47	Mode 7-5	R.H.: [6,7,9,T,E,0,1,3]	8-12		Inexact doubling M9, d4, m3, M3, M3, M3, M9, M3, A5. Three torculus.	*Un peu vif* (A little fast) ♪= 120
		Mode 4-3	L.H.: [7,8,9,T,1,2,3]	7-7			
	48	1st CCR-6A	[6,7,8,9,E,0,2]	7-Z36	Milky white, clear green and lemon yellow	Chords. Iambic clivis gesture.	*Modéré* (Moderate) ♪= 88 *mezzoforte*
		1st CCR-6B	[6,7,8,9,T,1,3]	7-Z12	Cobalt blue with the deep green color of malachite.		
	49	CTC-11 (octad - first part of CTC-11)	[5,6,7,8,T,0,1,2]	8-16	Two superposed zones, with the lower zone being a diamond white with pale blue and mauve reflects while the higher zone introduces white with pale blue reflections that evoke the appearance of moonstones.	Podatus and clivis.	*Un peu lent* (A little slow) ♪= 63 *piano*
	50	CTC-11 (second part)	[E,3,4,9]	4-16	Four supplementary notes add a thin band of leather brown, toned to white.		*Modéré* (Moderate) ♪= 88

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	51	Mode 7-2	R.H. top voice: [6,8,T,1,3]	5-35		Inexact doubling mixed with inner line of the top voice as middle voice: M7, d4, M7, M6, d4, M7 (intervals between top and bottom voices). Two torculus.	*Un peu lent* (A little slow) ♪= 63 *mezzoforte*
		Mode 7-2	R.H. lower voice: [6,8,T,1,3]	5-35			
		Mode 3-2	L.H.: [1, 4, 7, 9]	4-27			
	52	Silence					
	53	(TC-2B)	R.H.: [6,7,9,T,E,0,2]	7-11		Inexact doubling: m9, M7, M3, M3, m7, M3, M3, M7. Two porrectus overlap with a distropha and end with clivis.	*Un peu vif* (A little fast) ♪= 120
		Mode 3-1	L.H.: [6,7,8,T,0,2,3]	7-30			
	54	Mode 7-2	[0,1,2,3,4]	5-1		Two pairs of dyads alternating between black and white keys.	*Modéré* (Moderate) ♪= 88 *forte*
		Mode 7-2	[0,1,2,3,4]	5-1			
	55	Mode 3-1	R.H.: [6,8]	2-2		Trills contrasting between black keys in R.H. and white keys in L.H.	*pianissimo*
		Mode 3-2	L.H.: [7,9]	2-2			
		Mode 4-2	Total : [6,7,8,9]	4-1			

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	56	1st CCR-9A	[9,T,E,0,2,3,5]	7-Z36	Hues of magenta violet, rosy white and orange red, purplish blue and clear coffee fading into white, green and silver, and reddish brown.	Chords. Distropha overlapped with clivis in R.H., podatus in L.H.	*Modéré* (Moderate) ♪= 88 *mezzoforte*
		1st CCR-9B	[9,T,E,0,1,4,6]	7-Z12			
	57	1st CCR-9A	[9,T,E,0,2,3,5]	7-Z36	Hues of magenta violet, rosy white and orange red, purplish blue, clear coffee fading into white, green and silver, and reddish brown	Chords. Distropha overlapped with clivis in R.H., podatus in L.H.	
		1st CCR-9B	[9,T,E,0,1,4,6]	7-Z12			
	58	Mode 4-3	[8,T, 1,3]	4-23		Descending arpeggio alternates between right hand and left hand, and contrasts between white keys and black keys, the two transpositions of the pentatonic key.	*Vif* (Fast) ♪= 184 *pianissimo*
		Mode 7-2	[0,2,4,7,9]	5-35			
		Mode 3-2	[1,3]	2-2			
		Mode 3-2	[3,5,7,9]	4-21			
	59	CTC-12 (first part of CTC-12)	[6,7,8,9,E,1,2,3]	8-16	Yellow and pink in the lower zone – very clear Prussian blue in the higher zone.	A porrectus and a torculus followed by climacus before concluding with a clivis.	*Un peu vif* (A little fast) ♪= 63 *mezzoforte*
	60	(CTC-1 (second part)	,9 ,T,E]	11-1	Four supplementarynotes add a thin band of smoked greenish gray quartz on the top.	Inexact doubling: P4, P4, d4, m9, M3, m9, m9, m9, M7, M7, M7.	
	61	Silence.					

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	62	Mode 3-3	R.H.: [6,8,T,1]	4-22 (subset of 5-35)		Three black keys dyads in R.H., white keys pentatonic chord in L.H. Torculus in R.H. chord in L.H.	*Un peu vif* (A little fast) ♪= 120 *mezzoforte*
		Mode 7-2	L.H.: [0,2,4,7,9]	5-35			
		Near total chromatic	Total: [6,7,8,9,T,0,1,2,4]				
	63	Mode 3-3	R.H.: [3,7,9,T]	4-Z29		Inexact doublings: M9, A2, M3, M9, M9, m3. Torculus followed by podatus.	*Un peu lent* (A little slow) ♪= 63 *piano*
		Mode 4-2	L.H.: [1,3,6,8]	4-23			
		Mode 7-2 (1st CCR-6B)	Total: [6,7,8,9,T,1,3]	7-Z12	Cobalt blue and deep green of malachite.		
	64	Mode 3-3	[5,8,T,1]	4-26		R.H.: four dyads, doubled inexactly, alternating between white and black keys. L.H.: pentatonic chord on white keys. A porrectus flexus in R.H., chord in L.H.	*Un peu vif* (A little fast) ♪=120 *mezzoforte*
		Mode 3-3	[0,2,4]	3-6			
		Mode 7-1	[5,7,9,0,2]	5-35			
		(TC-4C)	First chord: [5,7,9,T,0,1,2]	7-27			

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Near total chromatic	Total: [4,5,6,7,8,9,T,0,1, 2]	10-4			
	65	Mode 2-2	R.H.: [8,E,1,2,4]	5-25		Inexact doublings: M6, M9, M6, A5, M7, A6. Two torculus.	*Modéré* (Moderate) ♪= 88 *mezzoforte*
		Mode 3-2	L.H.: [5,7,9,0,1]	5-30			
		Non modal	Total: [7,8,9,E,1,2,4,5]	9-11			
	66	Mode 4-4	[2,3,4,5]	4-1		Two accented iambic clivis forming leaps of 7th dyads.	*Bien Modéré* (More moderate) ♪= 72
	67	Mode 3-1	[3,6,8,T]	4-22 (subset of 5-35)		Descending arpeggio alternates between right hand and left hand, and contrasts between white keys and black keys, the two transpositions of the pentatonic key.	*Vif* (Fast) ♪= 184 *pianissimo*
		(TC-2C)	[7,9,E,0,2,4]	6-32[307]			
		Mode 7-2	[6,8,T,1,3]	5-35			
		Mode 7-2	[0,2,4,7,9]	5-35			

[307] subset of 7-35, diatonic scale, superset of 5-35

Table of Analysis on the First Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Mode 3-3	[8,T,1]	3-7 (subset of 5-35)			
		Mode 3-3	[0,2]	2-2			
	68	Mode 2-1	R.H. top voice: [7,9,T,1]	4-12			*Un peu lent* (A little slow) ♪ = 63 *forte*
		Mode 2-1	R.H. lower voice: [9,T,0,3]	4-13			
		Mode 2-1	R.H.: [7,9,T,0,1,3]	6-Z23			
		Mode 4-3	L.H.: [8,T,1,3]	4-23			
		Mode 7-2 (1st CCR-7A)	Total: [7,8,9,T,0,1,3]	7-Z36	Mauve gray, orange, and purple violet.	Inexact doublings: m9, M6, M3, m3. Porrectus flexus.	
	69	Silence					

Table of Analysis on the Second Movement "Le Merle noir."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Section 1: Measures 1-9							
First background theme	1	CTI-4A	[9,T,E,2,3,4,6]	7-20	Vertical bands of green, purple, and dark blue.		*Un peu lent* (A little slow) ♪=80 *forte*
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow with red stains.		
		M3MC-6	[5,8,9,E,0,1]	6-15			
	2	CTI-4A	[9,T,E,2,3,4,6]	7-20	Vertical bands of green, purple, and dark blue.	Modal and color chords/ Clivis followed by anapest climacus overlapped with podatus.	
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow interspersed with red stains.		
		CTI-4A	[T,E,2,3,4,6,9]	7-20	Vertical bands of green, purple, and dark blue.		
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow interspersed with red stains.		
		M3MC-6	[5,8,9,E,0,1]	6-15			
		CTI-7D	[2,3,4,7,8,9,E]	7-20	Orange, red and brown, and a touch of lemon yellow.		
	3	CTI-5B	[8,9,T,1,2,3,5]	7-20	Ashen, pale green, and mauve.	Color chord.	
	4	Mode 7-2	[0,2,4,7,9]	5-35		Modal chord.	

Table of Analysis on the Second Movement "Le Merle noir."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Blackbird's theme	5	Mode 3-1	[3,4,7,8,T,0]	6-31		Inexact doubling: M6, M6, A5, A5, M6, M6, M6. A scandicus and a porrectus resupinus.	Moderate A little fast ♪=112 *fortissimo*
		Mode 3-1	[6,7,8,T,E,0,2,3]	8-19			
	6	Mode 4-2	[0,1,2,3,7,8]	6-Z38		Inexact doubling: m7, M7, m7, M3, M3 An anapest scandicus and an accented iambic clivis.	
		Mode 3-3	[0,2,4,6]	4-21			
Closing gesture	7	Mode 4-5	[9,T,E,0]	4-1		Modal chord/low register.	*Modéré* (Moderate) ♪=88 *Pianissimo*
	8	Mode 4-4	[8,9,T,E,2,3]	6-5		Modal chord/high register.	
	9	A brief silence, lasting three eighth-note rests.					
Section 2: Measures 10-19							
Second background theme	10	CTI-4A	[9,T,E,2,3,4,6]	7-20	Vertical bands of green, purple, and dark blue.	Modal and color chords/ anapest climacus.	*Un peu lent* (A little slow) ♪= 80 *forte*
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow with red stains.		
		M3MC-6	[5,8,9,E,0,1]	6-15	Ash gray, mauve, and white with mauve reflections.		
	11	CTI-4A	[9,T,E,2,3,4,6]	7-20	Vertical bands of green, purple, and dark blue.	Modal and color chords/ Clivis followed by anapest climacus overlapped with podatus.	
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow with red stains.		

Table of Analysis on the Second Movement "Le Merle noir."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Second background theme		CTI-4A	[9,T,E,2,3,4,6]	7-20	Vertical bands of green, purple, and dark blue.		*Un peu lent* (A little slow) ♪= 80 *forte*
		CTI -11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow with red stains.		
		M3MC-6	[5,8,9,E,0,1]	6-15	Ash gray, mauve, and white with mauve reflections.		
		CTI-9D	[4,5,6,9,T,E,1]	7-20	Cameo of blue: intense sapphire blue, translucent type fluorine blue, matt blue lapis-lazuli, purple blue, and light Chartres blue.		
	12	CTI-7B	[T,E,0,3,4,5,7]	7-20	Red and white slanting bands, on pinkish foundation with black drawings.	Color chord.	
	13	Mode 7-3	[2,4,5,7,9,E]	6-33			
Blackbird's theme	14	Mode 2-1	[7,T,0,3]	4-26		Inexact doubling: M6, M6, M6, M6. Two podatus, the second is an iambic podatus.	*Modéré* (Moderate) *Un peu vif* (A little fast) ♪=112 *fortissimo*
		Mode 2-3	[6, 8,9, E]	4-10			
	15	Mode 3-1	[0,2,3,6,7,8]	6-Z43		Inexact doubling: M3, M3, M3, m7, A6, M7. Climacus followed by torculus, both in anapest rhythm.	
		Mode 3-1	[2,3,4,6,8,T]	6-22			
	16	Mode 3-2	[0,1,3,4,7,9]	6-Z49		Inexact doubling: d7, m7, M6, M6, A6, M6. A double scandicus.	
		Mode 3-1	[E,0,2,3,6,8]	6-Z49			

Table of Analysis on the Second Movement "Le Merle noir."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Closing gesture	17	Mode 4-5	[9,T,E,0]	4-1		Modal chord.	*Modéré* (Moderate) ♪==88
	18	Mode 3-2	[7,8,T,E,0,1]	6-Z3		Modal chord.	
	19	A brief silence lasting three eighth-note rests					
Section 3: Measures 20-30							
Third background theme	20	CTI-1B	[4,5,6,9,T,E,1]	7-20	A broad area of sapphire blue, hemmed in by a less intense blue - a fluorine blue, a clear Chartres blue.	Modal and color chords/ two climacus resupinus followed by two clivis.	*Un peu lent* (A little slow) ♪=80 *forte*
		CTI-7B	[T,E,0,3,4,5,7]	7-20	Red and white slanting bands, on pinkish foundation with black drawings.		
		M3MC-6	[5,8,9,E,0,1]	6-15	Ash gray, mauve, and white with mauve reflections.		
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow, with red stains.		
		CTI-1B	[4,5,6,9,T,E,1]	7-20	Broad area of sapphire blue strapped by a less intense blue (fluorine blue, clear Chartres blue and re-strapped by purple.		

Table of Analysis on the Second Movement "Le Merle noir."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Third background theme		CTI 7B	[T,E,0,3,4,5,7]	7-20	Red and white slanting bands, on pinkish foundation with black drawings.		
		M3MC-6	[5,8,9,E,0,1]	6-15	Ash gray, mauve, and white with mauve reflections.		
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow, with red stains.		
		CTI-4A	[9,T,E,2,3,4,6]	7-20	Vertical bands of green, purple, and dark blue.		*Un peu lent* (A little slow) ♪=80
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow, with red stains.		
		CTI-4A	[9,T,E,2,3,4,6]	7-20	Vertical bands of green, purple, and dark blue.		
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow, with red stains.		
	21	CTI-5B	[8,9,T,1,2,3,5]	7-20	Ashen, pale green, and mauve.	Color chord.	
	22	M3MC-2	[1,4,5,7,8,9]	6-15		Modal chord.	
	23	Mode 3-3	[9,0,2,4,5]	5-27		Modal chord.	

Table of Analysis on the Second Movement "Le Merle noir."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Blackbird's theme	24	Mode 3-1	[3,4,7,8,T,0]	6-31		Inexact doubling: M6, M6, A5, A5, M6, M3, M3, M7, M7. Scandicus followed by porrectus flexus and distropha.	*Modéré* (Moderate) A little fast ♪=112 *fortisimo*
		Mode 3-1	[0,2,3,4,6,7,T]	7-26			
	25	Mode 3-1	[3,4,7,8,T,0]	6-31		Inexact doubling: M6, M6, A5, A5, M2, M2, d5, A4, M3, M6. Scandicus followed by porrectus resupinus and finishing with porrectus.	
		Mode 7-1	[0,1,2,3,5,6,7]	7-5			
		Mode 3-1	[7,8,E,2,3]	5-22			*Modéré* (Moderate) ♪=88
Closing gesture	26	Mode 4-5	[9,T,E,0]	4-1		Low chromatic cluster.	
	27	Mode 6-6	[4,5,7,9,T,E]	6-Z12		Modal chords/three high-register hexachords in contrary motion: climacus in the right hand and scandicus in the left.	
		Mode 3-3	[1,2,4,5,6,8]	6-Z10			
		Mode 7-2	[0,1,2,3,4,7]	6-Z36			
	28	Mode 4-4	[2,3,4,5]	4-1		Low chromatic cluster.	
	29	Mode 3-1	[8,9,E,0,2,3]	6-Z10		Modal chords/two high-register hexachords in contrary motion; clivis in the right hand and podatus in the left.	
		Mode 7-6	[5,8,T,E,0,1]	6-Z40			
	30	A brief silence of three eighth-note rests.					

Table of Analysis on the Second Movement "Le Merle noir."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Section 4: Measures 31-40							
Fourth background theme	31	CTI-4A	[9,T,E,2,3,4,6]	7-20	Vertical bands: green, purple, and dark blue.	Modal and color chords/ anapest climacus.	*Un peu lent* (A little slow) ♪=80 *forte*
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow with red stains.		
		M3MC-6	[5,8,9,E,0,1]	6-15	Ash gray, mauve, and white with mauve reflections.		
	32	CTI-4A	[9,T,E,2,3,4,6]	7-20	Vertical bands: green, purple, and dark blue.	Color and modal chords/Two clivis followed by podatus.	
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow with red stains.		
		CTI-4A	[9,T,E,2,3,4,6]	7-20	Vertical bands: green, purple, and dark blue.		
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow with red stains.		
		M3MC-6	[5,8,9,E,0,1]	6-15	Ash gray, mauve, and white with mauve reflections.		
		CTI-7D	[2,3,4,7,8,9,E]	7-20	Orange, red and brown, and lemon yellow.		
	33	CTI-5B	[8,9,T,1,2,3,5]	7-20	Ashen, pale green, and mauve	Trochée podatus /Color chords	
		CTI-5D	[0,1,2,5,6,7,9]	7-20	Pale green, with yellow and mauve reflections.		
	34	CTI-3B	[6,7,8,E,0,1,3]	7-20	Crystals: burned earth, amethyst purple, clear Prussian blue, and hot brown and ruddy - with gold stars.	Trochée podatus/Color chords.	

Table of Analysis on the Second Movement "Le Merle noir."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Fourth background theme		CTI-3D	[T,E,0,3,4,5,7]	7-20	Pinkish foundation with black drawings (as the rhodonite), with the martagon lily (purple brown flowers).		
	35	M3MC-2	[1,4,5,7,8,9]	6-15		Modal chords/climacus.	
		Mode 3-2	[0,3,4,5,7,8]	5-14			
		Mode 3-2	[E,1,3,4,5,7]	6-21			
	36	Mode 3-2	[4,7,9,0]	4-26		Modal chord.	
Blackbird's theme	37	Mode 3-1	[3,4,7,8,T,0]	6-31		Inexact doublings: M6, M6, M6, M6, A5, A5, M6, M6, M7, m6, P5, m7 A double podatus with a climacus resupinus followed by a porrectus resupinus.	*Modéré* (Moderate) *Un peu vif* (A little fast) ♪=112 *fortissimo*
		Mode 3-1	[T,0,2,3,6,7,T]	6-31			
		Mode 3-2	[8,9,E,0,1,3,5]	7-26			
Closing gesture	38	Mode 4-1	[E,0,1,2]	4-1		Tetrad chromatic cluster.	*Modéré* (Moderate) ♪=88
	39	Mode 7-6	[1,4,5,6,7,8]	6-Z36		Modal chord.	
	40	A brief silence which lasts three eighth-note rests.					

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
First background theme	1	CTI-1B.	[4,5,6,9,T,E,1]	7-20	Broad area of sapphire blue strapped by less intense blue (fluorine blue, clear Chartres blue) and re-strapped by purple.	Modal and color chords. Porrectus.	*Très lent* (Very slow) ♪=40 *piano*
		M3MC-7	[6,9,T,0,1,2	6-15	Blue and green colors, shining in ways that vaguely resemble the glint of a diamond.[308]		
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow interspersed with red stains.		
Robin's song	2	Mode 3-3	[2,4,8,T]	4-25		Inexact doubling: M7, m7, m7, M6, M3, A4, d4, M3. Two iambic clivis followed by climacus resupinus.	*Un peu vif* (A little fast) ♪=120 *mezzoforte*
		Mode 3-1	[0,3,6,8]	4-27			
		Mode 7-4	R.H.: [0,2,3,9]	4-13			
		Mode 7-4	L.H.: [3,8,T,E]	4-14			
		Mode 7-4	Total [8,9,T,E,0,2,3]	7-28			
	3	Mode 7-3	R.H.: [8,9,T,1,2,3]	6-Z6		Inexact doubling: m3, d4, m3, d4, m9, M9, m3, A2, M9. Two climacus followed by torculus.	
		Mode 7-5	L.H.: [4,6,7,9,E,0,1]	7-29			

[308] Messiaen, *Traité*, vol. V, bk. 1, p. 178.

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Near total chromatic	Total: [6,7,8,9,T,E,0,1,2, 3,4]				*Un peu vif* (A little fast) ♪=120
	4	Mode 3-1	R.H.: [6,8,T,0,2,3]	6-34		Inexact doubling: m3, d3, d3, m9, M7, M7. Two climacus.	
		Mode 3-2	L.H.: [7,9,E,1,3,4]	6-34			
		Near total chromatic	Total: [6,7,8,9,T,E,0,1,2, 3,4]				
	5	1st-CCR-2A	[2,3,4,5,7,8,T]	7-Z36	Top to bottom: clear purplish crimson, clear yellow, orange.	Two color chords/ iambic clivis.	*Lent* (Slow) ♪=54 *Forte*
		1st-CCR-2B	[2,3,4,5,6,9,E]	7-Z12	Top to bottom: clear green, clear grey, a little of very clear red.		
	6	Silence					
Second background theme	7	CTI-1B.	[4,5,6,9,T,E,1]	7-20	Broad area of sapphire blue, strapped by less intense blue (fluorine blue, clear Chartres blue) and re-strapped by purple.	Modal and color chords. Porrectus and scandicus.	*Très lent* (Very slow) ♪=40 *piano*
		M3MC-7 Mode 3-3	[6,9,T, 0,1,2]	6-15	Blue and green colors, shining in ways that vaguely resemble the glint of a diamond.		
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow interspersed with red stains.		

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Second background theme		M3MC-3 Mode 3-3	[2,5,6,8,9,T]	6-15	Green and blue, with a little orange		
		M3MC-6 Mode 3-2	[5,8,9,E,0,1]	6-15	Ash gray, mauve, and white with mauve reflections		
		CTI-7B	[T,E,0,3,4,5,7]	7-20	White and red tilted strips, on a pinkish background with black drawing. Red color dominates.		
Robin's song	8	Mode 3-3	[1,2,6,8]	4-16		Inexact doubling: M3, P5, M3, P5. Porrectus flexus.	*Un peu vif* (A little fast) ♪=120 *mezzoforte*
Robin's song	9	Mode 3-3	[4,8,9,T]	4-5		R.H.: Black keys dyads. L.H.: White keys dyads Tristropha.	*Modéré* (Moderate) ♪= 8 *piano*
	10	Mode 2-1	R.H. [1,3,4,6,9,T]	6-Z50		Inexact doublings: M7, M7, M7, m7, m7, m7, M7. Grace note leading to porrectus overlapped with distropha followed by climacus.	*Modéré* (Moderate) *mezzoforte*
		Mode 2-2	L.H. [E,2,5,7]	4-27			
		Near total chromatic	Total [0,1,2,3,4,5,6,7,9,T]	10-4			
	11	Mode 6-2	[E,0,1,3,6,7]	6-Z17		Inexact doublings: M9, A3, P4, P4, A4, P4, P4.	*Un peu vif* (A little

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Mode 7-1	[1,3,5,7]	4-21		Torculus resupinus – a heavier push on the superimposed seconds – and a bacchius rhythm (u --) which ends on color chord CTI-2D.	fast) ♪=120 *mezzoforte*
		Mode 7-1	[4,5,9,T]	4-8			
		CTI 2D	[9,T,E,2,3,4,6]	7-20			
	12	Mode 2-3	R.H. upper voice: [2,3,8,9]	4-9		Inexact doublings: M9, M3, M3, M9, A2. Two torculus overlapped with descending octave leaps, harmonized in an atmosphere of G-flat major.	*Un peu lent* (A little slow) ♪=63 *mezzoforte*
		Mode 3-1	R.H. lower voice:[7,8,0,3]	4-20			
		Mode 7-2	R.H.: [7,8,9,0,2,3]	6-18			
		Mode 7-2	L.H.: [6,T,1]	3-11			
		Mode 7-2	Total: [6,7,8,9,T,0,1,2,3]	9-5			
	13	Mode 2-2	Right hand [1,2,4,7,8,T]	6-30		Inexact doubling: m3, d3, m3, d3, m3, m9, m3, M7. Two porrectus followed by clivis.	*Un peu vif* (A little fast) ♪=120 *piano*
		(TC-12C)	Left hand [1,2,4,6,9,E]	6-32			
		Non modal	Total: [6,7,8,9,T,E,1,2,4]	9-7			
	14	Mode 7-2	R.H.: [3,6,7,8,9,T]	6-Z36		Inexact doublings: M9, M9, M3, P4, m6. Grace note followed by porrectus flexus.	*Un peu lent* (A little slow) ♪=63
		Mode 7-2	L.H.: [T,1,3,6]	4-26			

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Mode 7-2 (1^{s}CCR-6B)	Total: [6,7,8,9,T,1,3]	7-Z12			*mezzoforte*
	15	Silence					
	16	(TC 11B)	[0,1,2,3,4,5]	6-1		Inexact doubling: m9, P4, m9 Torculus.	*Un peu vif* (A little fast) ♪=120 *piano*
	17	2nd-CCR-7A	[E,0,3,4,6,7]	6-Z19	Clear and brilliant scarlet red with a little pale blue and steel gray.	Pair of color chords/ iambic clivis.	*Un peu lent* (A little slow) ♪=63 *mezzoforte*
		2nd –CCR-7B	[4,5,6,9,T,0]	6-Z43			
Robin's song	18	Mode 7-2	[6,7,8,9]	4-1		Double trills in contrary motion, on white and black keys, the right hand is on top of the left, giving a prolonged, high-pitched murmur, very fine, like a roll of the triangle pianissimo, typical of the robin.	*Modéré* (Moderate) ♪=88 *pianissimo*
	19	Mode 7-2	[6,8,T,1,3]	5-35		Descending glissando,	*Vif*

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
		Mode 7-4	[E,0,2,4,5] (subset of 7-35)	5-Z12		alternates between white and black keys, and ends on a little cluster (pianissimo, like the whole gesture).	(Fast) ♪=184 *pianissimo*
		Mode 7-2	[6,8,T,1,3]	5-35			
		Mode 7-1	[5,7,9,E,0] (subset of 7-35)	5-24			
		Mode 7-1	[1,2,3]	3-1			
		Mode 7-4	[8,9,T,E,0]	5-1			
	20	CTC-4 (Octad - first part of CTC-4)	[T,E,0,1,3,5,6,7]	8-16	Two zones of colors: underneath: reddish leather brown– on top: stone gray, with stains of rose and violet.	Color chord	*Un peu lent* (A little slow) ♪=63 *piano*
Robin's song	21	CTC-4 (tetrad– second part of CTC-4)	[2,4,8,9]	4-16	A very pale thin blue-green band, all the way on top of the two zones of color mentioned in mm. 20.	Inexact doubling: A4, P4, m6, m6, m6. A porrectus and an overlapping distropha.	*Modéré* (Moderate) ♪=88 *mezzoforte*
	22	Mode 3-3	[1,4,5,6]	4-4		Chords consisting of doublings in both hands	*Forte*
		Mode 3-2	[9,E,0,3]	4-12			
	23	1st CCR-5A	[5,6,7,8,T,E,1]	7-Z36	From top to bottom: yellow, clear brownish green.	Color chords R.H.: clivis overlapped with iambic distropha. L.H.: iambic podatus.	*Modéré* (Moderate) ♪=88 *mezzoforte*
		1st CCR-5B	[5,6,7,8,9,0,2]	7-Z12			
		1st CCR-5B	[5,6,7,8,9,0,2]	7-Z12			

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
	24	1st CCR-5A	[5,6,7,8,T,E,1]	7-Z36	From top to bottom: yellow, clear brownish green.	Color chords R.H.: clivis overlapped with iambic distropha. L.H.: iambic podatus.	
		1st-CCR-5B	[5,6,7,8,9,0,2]	7-Z12			
		1st CCR-5B	[5,6,7,8,9,0,2]	7-Z12			
	25	Mode7-2	R.H.: [8,T,0,1,2,3]	6-9		Inexact doublings: m9, m3, d4, m3, m9, m9. Podatus and climacus resupinus.	*Un peu vif* (A little fast) ♪=120 *piano*
		Mode 7-2	L.H.: [7,9,E,0,1]	5-9			
		Non modal	Total: [7,8,9,T,E,0,1,2,3]	9-1			
	26	Silence					
Third background theme	27	CTI 1B	[4,5,6,9,T,E,1]	7-20	Clear blue violet.	Modal and color chords.	*Très lent* (Very slow) ♪=40 *piano*
		M3MC-7	[6,9,T,0,1,2]	6-15	Blue and green, a little glistening like diamond.		
		M3MC-10	[9,0,1,3,4,5]	6-15	From top to bottom: blue, on mauve and gray.		
	27	CTC-9 (Octad - first part of CTC-9)	[3,4,5,6,8,T,E,0]	8-16	Two zones of superimposed colors: at the bottom, a large zone of ruby red, and on top, and a smaller zone of clear red crimson.		

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	28	CTC-9 (second part of CTC-9)	[1,2,4,7,9]	5-29	A circle of blue gray, clear	Inexact doubling: P4, m6, P5, P4, P5, P4. Disjointed melodic movement, with descending major sixths naively repeated/two torculus.	*Modéré* (Moderate) ♪=88 *piano*
		Mode 3-2	R.H.: [4,7,9]	3-7			
		Mode 3-3	L.H.: [9,1,2]	3-4			
	29	Mode 7-2	Right hand [0,1,3,4,6]	5-10		Inexact doublings: m3, m3, m9, A2, m9, P4. Porrectus and torculus linked together.	*Un peu vif* (A little fast) ♪= 120 *Mezzoforte*
		Mode 7-3	Left hand [1,2,3,T,E]	5-3			
		Non modal	Total: [T,E,0,1,2,3,4,6]	8-2			
Robin's song	30	Mode 3-4	[T,1,3,6] (subset of 5-35)	4-26		Descending glissando, alternating between whole tone and pentatonic scales.	*Vif* (Fast) *pianissimo* ♪=184
		Mode 3-2	[1,3,5,7,9,E] (superset of 5-33)	6-35			
		Mode 3-1	[2,3,6,8,T]	5-30			
		Mode 3-2	[4,6,8,T,0]	5-33			
		Mode 3-2	[1,3,5,7,9]	5-33			
	31	Mode 4-3	R.H.: [8,T,1,3,4]	5-29		Inexact doubling: M7, M7, m9, m9, d3, m9, d3, m9. Torculus overlapped with distropha, followed by	*Un peu vif* (A little fast) ♪=120
		Mode 3-4	L.H.: [9,E,2,3,6]	5-32			
		Mode 3-2	Last 3 chords, R.H.: [5,7,E,0]	4-16			

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
		Mode 3-3	Last 3 chords, L.H.: [6,8,T,1]	4-22		climacus porrectus overlapped with distropha and clivis.	*piano*
		Total chromatic	Total: [0,1,2,3,4,5,6,7,8,9,T,E]	12-1			
	32	M3MC-7	[6,9,T,0,1,2]	6-15	It is blue and green, a little silvery.	Typical modal chord.	*Un peu lent* (A little slow) ♪=63 *piano*
	33	Mode 3-1	R.H.: [2,3,6,8]	4-Z15		Inexactly doubled climacus resupinus flexus. Intervals between two hands: A4, P4, P4, M9, M9.	*Un peu lent* (A little slow) *mezzoforte*
		Mode 3-3	L.H.: [6,8,T,0,1]	5-24			
Robin's song		Mode 7-2	Total: [6,8,T,0,1,2,3]	7-24			
	34	1st CCR-9A	[9,T,E,0,2,3,5]	7-Z36	From top to bottom: clear violet, rosy white, with a little of reddish orange.	Two pairs of color chords in trochaic clivis.	*Bien Modéré* (More Moderate) ♪=72 *forte*
		1st CCR-9B	[9,T,E,0,1,4,6]	7-Z12	From top to bottom: blue violet, very clear coffee fading into white, green and silver, a little of reddish brown.		
		2nd CCR-3A	[3,4,7,8,T,E]	6-Z19	Amber color (yellow and clear chestnut), veined with		

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
		2nd CCR-3B	[8,9,T,1,2,4]	6-Z43	purple and chocolate brown, with some stains of light blue.		
	35	Mode 7-4	R.H.: [8,9,E,0,2,3,4]	7-Z38		Inexact doubling: A5, m9, m9, m9. Porrectus, preceded by a grace note.	*Un peu lent* (A little slow) ♪= 63 *mezzoforte*
		Mode 7-3	L.H.: [7,8,T,1]	4-13			
		Near chromatic	Total: [7,8,9,T,E,0,1,2,3, 4]	10-1			
	36	1st CCR-2A	[2,3,4,5,7,8,T]	7-Z36	From top to bottom: very clear violet purple, clear yellow, orange red.	Pair of color chords in iambic clivis.	*Lent* (Slow) ♪=54 *forte*
Robin's song		1st CCR-2B	[2,3,4,5,6,9,E]	7-Z12	From top to bottom: pale green, clear gray, a little of red.		
	37	Silence					
	38	Mode 3-3	[0,1,2,6,8]	5-15		Descending line in perfect and augmented fourths, contrasting between black and white keys.	*Un peu vif* (A little fast) ♪=120 *piano*
		Mode 2-1	[3,4,7,9,T]	5-19			
		Mode 7-2	Total: [0,1,2,3,4,6,7,8,9,T]	10-6			
	39	Mode 2-2	R.H.: [E,2,4,5,7]	5-25		Inexact doubling: A2, A2, m9, m9, m9, M7. Torculus and porrectus.	*Un peu vif* (A little fast) ♪=120 *i*
		Mode 3-3	L.H.: [6,8,T,1]	4-22			
		Mode 7-6	Total: [4,5,6,7,8,T,E,1,2]	9-10			

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
	40	Mode 7-6	[E,0,1,2,6]	5-5		Pair of chords/Iambic clivis.	*Modéré* (Moderate) ♪=88 *mezzoforte*
		Mode 7-6	[1,5,7,8]	4-Z29			
		Mode 4-1	Total: [5,6,7,8,E,0,1,2]	8-9			
	41	(TC-2C)	R.H.: [7,9,E,0,2,4]	6-32		Inexact doubling: m9, M3, A2, m9, M7, m7, M9. Torculus and porrectus flexus.	*Un peu lent* (A little slow) ♪=63 *piano*
		Mode 7-2	L.H.: [6,7,8,T,1,3]	6-Z47			
		Near total chromatic	Total: [6,7,8,9,T,E,0,1,2,3,4]	11-1			
	42	Mode 7-2	R.H.: [1,3,6,7,T]	5-32		Two chords in iambic clivis.	*Modéré* (Moderate) ♪=88 *mezzoforte*
Robin's song		Mode 7-4	L.H.: [9,E,2,4,5]	5-29			
		Near total chromatic	Total: [1,2,3,4,5,6,7,9,T,E]	10-4			
	43	Mode 7-6	[8,T,E,0]	4-2		Inexact doubling: A2, A2, M9, M3, M3, M3. Distropha overlapped with iambic clivis.	*Un peu vif* (A little fast) ♪=120 *piano*
		Mode 7-6	[5,6,7,E,0,1]	6-7			
		Mode 7-6	Total: [5,6,7,8,T,E,0,1]	8-6			
	44	Mode 4-3	[8,T,1,3] (subset of 5-35)	4-23		Descending glissando.	*Vif* (Fast) ♪=184
		Mode 3-3	[9,0,2,4] (subset of 5-35)	4-22			

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
		Mode 3-3	[6,8,T,1] (subset of 5-35)	4-22			*pianissimo*
		Mode 3-1	[0,2] (subset of 5-35)	2-2			
		Mode 7-2	Total: [8,9,T,0,1,2,3,4,6]	9-8			
	45	Mode 7-2	R.H.: [6,7,9,T,0,3]	6-27		Inexact doubling: M9, M9, M9, M3, m3, m6, M3, M7. Podatus and two porrectus.	*Un peu vif* (A little fast) ♪=120 *piano*
		Mode 7-2	L.H.: [1,3,4,6,7,8,T]	7-25			
		Mode 7-2	Total: [6,7,8,9,T,0,1,3,4]	9-10			
—	46	Mode 6-4	R.H. higher voice [8,9,E,1,2]	5-Z12		Inexact doubling: d4, P4, A2, M3, M3. Climacus resupinus flexus.	*Un peu lent* (A little slow) ♪= 63 *mezzoforte*
		Mode 3-3	R.H. lower voice [0,1,6]	3-5			
		Mode 7-1	R.H.: [6,8,9,E,0,1,2]	7-Z36			
		Mode 7-1	L.H. : [3,5,6,7,9]	5-8			
		Mode 7-1	Total: [0,1,2,3,5,6,7,8,9,E]	10-6			
—	47	Mode 3-1	R.H.: [2,3,4,6,7,8,T,0]	8-24		Inexact doubling: m3, d7, d7, M6, M7, M7, M7, M9.	*Un peu vif* (A little

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Non modal	L.H.: [6,7,8,9,T,E,1,2]	8-4		After two clivis, a climacus resupinus flexus.	fast) ♪=120 *piano*
		Near total chromati	Total: [6,7,8,9,T,E,0,1,2,3,	11-1			
	48	1st CCR-12A	[0,1,2,3,5,6,8]	7-Z36	Chord A, from top to bottom: very clear purple hatched with light green, pale blue, silver-gray, and black.	Pair of chords. Iambic clivis.	*Lent* (Slow) ♪=54 *forte*
		1st CCR-12B	[0,1,2,3,4,7,9]	7-Z12	Chord B, from top to bottom: brilliant gold-yellow, white,		
	49	Silence					
	50	CTC-12 (Octad - first part of CTC 12)	[6,7,8,9,E,1,2,3]	8-16	Yellow and rose underneath – on top is Prussian blue very clear.		*Lent* (Slow) *piano*
	51	CTC-12 (tetrad– second part of CTC-12)	[0,4,5,T]	4-16	The four supplementary notes add on top a thin band of smoky quartz, clear greenish gray.	Inexact doubling: P4, m6, P4, m6. Two iambic podatus.	*Modéré* (Moderate) ♪=88 *mezzo forte*

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	52	M3MC-6	[5,8,9,E,0,1]	6-15	It is white and pale green on the top, mauve on the bottom, mostly gray and white on the whole.		*Un peu lent* (A little slow) ♪=63 *piano*
	53	Mode 3-1	[2,3,4,T]	4-5	The iambe of the bird adds to measure 52 its four notes that augment the white and gray effect.	Inexact doubling: M7, M3. Iambic podatus.	*Modéré* (Moderate) ♪=88 *mezzoforte*
	54	CTI 9B	[0,1,2,5,6,7,9]	7-20	Bluish green, with a little of yellow and violet.	Color chord.	*Un peu lent* (A little slow) ♪=63 *piano*
	55	Mode 3-1	[8,T,E,3,4]	5-20		Inexact doubling: M7, d6, m6, M7. Porrectus flexus.	*Un peu lent* (A little slow) *piano*
	56	Silence					
	57	Mode 3-1	R.H.: [3,6,7,8]	4-4		Inexact doubling: m9, m7, m9, M6, d7. Torculus and climacus resupinus overlapping.	*Un peu vif* (A little fast) ♪=120 *mezzoforte*
		Mode 3-1	L.H.: [8,T,E,2]	4-12			
		Mode 3-1	Total: [6,7,8,T,E,2,3]	7-21			
	58	Mode 7-3	[1,2,3,4,5]	5-1		Chords. Tristropha.	*Modéré* (Moderate)

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Mode 7-3	[1,2,3,4,5]	5-1			♪=88 *Mezzoforte*
		Mode 7-3	[1,2,3,4,5]	5-1			
	59	Mode 3-3	[3,6,8,T]	4-22		Descending pear-like glissando.	*Vif* (Fast) ♪=184 *pianissimo*
		Mode 3-3	[7,9,E,0,2]	5-23			
		Mode 3-3	[T,1,3,6]	4-26			
		Mode 7-3	[2,4,5,7,9]	5-23			
		Mode 3-3	[6,8,T,1]	4-22			
		Mode 7-4	[8,9,E,0,2,4,5]	7-32			
	60	Mode 7-3	[8,9,T,E,1,3]	6-9		Inexact doubling: M9, m9, m9, M9, A9. Torculus, and a leap of a descending 7^{th}.	*Un peu vif* (A little fast) ♪=120 *piano*
		Mode 7-3	[0,1,2,4]	4-2			
		Non modal	Total: [8,9,T,E,0,1,2,3,4]	9-1			
	61	Mode 4-5	R.H.: [T,E,0,3,5]	5-14		Inexact doubling: P4, A3, M3, A6, M7. A porrectus flexus, preceded by grace note.	*Modéré* (Moderate) ♪=88 *mezzo forte*
		Mode 7-4	L.H.: [2,3,6,8,T]	5-30			
		Mode 7-4	Total: [T,E,0,2,3,5,6,8]	8-27			
	62	Mode 3-1	[0,2,3,4]	4-2		Inexact doubling: m3, m7, m3, m7. Porrectus flexus.	*Un peu vif* (A little fast) ♪=120 *piano*

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	63	Mode 3-4	[3,5,6,T]	4-14		A modal chord followed by a pair of color chords/anapest torculus.	*Un peu lent* (A little slow) ♪=63 *mezzo forte*
		2nd CCR-8A	[T,E,2,3,5,6]	6-Z19	A small corner of gray and red, then a large mauve zone with little stains of silver-gray.		
		2nd CCR-8B	[3,4,5,8,9,E]	6-Z43			
	64	Mode 3-3	R.H.: [0,1,2,6,T]	5-13		Two chords contrasting between white keys and black keys /Iambic clivis.	*Modéré* (Moderate) ♪=88 *forte*
		Mode 7-1	L.H.: [5,7,9,0,2]	5-35			
		Non modal	Total: [5,6,7,9,T,0,1,2]	8-20			
	65	Mode 7-4	R.H.: [9,T,1,3,6]	5-32		Inexact doubling: m3, P5, m3, M9, A2, A2, M9. Podatus clivis overlapped with distropha and ending with clivis. Disjunctive and graceful melodic shape, with its final in repeated notes and its fall in an augmented fourth.	*Un peu vif* (A little fast) *mezzoforte* ♪=120
		Mode 7-2	L.H.: [6,8,T,1,3]	5-35			
		Mode 7-2	Total: [6,8,9,T,1,3]	6-Z47			
	66	Mode 7-2	[6,8,T,1,3]	5-35		Descending glissando.	*Vif* (Fast) ♪=184 *pianissimo*
		Mode 7-1	[7,9,E,0]	4-11			
		Mode 7-2 Mode 3-4	[T,1,3,6]	4-26 (subset of 5-35)			

Table of Analysis on the Third Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Mode 7-2	[4,7]	2-3			
	67	M3MC-7	[6,9,T,0,1,2]	6-15	Pale blue and pale green, shining a little like diamond.	Three modal and color descending chords.	*Bien Modéré* (More moderate) ♪=72 *mezzo forte*
		CTI-10B	[1,2,3,6,7,8,T]	7-20	Gold, brilliant, with red reflections		
		M3MC-7	[6,9,T,0,1,2]	6-15	Blue and green, a little silvery.		
	68	2nd CCR-10A	[8,9,0,1,3,4]	6-Z19	Mauve and clear gray, with a little yellow.	Pair of color chords/Iambic clivis.	*Lent* (Slow) ♪=54
		2nd CCR-10B	[1,2,3,6,7,9]	6-Z43			
	69	Silence					

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song	1	Mode 4-3	[1,2,3,4,8]	5-5		Inexact doubling: m2, M7, P5. Short motive of iambic clivis followed by an accented triadic chord.	*Un peu vif* (A little fast) ♪=112 *forte*
		Mode 4-1	[1,5,6]	3-4			
	2	Mode 4-3	[1,2,3,4,8]	5-5		Inexact doubling: m2, M7, P5. Short motive of iambic clivis followed by an accented triadic chord.	
		Mode 4-1	[1,5,6]	3-4			
	3	Mode 3-3	R.H.: [3,8,9]	3-4		Inexact doubling . P4, m7. Three repeated iambic clivis motives, a tritone higher than those in the first two measures.	
		Mode 3-1	L.H.: [E,2,4,7]	4-26			
		Mode 7-3	Total: [2,3,4,7,8,9,E]	7-20	Colors of lemon yellow, with red stains.		
	4	Mode 7-3 (CTI-11B)	Total: [2,3,4,7,8,9,E]	7-20	Colors of lemon yellow, with red stains.	Inexact doubling . P4, m7. Three repeated iambic	
	5	Mode 7-3 (CTI 11B)	Total: : [2,3,4,7,8,9,E]	7-20	Colors of lemon yellow, with red stains.	Inexact doubling: P4, m7. Three repeated iambic	
	6	Mode 3-2	R.H.: [3,4,5]	3-1		Inexact doubling: m7, m7, m7m9. Podatus overlapped with distropha.	*forte, crescendo* to *fortissimo*
		Mode 3-1	L.H.: [2,6,7]	3-4			
		(TC-9B)	Total: [2,3,4,5,6,7]	6-1			

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song	7	CTC-2 (Octad - first part of CTC-2)	[8,9,T,E,1,3,4,5]	8-16	The color for the octad is described as a broad spectrum of deep gentian blue, surrounded by a circle of violet, red, and orange.	Color chord	*più forte*
		CTC-2 (tetrad – second part of CTC-2)	[0,2,6,7]	4-16	The four supplementary notes adding another brilliant yellow circle at the top.	Three repeated iambic podatus.	
	8	Mode 4-5	R.H.: [4,6,9,E,0]	5-29		Doubling alternating with tripling: M3, M3, M3. Porrectus	*forte*
		Mode 3-1	L.H.:[2,7,8]	3-5			
	9	Near total chromatic	[0,1,2,3,4,5,7,8,9 ,T,E]	11-1		Ascending arpeggiated glissandi moving from single pitches to dyads and ending with four repeated major thirds /two scandicus and two distropha.	*Un peu vif* (A little fast) ♪=112 *forte*
	10	Near total chromatic	[0,1,2,3,4,5,7,8,9 ,T,E]	11-1		Ascending arpeggiated glissandi moving from single pitches to dyads and ending with four repeated major thirds /two scandicus and two distropha.	

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song	11	Mode 7-2	[1,2,3,4,6]	5-2		An accented quintad is followed by an iambic clivis.	
		Mode 4-4	[3,4,5,8,9,T,E]	7-7			
		Near total chromatic	Total: [1,2,3,4,5,6,8,9,T	10-5			
	12	Mode 5-4	[2,3,4,8,9,T]	6-7		Inexact doubling: P4, d4, P4, A5, A6 and trichord, climacus and iambic.clivis	
		Mode 7-6	[E,0,1,2,4,5,6]	7-5			
		Near total chromatic	[0,1,2,3,4,5,6,8,9 ,T,E]				
	13	Mode 5-4	[2,3,4,8,9,T]	6-7		Inexact doubling: P4, d4, P4. Trichord climacus and iambic clivis.	
		Mode 7-6	[E,0,1,2,4,5,6]	7-5			
		Near total chromatic	[0,1,2,3,4,5,6,8,9 ,T,E]				
	14	Mode 3-3	[T,0,1,2,6]	5-13		Dyad, trichord and tetrachord/ torculus.	
		Mode 3-1	[2,4,7,8]	4-Z15			
	15	Mode 3-3	[T,0,1,2,6]	5-13		Dyad, trichord and tetrachord/ torculus.	
		Mode 3-1	[2,4,7,8]	4-Z15			
	16	Mode 3-3	[t,0,1,2,6]	5-13		Dyad, trichord and tetrachord/ torculus.	
		Mode 3-1	[2,4,7,8]	4-Z15			
	17	Mode 3-1	[0,T]	2-2		Inexact doubling: m7, m7,	*più forte*

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song		Mode 4-5	[3,4,5,6,9,E]	6-Z14		A5. Distropha followed by an accented hexachord.	
	18	Mode 3-4	[1,2,6,7]	4-8		Modal and color climacus.	*Modéré* (Moderate) ♪= 80 *fortissimo*
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Colors of lemon yellow with red stains.		
		Mode 7-4[309]	[9,T,E,2,3,4,6]	7-20			
	19	Mode 4-4	R.H.: [9,T,E,2,4,5]	6-18		Ascending glissando in parallel motion: A5, M6, A5, M6, m7, A6.	*Vif* (Fast) ♪= 160 *piano*
		Mode 3-3	L.H.: [6,8,T,1]	4-22			
	20	Mode 4-2	[0,1,2,3]	4-1		Inexact doubling of iambic clivis. Chordal clusters/two podatus.	*Un peu vif* (A little fast) ♪= 112 *forte*
		Mode 3-1	[8,T,3]	3-9			
		Mode 3-1	[E,2,4,7]	4-26			
		Mode 3-2	[3,8,9]	3-5			
		Mode 3-1	[6,E,0]	3-5			
		Near total chromatic	Total [0,1,2,3,4,6,7,8,9				
	21	Mode 4-2	[0,1,2,3]	4-1		Inexact dounling/ of iambic clivis. Chordal clusters/two podatus.	
		Mode 3-1	[8,T,3]	3-9			
		Mode 3-1	[E,2,4,7]	4-26			
		Mode 3-2	[3,8,9]	3-5			
		Mode 3-1	[6,E,0]	3-5			

[309] This chord belongs to set class 7-20, but is not recognized by Messiaen as a CTI chord

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song	22	Mode 3-1	[2,3,4,8,T]	5-15		Dyad, trichord and tetrachord/ climacus.	
		Mode 3-2	[7,8,9,1]	4-5			
	23	Mode 3-1	[2,3,4,8,T]	5-15		Dyad, trichord and tetrachord/ climacus.	
		Mode 3-2	[7,8,9,1]	4-5			
	24	Mode 7-5	[T,E,0,1,4,5]	6-5		Inexact doubling: M3, M3, M7. Scandicus. Chordal clusters/iambic clivis.	*forte, crescendo* to *fortissimo*
		Mode 7-2	[3,7,8,9]	4-5			
		Mode 7-2	[1,2,3,4,6]	5-2			
	25	Mode 7-6	Right hand [E,0,2,4,5,7]	6-Z25		Inexact doubling: m9, A2, M9, m3. /Torculus flexus.	*forte*
		Mode 7-6	Left hand [8,T,1,4]	4-27			
	26	Mode 7-6	Right hand [E,0,2,4,5,7]	6-Z25		Inexact doubling: m9, A2, M9, m3. Torculus flexus.	
		Mode 7-6	Left hand [8,T,1,4]	4-27			
	27	Mode 3-3	R.H.: [9,0,1,2,4,5]	6-14		Ascending arpeggiated glissandi/ two scandicus and two distropha.	
		Mode 3-1	L.H.: [7,8,T,E,3]	5-Z17			
		Near total chromatic.	Total: [0,1,2,3,4,5,7,8,9 ,T,E]	11-1			
	28	Mode 3-3	R.H.: [9,0,1,2,4,5]	6-14		Ascending arpeggiated glissandi/ two scandicus	

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song		Mode 3-1	L.H.: [7,8,T,E,3]	5-Z17		and two distropha.	
		Near total chromatic.	[0,1,2,3,4,5,7,8,9 ,T,E]				
	29	Mode 3-3	[4,6,8]	3-6		Trichord and color chord / iambic clivis.	*Un peu vif* (A little fast) ♪= 112 *forte*
		CTI-5B	[8,9,T,1,2,3,5]	7-20	Colors of ash, pale green, and mauve		
	30	Mode 3-3	[4,6,8]	3-6		Trichord and color chord / iambic clivis.	
		CTI-5B	[8,9,T,1,2,3,5]	7-20	Colors of ash, pale green, and mauve		
	31	Mode 3-3	[4,6,8]	3-6		Trichord and color chord / iambic clivis.	
		CTI 5B	[8,9,T,1,2,3,5]	7-20	Colors of ash, pale green, and mauve		
	32	CTC-9 (octad-first part of CTC-9)	[3,4,5,6,8,T,E,0]	8-16	Two red zones juxtaposed side by side: a big zone of ruby red next to a smaller one of carmine red.	Color chord/octad	*più forte*
		CTC-9 (tetrad-second part of CTC-9)	[7,9,1,2]	4-16	The four supplementary notes add an all-encompassing circle of clear and bright blue gray.	Color chord.	

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song	33	CTC-9 (octad-first part of CTC-9)	[3,4,5,6,8,T,E,0]	8-16	Two red zones juxtaposed side by side: a big zone of ruby red next to a smaller one of carmine red.	Color chord/octad.	
		CTC-9 (tetrad-second part of CTC-9)	[7,9,1,2]	4-16	The four supplementary notes add an all-encompassing circle of clear and bright blue gray.	Inexact doubling/iambic clivis leaps of major and minor sevenths.	
	34	Mode 4-3	[1,2,3,4,8]	5-5		Iambic podatus and iambic clivis.	*forte*
		Mode 4-3	[4,7,9,T]	4-13			
	35	CTC-2 (octad-first part of CTC-2)	[8,9,T,E,1,3,4,5]	8-16	This chord is described as having the color of a large area of deep gentian blue, surrounded by a circle of violet, red, and orange	Color chord/octad.	*più forte*
		CTC-2 (tetrad-second part of CTC-2)	[0,2,6,7]	4-16	The four supplementary notes add another brilliant yellow circle on the top.	Inexact doubling: P4, m6. Four iambic clivis leaps of major and minor sevenths.	
	36	Mode 7-4	[3,6,8,T,E]	5-27		Chromatic chordal clusters/two clivis, contrasting between white key and black key clusters.	*Modéré* (Moderate) ♪= 80 *più forte to* fortissimo
		Mode 7-3	[2,4,5,7,9]	5-23			
		Mode 7-5	[T,1,3,6]	4-26			
		Mode 7-6	[E,0,2,4,5,7]	6-Z25			
	37	Mode 7-1	[E,1,3,6,8]	5-35		Chromatic chordal clusters/	*Un peu vif*

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush'song		Mode 7-1	[5,7,0]	3-9		iambic podatus / contrasting between white key and black key clusters.	(A little fast) ♪= 112 *forte*
	38	Mode 7-1	[E,1,3,6,8]	5-35		Chromatic chordal clusters/ iambic podatus / contrasting between white key and black key clusters.	
		Mode 7-1	[5,7,0]	3-9			
	39	Mode 7-1	[E,1,3,6,8]	5-35		Chromatic chordal clusters/ iambic podatus / contrasting between white key and black key clusters.	
		Mode 7-1	[5,7,0]	3-9			
		Mode 7-1	[5,7,0]	3-9			
	40	Mode 4-3	R.H.: [1,2,3,4]	4-1		Ascending seventh leaps of major second dyads alternate between white keys and black keys.	*più forte, crescendo* to *fortissimo*.
		Mode 3-2	L.H.: [9,E,0,1,3]	5-8			
		(TC-12B)	Total: [9,E,0,1,2,3,4]	7-2			
	41	Mode 3-4	[6,7,9,E,1,3]	6-34		Clivis of chordal clusters.	*forte*
		Mode 3-3	[2,5,6,8]	4-12			
	42	Mode 3-3	R.H.: [8,9,2]	3-5		Inexact doubling: m9, m9, m3. Porrectus.	
		Mode 3-4	L.H.: [1,6,7]	3-5			
		Mode 4-2	Total: [6,7,8,9,1,2]	6-Z38			

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Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song	43	Mode 4-2	Total: [6,7,8,9,1,2]	6-Z38		Inexact doubling: m9, m9, m3. Porrectus.	
	44	1st- CCR-1A	[1,2,3,4,6,7,9]	7-Z36	Yellow, violet mauve, and leaden gray.	Color chords/iambic clivis in the R.H.and iambic podatus in the L.H.	*Modéré* (Moderate) ♪= 80 *forte*
		Mode 7-3 (1st-CCR 1B)	[1, 3,5,8,T]	5-35 (subset of 7-12)	Bluish green, violet, gray of lead.		
	45	1st CCR-1A	[1,2,3,4,6,7,9]	7-Z36	Yellow, violet mauve, and leaden gray.	Color chords/iambic clivis in the R.H. and iambic podatus in the L.H.	
		Mode 7-3 (1st-CCR 1B)	[1, 3,5,8,T]	5-35 (sub set of 7-12)	Bluish green, violet, gray of lead.		
	46	1st CCR-1A	[1,2,3,4,6,7,9]	7-Z36	Yellow, violet mauve, and leaden gray.	Color chords/iambic clivis in the R.H. and iambic podatus in the L.H.	
		Mode 7-3 (1st-CCR 1B)	[1, 3,5,8,T]	5-35 (subset of 7-12)	Bluish green, violet, gray of lead.		
	47	Diatonic scale	R.H.: [E,0,2,4,5,7,9]	7-35		Step-wise motion glissando. Contrast between LH which plays all-black keys pitches in pentatonic scale with RH	*Vif* (Fast) ♪= 160 *piano*
		Pentatonic	L.H.: [6,8,T,1,3]	5-35			

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song		Total chromatic	Total: [0,1,2,3,4,5,6,7,8,9,T,E]	12-1		which plays all- white keys diatonic scale. Intervals: M7,A6, M7. A6, M6, M6,	
	48	Mode 3-3	[0,1,2,6]	4-5		Two chordal clusters/iambic clivis. Repeated fourths in both hands/Two distropha/ contrast between white keys and black keys.	*Un peu vif* (A little fast) ♪= 112 *più Forte*
		Mode 3-2	[5,7,8,9,1]	5-13			
		Mode 3-1	[T,E,3,4]	4-8			
	49	Mode 3-1	[E,2,3,7]	4-19		Distropha followed by a tetrachord and iambic podatus.	*forte, crescendo* to *fortissimo*
		Mode 3-3	[6,8,9,1]	4-14			
		CTC-12 (octad-first part of CTC-12)	Total of first three chords: [6,7,8,9,E,1,2,3]	8-16	Two superimposed zones – yellow and pink in the lower zone, very clear prussian blue in the higher zone.		
		CTC-12 (tetrad-second part of CTC-12)	[T,4,5,0]	4-16	Four supplementary notes add a thin band of smokey, greenish- gray quartz on the top.	Tetrachords/anapest.	
	50	Mode 4-3 (CTI-12D) [310]	[1,2,4,7,9]	5-29		Chordal clusters/climacus.	*Modéré* (Moderate)

[310] Altered CTI-12D, two notes 0 and 8 are missing.

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song		CTI-6B	[9,T,E,2,3,4,6]	7-20	Emerald green, amethyst purple and pale blue.		♪= 80 *fortissimo*
		Chromatic	[E,1,2,3,4,5,6,7,8]	9-2			
	51	DS-1	R.H.: [E,0,2,4,5,7,9]	7-35		Step-wise motion glissando. Contrast between LH which plays all-black keys pitches in pentatonic scale with RH which plays all- white keys diatonic scale. Intervals: M7, A6, M7. A6, M6, M6, A5, A5, A4.	*Vif* (Fast) ♪= 160 *piano*
		Mode 7-2 PS-7	Left hand [6,8,T,1,3]	5-35			
		Total chromatic	Total: [0,1,2,3,4,5,6,7,8,9,T,E]	12-1			
	52	DS-1	R.H.: [E,0,2,4,5,7,9]	7-35		Contrast between LH which plays all-black keys pitches in pentatonic scale with RH which plays all-white keys diatonic scale. Intervals: M7, A6, M7. A6, M6, M6, A5, A5, A4.	
		Mode 7-2 PS-7	Left hand [6,8,T,1,3]	5-35			
		Total chromatic	Total: [0,1,2,3,4,5,6,7,8	12-1			
	53	Mode 4-3	[3,4,9,T]	4-9		Modal and color chords/climacus.	*Modéré* (Moderate) ♪= 80
		Mode 3-2	[7,8,E,3]	4-19			

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song		2nd CCR-11B	[0,1,2,5,6,8]	6-Z43	High wall of gray stones, with some pale orange and mauve stains discernible in it and with a green zone interspersed with blackish traces.		*più forte*
	54	Mode 6-5	R.H.: [0,3,6]	3-10		Inexact doubling" M3, m3, m7, M3. m3, M7. Two climacus in anapest.	*Un peu vif* (A little fast) ♪= 112 *forte*
		Mode 3-3	L.H.: [2,4,9]	3-9			
		Mode 6-5	Total: [0,2,3,4,6,9]	6-Z45			
	55	Mode 3-2	[7,9,E,3]	4-24		Chordal clusters/ two ambic iclivis followed by tristropha.	*più forte, mezzoforte*
		Mode 3-3	[1,5,6]	3-4			
		Mode 3-1	[3,7,T]	3-11			
		Mode 3-3	[2,4,8,9]	4-16			
		Mode 4-6	[T,E,1,4,6]	5-29			
	56	Mode 3-4	[5,T,E]	3-5		Modalchords/accented trichord followed by iambic clivis.	*più forte*
		Mode 3-3	[0,1,2,6]	4-5			
		Mode 3-2	[4,7,8,9]	4-4			
	57	Mode 3-4	[5,T,E]	3-5		Modal chords/accented trichord followed by iambic clivis.	
		Mode 3-3	[0,1,2,6]	4-5			
		Mode 3-2	[4,7,8,9]	4-4			

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song	58	Mode 7-2	R.H.: [7,8,T,1,2]	5-19		Inexact doubling: M9, d3, M9, M9, d6, m6. Porrectus flexus and clivis.	*forte*
		Mode 7-1	L.H.: [E,0,1,2,5,6]	6-5			
	59	Mode 3-1	R.H.: [E,0,2,4,6]	5-Z18		Inexact doubling : M3, M3, d4, M3, M3, A4. Descending glissando/climacus and distropha overlap with clivis.	
		Mode 3-1	L.H.: [7,8,T,E,2]	5-16			
	60	Mode 3-1	R.H.: [E,0,2,4,6]	5-Z18		Inexact doubling : M3, M3, d4, M3, M3, A4. Descending glissando/climacus and distropha overlap with clivis.	
		Mode 3-1	L.H.: [7,8,T,E,2]	5-16			
	61	Mode 7-4	[8,9,T,E,0,2,3,4]	8-5	Blue violet.	Iambic trochee..	*più forte*
		Mode 7-3	[7,8,T,E,1,2,3]	7-Z38		Accented heptachord.	
	62	TC-1C	[8,T,E,0,1,3,4,5]	8-14	Blue violet.	Color chords repeated four times.	*Bien Modéré* (More moderate) ♪= 72 *mezzoforte*

[311] Altered TC-1B, note 0 missing.

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song	63	TC-9A	[0,1,2,3,4,6,7,8]	8-5	Yellow gold	Three pairs of chordal clusters/ in clivis.	*Modéré* (Moderate) ♪= 80 *fortissimo* and *mezzoforte*
		TC-9C	[0,2,3,4,5,7,8,9]	8-14			
	64	Mode 3-4	R.H.: [9,T,3]	3-5		Inexact doubling: P4, P4, d4, d4. Torculus overlapped with distropha.	*Un peu vif* (A little fast) ♪= 112 *forte*
		Mode 3-2	L.H.: [E,4,5]	3-5			
	65	CTI-5B	[8,9,T,1,2,3,5]	7-20	Ashen, pale green, and mauve.	Chordal clusters/clivis.	
		Mode 3-2	[9,0,1,3,4,5]	6-15			
		Mode 4-6	[4,5,6,7]	4-1		Iambic podatus.	
	66	CTI-5B	[8,9,T,1,2,3,5]	7-20	Ashen, pale green, and	Chordal clusters/clivis.	
		Mode 3-2	[9,0,1,3,4,5]	6-15	ma e		
		Mode 4-6	[4,5,6,7]	4-1		Iambic podatus.	
	67	CTI-5B	[8,9,T,1,2,3,5]	7-20	Ashen, pale green, and	chordal clusters/clivis.	
		Mode 3-2	[9,0,1,3,4,5]	6-15			
		Mode 4-6	[4,5,6,7]	4-1		Iambic podatus.	
	68	Mode 4-4	R.H.: [8,9,T,E,3]	5-5		Inexact doubling: m9, m3, d4, A2. A torculus flexus is	
		Mode 2-2	L.H.: [2,4,7,8]	4-Z15			

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song		Mode 2-1	[7,9,T,1,3]	5-28		followed by accented chordal iambic clivis.	
		Mode 2-3	[0,2,5,6]	4-Z15			
	69	Mode 3-4	[9,T,E,1,2,5]	6-15		Chords/ torculus.	
		CTI-3C	[3,4,5,8,9,T,0]	7-20	Colors that conjure up the flowers of iris (violet with an orange center), set out against a turquoise-blue foundation.		
	70	Mode 3-4	[9,T,E,1,2,5]	6-15		Chords/ torculus.	
		CTI-3C	[3,4,5,8,9,T,0]	7-20	Colors that conjure up the flowers of iris (violet with an orange center), set out against a turquoise-blue foundation.		
	71	Mode 3-4	[5,T,E]	3-5		Chords/ porrectus.	*più forte*
		Mode 2-2	[278T]	4-Z29			
		Mode 3-3	[6,9,1]	3-11			
	72	Mode 3-4	[5,T,E]	3-5		Chords/ porrectus.	
		Mode 2-2	[7,8,T,2]	4-Z29			
		Mode 3-3	[6,9,1]	3-11			

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song	73	Mode 3-3	R.H.: [2,4,5,8,9]	5-Z18		Inexact doubling: P4, P4, P4, M3. Podatus overlapped with distropha, ending with iambic clivis.	*forte crescendo* to *fortissimo.*
		Mode 3-1	[6,7,T,0,2]	5-30			
	74	Mode 3-3	R.H.: [9,0,1,2,4,5]	6-14		Ascending arpeggiated glissandi moving from single pitches to dyads and ending with four repeated major thirds /two scandicus and two distropha.	*forte*
		Mode 3-1	L.H.: [7,8,T,E,3]	5-Z17			
		Near total chromatic.	Total: [0,1,2,3,4,5,7,8,9	11-1			
	75	Mode 3-3	R.H.: [9,0,1,2,4,5]	6-14		Ascending arpeggiated glissandi moving from single pitches to dyads and ending with four repeated major thirds /two scandicus and two distropha.	
		Mode 3-1	L.H.: [7,8,T,E,3]	5-Z17			
		Near total chromatic.	Total: [0,1,2,3,4,5,7,8,9	11-1			
	76	Mode 3-1	[E,2,4,7]	4-26		Chords/torculus in anapest.	
		Mode 3-2	[3,8,9]	3-5			
		Mode 7-3	[2,3,4,7,8,9,E]	7-20			
		Mode 4-1	[0,1,5,6,7]	5-7			
	77	Mode 3-1	R.H.: [8,T,3]	3-9		Inexact doubling: m9, m9, m7, m7, m9, m9, m9. Descending line of two	

Table of Analysis on the Fourth Movement "La Grive musicienne."

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song		Mode 3-1	L.H.: [0,2,7]	3-9		climacus overlaps with distropha.	
	78	Non modal	R.H.: [6,7,9,E,0,2,4]	7-35		Inexact doubling: m9, m9, m9, m9, m9, M3, m9, m9. Ascending scandicus mixed with distropha and two iambic podatus.	*forte, crescendo* to *fortissimo*
		Mode 3-4	L.H.: [1,3,5,6,7,8,T]	7-23			
	79	Mode 7-1	[6,7,8,9,E,0,1,3]	8-Z29		Inexact doubling: M3, M9, A2. Torculus.	*Forte*
	81	Mode 7-1	[6,7,8,9,E,0,1,3]	8-Z29		Inexact doubling: M3, M9, A2. Torculus.	
	81	Mode 7-1	[6,7,8,9,E,0,1,3]	8-Z29		Inexact doubling: M3, M9, A2. Torculus.	
	82	Mode 3-1	[0,2,7]	3-9		Ascending chromatic chordal clusters/ contrasting and alternating between white-key and black-key clusters.	*Modéré* (Moderate) ♪= 80 *forte*, *crescendo* to *fortissimo*
		Mode 2-1	[1,3,4,6]	4-10			
		Mode 3-3	[6,8,T,0]	4-21			
		(TC-9C)	[0,2,4,5,7,9]	6-32			
		Mode 3-1	[3,6,8,T,E]	5-27			
	83	Mode 3-2	R.H.: [3,4,5,7,9,E,1]	7-33		Ascending glissando/L.H. figuration contains all black-key pitches while R.H. Mostly all white-key	*Vif* (Fast) ♪= 160

Table of Analysis on the Fourth Movement "La Grive musicienne." 289

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Song Thrush's song		Mode 7-2	L.H.: [6,8,T,1,3]	5-35		pitches.	*piano*
	84	Mode 7-2	[0,1,2,3,4,7,8,9]	8-8		Octachord.	*Modéré* (Moderate)
	85	Mode 3-3	[6,8,T,1]	4-22		Chordal clusters/iambic clivis.	*Un peu vif* (A little fast) ♪= 112 *mezzoforte*
		Non-modal chord	[0,1,2,4,5,7,9]	7-27			
	86	Silence. The movement ends with a brief pause.					

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
First background theme	1	CTI-12B.	[3,4,5,8,9,T,0]	7-20	A pink, mauve, purple violet, and turquoise blue mosaic.	Four modal and color chords/clivis and podatus	*Très lent* (Very slow) ♪= 40 *piano*
		Mode 3-3 M3MC-6	[5,8,9,E,0,1]	6-15	Ash gray, mauve, and white with mauve reflections.		
		CTI-10B	[1,2,3,6,7,8,T]	7-20	A shining gold which casts a red reflection, pale yellow, very clear Prussian blue, and a transparent crystal – the whole resulting in a tremendous effect of adamantine brightness.		
		CTC-7 (Octad - first part of CTC-7)	[1,2,3,4,6,8,9,T]	8-16	A broad spectrum of tender green, sprinkled with small brownish yellow pebbles and hues slightly approximating black.		
Robin's song	2	CTC-7 (tetrachord – second part of CTC-7)	[5,7,E,0]	4-16	The four supplementary notes form an encompassing white circle.	Inexact doublings: P4, m6, m6, P4. Podatus overlaps with distropha and clivis.	*Un peu vif* (A little fast) ♪=120 *mezzo forte*
	3	Mode 3-1	R.H.: [3,6,8,T]	4-22		Inexact doublings: m9, m9, m9, m9, d3. Torculus and clivis.	*Modéré* (Moderate) ♪=88 *piano Piano*
		Mode 4-3	L.H.: [2,4,7,9]	4-23			
		Mode 3-1	Total: [9,T,2,3,4,6,7,8]	8-5			

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	4	Mode 4-3 and 7-2	[9,T,1,2,3,4]	6-5		Chords contrasting white and black keys. Torculus.	*Un peu vif* (A little fast) ♪=120 *mezzo forte*
		Mode 4-1 and 7-1	[5,6,7,8]	4-1			
		Near total chromatic	Total; [1,2,3,4,5,6,7,8,9,T]	10-1			
	5	Mode 2-1	R.H.: [0,1,3,6,7]	5-19		Inexact doublings: M3, m3, m9, m3, M3. Torculus and podatus.	*Modéré* (Moderate) ♪= 88 *piano*
		Mode 3-4	L.H.:[9,T,E,3,5]	5-15			
		Mode 7-5	Total: [5,6,7,9,T,E,0,1,3]	9-8			
	6	Mode 3-2	[9,E,4]	3-9		Chords contrasting white and black keys. Porrectus flexus.	*Un peu vif* (A little fast) ♪=120 *mezzoforte*
		Mode 3-3	[6,T,1]	3-11			
		Mode 3-4	[7,9,2]	3-9			
		Mode 3-2	[1,3,8]	3-9			
		Near total chromatic	Total: [6,7,8,9,T,E,1,2,3,4]	11-1			

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Second background theme	7	CTI-1B	[4,5,6,9,T,E,1]	7-20	A broad area of sapphire blue, strapped by less intense blue (a fluorine or clear Chartres		*Très lent* (Very slow) ♪=40 *piano*
		Mode 3-3 M3MC-7	[6,9,T,0,1,2]	6-15	Blue and green, shining like a diamond.		
		Mode 3-3 M3MC-3	[2,5,6,8,9,T]	6-15	Blue and green, with a little orange.		
		Mode 3-2 M3MC-10	[9,0,1,3,4,5]	6-15	From top to bottom: blue on mauve and gray.		
		CTI 10B	[1,2,3,6,7,8,T]	7-20	A shining gold that casts a red reflection, pale yellow, very clear Prussian blue, and		
Robin's song	8	Mode 3-2	[4,5,9,E]	4-16		Inexact doubling: A4, P4. Iambic podatus.	*Modéré* (Moderate) ♪=88 *forte*
	9	Non modal chord.	First chord: [4,6,7,8,9,T,E,1]	8-10		A clivis overlaps with a distropha.	*Un peu vif* (A little fast) ♪=120 *mezzo forte*
		Mode 7-2	R.H.: [7,9,0,1,2]	5-14			
		Mode 4-5 Mode 7-4	L.H.: [9,T,E,0,3,5,6]	7-19			
	10	Mode 3-3 Mode 7-4	R.H.: [0,2,4,6,8,T]	6-35		Inexact doublings: M3, M3, M3, P4, P4, m3,	*Un peu vif* (A little

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Mode 4-5 Mode 7-4	L.H.: [9,T,E,0,3,5,6]	7-19		m3, m3, M9, P4. Distrophas mixed with clivis and podatus.	fast) ♪=120 *piano*
		Mode 7-4	Total: [0,2,3,4,5,6,8,9,T,E]	10-6			
	11	Non-modal	R.H.: [1,2,3,4,6,8,9,E]	8-23		Inexact doublings in the two hands with added middle line in the inner voices, mostly on the top voice. Podatus followed by torculus.	*Un peu lent* (A little slow) ♪=68 *mezzoforte*
		(TC-6B, 6C)	L.H.: [3,5,6,7,8,T]	6-8			
		Near total chromatic	Total : [1,2,3,4,5,6,7,8,9,T,E	11-1			
	12	Mode 4-2	R.H.: [1,3,6,7,8]	5-14		Inexact doublings: m9, m9, d3, m9, m9, m7, M3. Torculus and climacus respinus.	*Un peu vif* (A little fast) ♪=120 *piano*
		(TC-2C)	L.H.: [7,9,E,0,2,4]	6-32			
		Non-modal chord	Total: [E,0,1,2,3,4,6,7,8,9]	10-5			
	13	Mode 3-2 M3MC-6	[5,8,9,E,0,1]	6-15	Ash gray, mauve, and white with mauve reflections.		*Un peu lent* (A little slow) ♪=63 *piano*
	14	Mode 3-1	[T,2,3,4]	4-5		Inexact doublings: m9, A4, A4. Podatus overlapped with iambic distropha.	*Modéré* (Moderate) ♪=88 *forte*

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	15	Mode 7-2	R.H.: [0,2,4,7,9]	5-35		Inexact doublings: m9, M7, m9, m9, m7, m9, M7. Porrectus followed by porrectus flexus.	*Un peu lent* (A little slow) ♪=63 *piano*
		Mode 3-3	L.H.: 6,8,T,1]	4-22			
		Mode 7-2	Total: [6,7,8,9,T,0,1,2,4]	9-8			
	16	Mode 3-2	[9,E,1,3,4,5]	6-22		Pair of accented iambic clivis RH: white keys dyads. LH: black keys.	*Modéré* (Moderate) ♪=88 *mezzoforte*
		Mode 3-2	[9,E,1,2,4,5]	6-22			
	17	Mode 3-2	R.H.: [1,3,8]	3-9		Inexact doublings: d5, d5, M3. Climacus.	*Un peu vif* (A little fast) ♪=120 *piano*
		Mode 3-1	L.H.: [7,E,2]	3-11			
		Mode 6-4	Total: [7,8,E,1,2,3]	6-Z17			
	18	Mode 3-2	[1,3,4,5,8]	5-11		An iambic podatus followed by an iambic clivis. RH: white keys dyads. LH: black keys.	*Modéré* (Moderate) ♪=88 *mezzoforte*
		Mode 4-2	[6,7,8,9,0,1]	6-Z41			
	19	Mode 3-1	R.H.: [E,0,2,3,4,7]	6-14		Inexact doublings: M9, M9, m9, M9. Podatus and clivis.	*piano*
		Mode 3-3	L.H.: [6,9,T,1]	4-17			

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Non-modal	Total: [9,T,E,0,1,2,3,4,6,7]	10-3			
	20	Mode 7-2	Higher voice: [T,0,1,2,3,4,7]	7-10		Mixed inexact doublings (with the middle voice added as inner line to the top voice): M6, m7, P5, P5, P4, P4, A2. A pair of clivis followed by climacus.	*Un peu lent* (A little slow) ♪=63 *mezzo forte*
		Mode 7-2	Lower voice: [6,8,9,T,1,3]	6-Z47			
		Mode 7-2	L.H.: [1,3,6,8,T]	5-35			
		Mode 7-2	Total: [0,1,2,3,4,6,7,8,9,T]	10-6			
	21	Mode 3-1	[T,E,0,2,3,4,6,8]	8-24		Anapest climacus.	*Un peu vif* (A little fast) ♪= 120 *piano*
	22	Mode 7-2	[1,2,3,4,6,7,8,9,T]	9-5		Dyads mized with chromatic clusters/ Climacus and podatus.	
	23	Mode 3-3	[5,6,8,T,0]	5-24		Descending glissando. Contrasting between whole tone and diatonic scales.	*Vif* (Fast) ♪=184 *pianissimo*
		Mode 7-4	[9,E,0,2,4]	5-23			
		Mode 2-3	[2,3,5,6,8]	5-10			

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Mode 3-3	[5,7,9,E,0]	5-24			
		Mode 4-3	[7,8,T,1,3]	5-29			
		Mode 2-3	[5,6,8,9,0,2]	6-Z49			
	24	1st CCR-2A	[2,3,4,5,7,8,T]	7-Z36	Purple violet, yellow, orange red.	Pair of color chords/iambic clivis.	*Lent* (Slow) ♪=54 *forte*
		1st CCR-2B	[2,3,4,5,6,9,E]	7-Z12	Clear green, clear gray, red.		
	25	Silence					
	26	Non modal	R.H.: [3,4,5,6,7,8,9,T,E]	9-1		Inexact doublings: M7, M7, m9, M9, M3, m9,m9, M6, m9, M6, A2, P4. A pair of porrectus alternating with torculus.	*Un peu vif* (A little fast) ♪=120 *piano*
		Non modal	L.H.: [1,2,3,6,7,8,T,E]	8-20			
		Near total chromatic	Total: [1,2,3,4,5,6, 7,8,9,T,E]	11-1			
	27	Mode 3-3	[6,8,T,1,2,]	5-30		Descending glissando.	*Vif* (Fast) ♪= 184 *pianissimo*
		Mode 3-2	[4,7,9,0]	4-26			
		Mode 3-2	[3,5,7,E]	4-24			

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	28	Mode 3-3 M3MC-3	[2,5,6,8,9,T]	6-15			*Un peu lent* (A little slow)♪=63 *piano*
	29	Mode 3-2	R.H.: [E,3,4]	3-4		Inexact doublings: m3, M3, A2, m3, M3, A2. Anapest of climacus.	*Un peu vif* (A little fast) ♪= 20 *Piano*
		Mode 3-2	L.H.: [7,0,1]	3-5			
		Mode 3-2 Inv. M3MC-6	Total: [E,0,1,3,4,7]	6-15			
		Mode 3-2	R.H.: [E,3,4]	3-4			
		Mode 3-2	L.H.: [7,0,1]	3-5			
		Mode 3-2 Inv. M3MC-6	Total: [E,0,1,3,4,7]	6-15			
	30	Silence					
Third background theme	31	CTI 1B	[4,5,6,9,T,E,1]	7-20	Clear blue purple.	Modal and color chords/ Porrectus.	*Très lent* (Very slow) ♪=40 *piano*
		Mode 3-3 M3MC-7	[6,9,T,0,1,2]	6-15	Blue and green, shining a little bit like diamond.		
		CTI-11B	[2,3,4,7,8,9,E]	7-20	Lemon yellow with red stains.		

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	32	(TC-2B)	RH: [0,1,2,6,7,9,T,E]	8-4		Inexact doublings: M3, M3, M3, m9, M7, M7, m9, m7, m9, M7, m7, m9, m9, M7, M7. A porrectus overlaps and alternates with climacus, ending with climacus resupinus.	*Un peu vif* (A little fast) ♪=120 *piano*
		(TC-2B)	LH: [1,2,3,5,6,7,8,T,E]	9-11			
		Near total chromatic	Total: [0,1,2,3,5,6,7,8,9,T,E	11-1			
	33	(1st CCR-1A) with added pc E	[1,2,3,4,6,7,9,E] (superset of 7-Z36)	8-22	Yellow, violet mauve, gray of lead (Modified by the added pc E).	Pair of color chords/Iambic clivis.	*Lent* (Slow) ♪= 54 *forte*
		1st CCR-1B	[1,2,3,4,5,8,T]	7-Z12	Bluish green, violet, lead gray.		
	34	Mode 4-2	[6,7,8,9]	4-1		Shimmering cluster of trills in pianissimo and double trills in contrary motion, with the right hand on top of the left, trilling the black keys G-flat and A-flat, and the left hand half a step above trilling G and A.	*Modéré* (Moderate) ♪=88 *pianissimo*
	35	TC-4B	R.H.: [0,4,5,7,8,9,T,E]	8-4		Inexact doublings: m7, m9, M7, m7, m9, M6, A6, A6, A5, A4, P5,	*Un peu vif* (A little fast)
		Mode 7-2	L.H.: [0,1,3,6,7,8,T]	7-29			

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Near total chromatic.	Total: [0,1,3,4,5,6,7,8,9,T,E	11-1		M7. Four ascending torculus.	♪=120 *piano*
	36	Mode 3-3	[8,T,1,2]	4-Z15		Descending glissando.	*Vif* (Fast) ♪=184 *pianissimo*
		Mode 3-2	[7,8,0,1,3]	5-20			
	37	Mode 3-3 (TC-8A) (modified)	[0,2,4,7,8]	5-30		Chordal clusters. Contrary motion in two hands, the right hand playing chords in torculus and the left in porrectus.	*Lent* (Slow) ♪=54 *mezzoforte*
		Mode 7-2 (TC 8B) (missing pc F)	[0,1,3,4,6,7,8]	7-Z38			
		TC 8C	[1,3,4,5,6,8,9,T]	8-14			
	38	Mode 4-3	[1,3,4,8]	4-14		Descending glissando.	*Vif* (Fast) ♪=184 *pianissimo*
		Mode 4-2	[6,9,0,2]	4-27			
		Mode 4-3	[8,T,1,2,3]	5-14			
	39	Mode 7-5	R.H.: [9,T,0,1,2,5,7]	7-34		Inexact doublings: M9, A9, M9, m9, m9, M7, M6, M6, m7, m7, m7. Torculus and porrectus ending with porrectus flexus.	*Un peu vif* (A little fast) ♪=120 *Piano*
		Mode 7-1	L.H.: [E,0,1,3,5,6,8]	7-29			
		Near total chromatic	Total: [0,1,2,3,5,6,7,8,9,T,E]	11-1			

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material*	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	40	1st CCR-2A	[2,3,4,5,7,8,T]	7-Z36	Purple violet, yellow, orange red.	Heptachords in iambic clivis that form an appoggiatura.	*Lent* (Slow) ♪= 54 *forte*
		1st CCR -2B	[2,3,4,5,6,9,E]	7-Z12	Clear green, clear gray, red.		
	41	2nd CCR-10A	[8,9,0,1,3,4]	6-Z19	Gold, orange, black.		
		2nd CCR-10B	[1,2,3,6,7,9]	6-Z43	Red, gold and steel.		
	42	Silence					
	43	Mode 7-5	R.H.: [6,7,9,T,E,0]	6-Z3		Inexact doubling /torculus and torculus respinus.	*Un peu vif* (A little fast) ♪=120 *mezzoforte*
		Mode 7-2	L.H.: [6,7,T,0,1,2]	6-Z17			
		(TC-2B)	Total: [6,7,9,T,E,0,1,2]	8-4	Orange.		
	44	Mode 3-3	[8,1,2]	3-5		Descending glissando.	*Vif* (Fast) ♪= 184 *Pianissimo*
		Mode 3-2	[4,7,9,0]	4-26			
		Mode 2-1	[T,1,3,4]	4-13			
	45	Mode 3-3 M3MC-7	[6,9,T,0,1,2]	6-15	Blue and green, shining a little bit like diamond.	Typical modal hexachord.	*Un peu lent* (A little slow) ♪=63 *piano*

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
—	46	Mode 3-2	[E,3,4,5]	4-5		Inexact doublings: m9, m3, m9, m3. Two iambic podatus.	*Modéré* (Moderate) ♪=88 *forte*
—	47	Mode 4-3	[1,2,3,4]	4-1		Double trills in contrary motion	*Pianissimo*
Robin's song	48	1st CCR-12A	[0,1,2,3,5,6,8]	7-Z36	Clear violet hatching of green, pale blue, silvery gray and black.	Two pairs of color chords/Iambic clivis.	*Lent* (Slow) ♪=54 *Mezzoforte*
		1st CCR-12B	[0,1,2,3,4,7,9]	7-Z12	Bursting yellow gold, purple violet stained with white, gold and black.		
		1st CCR-12A	[0,1,2,3,5,6,8]	7-Z36	Clear violet hatching of green, pale blue, silvery gray and black.		
		1st CCR-12B	[0,1,2,3,4,7,9]	7-Z12	Bursting yellow gold, purple violet stained with white, gold and black.		
	49	Mode 3-3	R.H.: [6,8,T,1]	4-22		Inexact doublings: m9, M9, M9, M7. Climacus resupinus.	*Un peu vif* (A little fast) ♪=120 *Piano*
		Mode 3-1	L.H.: [2,4,7,8]	4-Z15			
		Mode 6-3 Mode 7-2	Total: [1,2,4,6,7,8,T]	7-28			

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	50	Mode 3-2	R.H.: [4,5,7,9,E]	5-24		Inexact doublings: A2, m3, A4, A2, M7, M7. Climacus followed by scandicus.	*Modéré* (Moderate) ♪=88 *mezzoforte*
		Mode 3-1	L.H.: [2,3,6,8,T]	5-30			
		Near total chromatic	Total: [2,3,4,5,6,7,8,9,T,E]	10-1			
	51	Mode 7-4	[2,3,5,6,8,T,E]	7-32		Inexact doublings: P4, m6, d5, m6. Descending dyads.	*Un peu vif* (A little fast) ♪=120 *Piano*
	52	CTC-2 (Octad - first part of CTC - 2)	[1,3,4,5,8,9,T,E]	8-16	Large area of deep gentian blue, surrounded by a circle of violet, red, and orange circle on the top.	Color chord.	*Un peu lent* (A little slow)♪=63 *Piano*
	53	CTC-2 (second part of CTC-2)	[0,2,6,7]	4-16	Four supplementary notes add another brilliant yellow.	Inexact doublings: m6, d5. Iambic podatus.	*Modéré* (Moderate) ♪=88 *forte*
	54	Mode 3-4	R.H.: [5,6,7,9,T,E,0,1,3]	9-8		Inexact doublings: M6, m9, m9, d7, m3, M9, P5, A5, d5, m7, m9, A9. Three torculus ending with scandicus.	*Un peu vif* (A little fast) ♪=120 *Mezzoforte*
		Near total chromatic	L.H.: [0,1,2,3,4,6,7,8,9,T,E	11-1			
		Total chromatic	Total: [0,1,2,3,4,5,6,7,8,9,T,E]	12-1			

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	55	Mode 3-2	R.H.: [4,7,E,1]	4-27		Inexact doublings: A2, m9, m9, m3, M6, m9. Podatus and iambic clivis, followed by iambic podatus.	*Un peu vif* (A little fast) ♪=120 *Mezzoforte*
		Mode 3-3	L.H.: [6,T,1]	3-11			
		Mode 4-6	Total: [4,6,7,T,E,1]	6-Z29			
		Mode 4-4	[2,3,4,5]	4-1			
	56	Mode 7-2	[6,8,T,1,3]	5-35		Descending glissando.	*Vif* (Fast) ♪=184 *Pianissimo*
		Mode 3-1	[0,2,7]	3-9			
		Mode 3-2	[5,8,E,1]	4-27			
		Near total chromatic	Total: [0,1,2,3,5,6,7,8,T,E]	10-5			
	57	Mode 6-5	R.H.: [3,6,8,9,T]	5-Z36		Torculus overlaps with distropha and is followed by porrectus flexus. Inexact doublings: d3, m7, m7, M7, M7, m3, m3.	*Un peu vif* (A little fast) ♪=120 *piano*
		Mode 3-4	L.H.: [5,6,7,E,1]	5-15			
		Non modal	Total: [5,6,7,8,9,T,E,1,3]	9-6			
	58	Mode 3-1	R.H. Top voice: [3,6,8]	3-7		Inexact doublings (mixed with inner line added to the top voice): M9, m9, M9, m6. Podatus overlapped with distropha and ended with iambic clivis.	*Un peu lent* (A little slow) ♪=63 *Mezzoforte*
		Mode 3-3	R.H. Lower voice: [9,0,1,2]	4-4			
		Mode 4-2	R.H.: [0,1,2,3,6,8,9]	7-19			
		Mode 3-4	L.H.: [6,7,T,1]	4-18			

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Mode 7-2	Total; [6,7,8,9,T,0,1,2,3]	9-5			
	59	Mode 3-2	[1,3,8]	3-9		Glissando, disjoint and briefer than the preceding one, ending with a soft dyad.	*Vif* (Fast) ♪=184 *pianissimo*
		Mode 3-3	[2,4,6,8,9]	5-24			
		Mode 7-2	Total: [1,2,3,4,6,8,9]	7-14			
	60	(TC-8C)	R.H.: [1,3,5,6,8,9,T]	7-27		Inexact doublings: M9, M9, m3, m3, M3, M9, M9, M3, M3. Torculus and porrectus flexus, followed by an emphatic iambic podatus.	*Modéré* (Moderate) ♪=88 *mezzoforte*
		Mode 3-4	L.H.: [1,3,6,7,T]	5-32			
		Non modal	Total: [1,3,5,6,7,8,9,T]	8-11			*Forte*
		Mode 3-1	[E,0,3,4]	4-7			
	61	Mode 3-1	[6,7,T,2]	4-19		descending glissando.	*Vif* (Fast) ♪=184 *Pianissimo*
		Mode 3-1	[0,3,4,8]	4-19			
	62	Mode 7-2	R.H.: [7,9,T,0,2,3,4]	7-29		Inexact doublings: M9, A2, A2, M9, M9, m3, m3, M3, M9, M3, M3. Clivis overlaps with distropha and climacus.	*Un peu vif* (A little fast) ♪=120 *mezzo forte*
		Non modal	L.H.: [6,8,T,E,0,1,3]	7-23			
		Near total chromatic	Total: [0,1,2,3,4,6,7,8,9,T,E	11-1			
	63	Mode 2-1	[9,T,1,3,6]	5-32		A pair of distropha overlapping with iambic clivis.	*Modéré* (Moderate) ♪=72
		Mode 2-1	[9,T,1,3,6]	5-32			

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	63	CTI-6B	[9,T,E,2,3,4,6]	7-20	Emerald green, amethyst purple, and pale blue.		*forte*
		Mode 2-1	[9,T,1,3,6]	5-32			
		Mode 2-1	[9,T,1,3,6]	5-32			
		CTI-6B	[9,T,E,2,3,4,6]	7-20	Emerald green, amethyst purple, and pale blue.		
	64	Mode 3-2	[1,3,5,9]	4-24		Descending dyads, alternating tritones with sixths and then major and minor thirds, ending with a triadic cluster.	*Modéré* (Moderate) ♪=88 *mezzo forte*
		Mode 3-1	[E,2,3,8]	4-18			
		Mode 3-4	[1,7,9,T]	4-12			
		Mode 3-3	[0,2,4]	3-6			
		Near total chromatic	Total: [0,1,2,3,4,5,7, 9,T,E]	11-1			
	65	Mode 7-2	R.H.: [6,7,8,T,1,3]	6-Z47		Inexact doublings: M7, m9, d3, m9, m9, d4, M3. Torculus followed by distropha and clivis.	*Un peu vif* (A little fast) ♪=120 *piano*
		Mode 7-3	L.H.: [2,3,4,7,9,E]	6-Z48			
		Near total chromatic	Total: [6,7,8,9,T,E,1,2,3,4]	10-5			

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song	66	Mode 3-2 M3MC-10	[9,0,1,3,4,5]	6-15	From top to bottom: blue on mauve and gray.	Hexachord.	*Un peu lent* (A little slow) ♪=63 *piano*
	67	Mode 3-1	[6,7,T,E]	4-7		Inexact doublings: M6, P5, M6, P5. Two iambic podatus.	*Modéré* (Moderate) ♪=88 *forte*
	68	Mode 7-2	R.H.: [6,8,T,0,1,2,3]	7-24		Inexact doublings (mixed with inner voice added to the top voice): P5, P4, M6, d4, M3. Dissonant triads of torculus and clivis.	*Un peu lent* (A little slow) ♪=63 *mezzoforte*
		Mode 7-2	L.H.: [8,T,1,2,3]	5-14			
		Mode 7-2	Total: [6,8,T,0,1,2,3]	7-24			
	69	Mode 3-3	R.H.: [6,8,T,0,2]	5-33		Inexact doublings: P4, d3, P4, d3, M7, M7, M7. Porrectus and porrectus flexus.	*Un peu vif* (A little fast) ♪=120 *piano*
		Mode 3-2	L.H.: [3,4,7,9,E]	5-30			
		Near total chromatic	Total: [6,7,8,9,T,E,0,2,3,4]	10-4			
	70	Mode 7-5	R.H.: [T,E,0,1,3,4,5,6,7]	9-5		Two torculus and podatus overlap with distropha and clivis.	*Un peu vif* (A little fast) ♪=120 *piano*
		(TC-1B)	L.H.: [7,8,T,E,0,1,2,3]	8-4			

Table of Analysis on the Fifth Movement "Le Rouge-gorge."

Theme	Mm.	Pitch material	Pitch-class set	Set Clas	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Robin's song		Near total chromatic	Total: [0,1,2,3,4,5, ,6,7,8,T,E]	11-1			
	71	CTC-11 (Octad - first part of CTC-11)	[5,6,7,8,T,0,1,2]	8-16	Two superposed zones – a lower zone of diamond white with pale blue and mauve reflects and higher zone of white with pale blue, lunar reflections on the top.	Chord.	*Un peu lent* (A little slow) ♪=63 *piano*
	72	CTC-11 (tetrachord – second part of CTC -2)	[9,E,3,4]	4-16	Four supplementary notes add a thin band of leather brown, toned to white.	Inexact doublings: P4, m6, P4, A4. Two iambic podatus.	*Modéré* (Moderate) ♪=88 *forte*
			[9,E,3,4]	4-16			
	73	Silence					

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Background chord	1	Mode 4-2	[6,7,8,9,1]	5-5		Lower register chord	*Vif* (Fast) ♪= 126 *mezzoforte*
Birdsong	2	Mode 4-5	[E,0,3,4]	4-7		Inexact doubling: M7, M7, M7, m9, M7, M7, M7. Tristropha followed by two podatus.	*mezzoforte*
		Mode 4-5	[9,T,E,0]	4-1			
	3	Mode 4-5	[E,0,3,4]	4-7		Inexact doubling: M7, M7, M7, m9, M7, M7, M7. Tristropha followed by two podatus.	*forte*
		Mode 4-5	[9,T,E,0]	4-1			
	4	Mode 4-5	[E,0,3,4]	4-7		Inexact doubling: M7, M7, M7, m9, M7, M7, M7. Tristropha followed by two podatus.	*fortissimo*
		Mode 4-5	[9,T,E,0]	4-1			
	5	Mode 4-6	[E,1,4,5,6,7]	6-Z41		Inexact doubling: M9, M9, M9. A climacus of falling fourths – both perfect fourths and diminished fourths.	*mezzoforte*
	6	Mode 4-3	[1,2,3,4,8,9]	6-Z38		Inexact doubling: m9, m9, M9, m9, M9. Distropha followed by climacus of falling perfect and diminished fourths.	*forte*
	7	Mode 4-1	[0,E]	2-1		Inexact doubling: M7, M7. Distropha.	
	8	Mode 4-6	[4,5,7,T, E,1]	6-30		Mixed inexact doubling: A2, m3, A2,	*mezzoforte*

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong		Mode 4-6	[4,5,7,T, E,1]	6-30		m3, m9.(RH figuration contains whole tone dyads). Podatus and a torculus in anapest.	
		Mode 4-1	[5,6,7,8]	4-1			
	9	Mode 3-1	[3,T]	2-5		Doubling: P5, P5. Distropha.	*piano*
	10	Mode 4-1	[5,6,7,E]	6-7		Inexact doubling: A4, M3, M3, A4, M3, M3, A4, M3, M3, A4, M3, M3, A4, M3, M3 Five repeated climacus of falling perfect and diminished fourths.	*pianissimo, cresc. to forte*
		Mode 4-1	[5,6,7,E]	6-7			
		Mode 4-1	[5,6,7,E]	6-7			
		Mode 4-1	[5,6,7,E]	6-7			
		Mode 4-1	[5,6,7,E]	6-7			
	11	Mode 3-2	[1,3,4,5,8]	5-11		Pentachord in low register.	*mezzoforte*
	12	Mode 3-2	[8,9,E,1,3,4]	6-Z26		Inexact doubling: m6, M9, m3, M9, A2, m9. Scandicus and a torculus.	*forte*
		Mode 7-6	[5,6,7,8,T,0]	6-9			
		Near total chromatic	Total:[0,1,3,4,5, 6,7,8,9,T,E]	11-1			
	13	Mode 3-2	[1,5]	2-4		Appoggiatura and color chords/tristropha.	*forte*
		CTI-2B	[5,6,7,T,E,0,2]	7-20	Red, gray, and pale green bands.		
		Mode 3-2	[1,5]	2-4			
		CTI-2B	[5,6,7,T,E,0,2]	7-20	Red, gray, and pale green bands.		
		Mode 3-2	[1,5]	2-4			

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong		CTI-2B	[5,6,7,T,E,0,2]	7-20	Red, gray, and pale green bands.		
	14	Mode 7-3	[8,9,E,1,2,4]	6-Z25		Inexact doubling: d6, m7, M9, M9, M7, M7, M9. Scandicus and torculus respinus.	*forte*
		Mode 7-6	[4,5,6,7,8,T]	6-2			
	15	Near total chromatic	[1,2,3,4,5,6,7,8,9,E]	10-2		Mixed inexact doubling: m7, d4, m9, M7.	
	16	Mode 3-1 Mode 7-2	[2,3,6,7,8,T]	6-16		Inexact doubling:m7, M7, m9, M3, M3.	*forte*
		Non modal	[8,9,T,E,0,1,2]	7-1			
Background chord	17	Mode 3-2	[E,0,1,4,5]	5-6		Lower-register pentachord.	*mezzoforte*
Birdsong	18	Mode 3-1	[2,3,6,7,8,T]	6-16		Inexact doubling: M3, M3, d3, M3, M3, d3, M3, M3, d3, M3, M3, d3, M3, M3, d3. Five repeated climacus of falling fourths.	*pianissimo, cresc.* to *forte*
		Mode 3-1	[2,3,6,7,8,T]	6-16			
		Mode 3-1	[2,3,6,7,8,T]	6-16			
		Mode 3-1	[2,3,6,7,8,T]	6-16			
		Mode 3-1	[2,3,6,7,8,T]	6-16			
	19	Mode 3-4	[1,3,5,6,7,T]	6-Z46		Inexact doubling: m7, d7, d7, m9,m9, m9, M9, M9, m7, M7, M6. Two porrectus, a climacus and, at the	*forte*, *cresc.* to *fortissimo*
		Mode 4-4	[8,9,T,E,3,4]	6-Z38			
		Mode 7-4	[9,E,0,2,4,6]	6-33			

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong		Mode 3	[56789E]			end, a podatus of chordal clusters	
		Total chromatic	Total:[0,1,2,3,4,5,6,7,8,9,T,E]				
	20	CTI-4B	[7,8,9,0,1,2,4]	7-20	White and gold.	Color chords/tristropha.	*forte*
		CTI-4B	[7,8,9,0,1,2,4]	7-20			
		CTI-4B	[7,8,9,0,1,2,4]	7-20			
	21	Mode 7-4	[3,5,6,8,T,E]	6-Z25		Inexact doubling: A5, A5, M6, A5, d4. Two scandicus of rising fourths and fifths.	*forte* and *fortissimo*
		Mode 7-3	[9TE134]	6-Z12			
	22	1st CCR-8B	[8,9,T,E,0,3,5]	7-Z12	Fluorine blue, amethyst violet and a stony bluish gray.	Accented high-register triton followed by an accented color d/clivis.	*fortissimo*
	23	Mode 4-4	[8,9,T,E,3,4]	6-Z38		Inexact doubling: m9, m7, m9, M7, A5, A4, m7, m7, M7, M7. Scandicus and climacus followed by two clivis/contrast between white keys in RH figuration and black keys in LH.	*forte*
		Mode 4-2	[2,3,6,7,8,9]	6-5			
		Mode 4-6	[E,0,1,4,6]	5-14			
		Mode 4-1	[2,5,6,8]	4-12			
Background chord	24	Mode 3-4	[1,2,3,6,7,9]	6-Z43		Lower-register hexachord	*mezzo forte*

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong	25	Mode 4-5	[3,4,6,9,T,E]	6-18		Inexact doubling: m7, A4, m7, M7, A5, A4, M9. Climacus and climacus resupinus.	*forte*
		Mode 4-2	[2,3,6,7,8,9]	6-5			
		Mode 4-1	[E,0]	2-1			
	26	Mode 4-4	[3,4,5,8,T,E]	6-18		Inexact doubling: d5, d4, D5, m3. Porrectus flexus.	
	27	Mode 7-2	[6,7,8,9,T,1,3]	7-Z12		Mixed inexact doubling: m9, A2, A2, M3, M7, M7, M2, m7, M7. A torculus followed by climacus and torculus.	*forte*
		Mode 7-3	[3,4,5,7,T,E]	6-Z17			
		Mode 7-1	[6,8,9,E]	4-10			
		Mode 7-1	[0,1,3]	3-2			
	28	Mode 7-2	[0,2,3,4,6,8]	6-21		Chordal cluster/Three iambic clivis.	*mezzoforte* to *piu forte*
		Mode 7-1	[3,5,6,7,8,E]	6-Z39			
		Mode 7-3	[E,2,3,4,5,7]	6-Z39			
		Mode 7-2	[8,T,1]	3-7			
	29	Mode 7-2	[1,2,4,7,8,T]	6-30		Inexact doubling: A5, P4, A2, A2, A2, A2, A2. Torculus and scandicus overlap with distropha and end in a pair of accented	*forte*
		(TC-10C)	[E,1,3,4,6,8]	6-32			
		1st CCR-5A	[5,6,7,8,T,E,1]	7-Z36	Yellow turned dark from black, greenish brown.	Color chords/clivis.	*fortissimo*
		1st CCR-5B	[5,6,7,8,9,0,2]	7-Z12	Clear gray, yellow, burned earth.		

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong	30	Mode 7-1	[1,2,6,8]	4-16		Inexact doubling: M6, d6, m7, M7, m7, M2, M7, M7. Clivis and a scandicus followed by porrectus.	*forte*
		Mode 7-3	[3,4,7,9,T,E]	6-Z17			
		Mode 7-1	[E,0,2,3,6,8]	6-Z49			
	31	Mode 7-1	[E,0,1,2,6,7]	6-Z38		Chords/ iambic podatus are followed by an iambic clivis.	*piu forte*
		(TC-3C)	[6,8,T,E,1,3]	6-32			
		Mode 7-2	[7,8,T,0,1,2,4]	7-28			
	32	(TC-8B)	[3,4,5,6,7,8]	6-1		Inexact doubling: m3, m3, m3, m3, A2. Distropha and torculus.	*mezzo forte*
	33		[T,E,0,2,3,4,5,7, 8]	9-11		Inexact doubling: m6, m6, M6, d7, M6, M7. Distropha and porretus.	*forte to fortissimo*
		1st CCR-1B	[1,2,3,4,5,8,T]	7-Z12	Bluish green, violet and gray of lead.	Color chord.	*fortissimo*
	34	Mode 4-2	[0,1,2,3,6,8]	6-Z41		Inexact doubling:M9, M9, M9, M7, m7, A2, A4, M3. Climacus and scandicus in anapest, ending with iambic clivis in mixed inexact doubling.	*forte*
		Mode 4-4	[8,9,T,E,2,3]	6-5			
		Mode 4-2	[6,7,8,9,0,1]	6-5			
	35	Mode 7-6	[T,0,1,2,4,5]	6-Z10		Inexact doubling: M7, M7, m7, M7, m7, d7, m7, A6, A5, m7, P5, m7, A2. A torculus and two climacus are followed by porrectus flexus.	*forte*
		Mode 7-6	[2,4,6,7,8,E]	6-Z46			

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong		Mode 7-2	[6,7,9,T,1,3]	6-Z49			
		TC-4A with missing 9	[5,6,7,8,E,0,1]	7-7			
	36	Non modal	[1,2,4,6,7,8,9,T, E]	9-7		Inexact doubling: m9, m9, M7, M7, M7, M6, M7, m9. A climacus and a short descending arpeggio.	
	37	Mode 3-2	[4,7,8,9]	4-4		Tetrachords/iambic clivis.	*forte*
		Mode 3-2	[1,5,6,8]	4-14			
		(TC-7B)	Total: [1,4,5,6,7,8,9]	7-3			
Background chord	38	Mode 3-3	[2,4,5,6,9]	5-11		Lower-register pentachord.	*mezzo forte*
Birdsong	39	Mode 7-5	[T,E,0,1,4,6]	6-Z41		Inexact doubling: m7, M7, d7, m3, M7, M7. A torculus in anapest, and then a porrectus in bacchius.	*mezzo forte*
		Mode 7-4	[8,9,T,E,0]	5-1			
	40	Mode 7-5	[T,E,0,1,4,6]	6-Z41		Inexact doubling: m7, M7, d7, m3, M7, M7. A torculus in anapest, and then a porrectus in bacchius.	*forte*
		Mode 7-4	[8,9,T,E,0]	5-1			

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong	41	Mode 7-5	[T,E,0,1,4,6]	6-Z41		Inexact doubling: m7, M7, d7, m3, M7, M7.	*fortissimo*
		Mode 7-4	[8,9,T,E,0]	5-1		A torculus in anapest, and then a porrectus in bacchius.	
	42	Mode 3-1	[3,4,6,7,8,E]	6-14		Inexact doubling: M7, M7, M7, d7, m3, M7, M7.	*forte*
		Mode 7-6	[1,4,5,6,7,8]	6-Z36		Porrectus flexus and porrectus in anapest.	
	43	Mode 3-3	[1,2,4,6,8,T]	6-34		Inexact doubling: m6, d5, d6, m7, M7, d7, d7.	
		Mode 7-3	[7,8,9,T,E,1,3,4]	8-Z15		Two climacus following each other, the second one being climacus flexus.	
	44	Mode 7-1	[E,1,3,5,6,7,8]	7-24		Chordal clusters/two iambic clivis.	*forte*
		Mode 7-6	[5,6,8,T,E,0,1]	7-14			*più forte*
	45	Mode 7-3	[7,8,T,E,1,4]	6-27		Inexact doubling: M6, m9,M7, M9, d3, m9, M7, d3, M3.	*forte*
		(TC-10B)	[1,2,3,4,5,6]	6-1		A clivis and a torculus are followed by a climacus resupinus.	
		Mode 7-4	[5,6,8,9,T,E]	6-Z3			
Background chord	46	Mode 7-3	[7,8,9,T,E,3]	6-Z37		Lower-register hexachord.	

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong	47	Mode 7-6	[0,1,2,4,5,6]	6-Z4		Inexact doubling: m6, P4, M6, m6, P4, M6, m6, P4, M6, m6, P4, M6, m6, P4, M6. Five repeated climacus in falling fourths and thirds, increasing in dynamic with each repetition from *pianissimo* to *forte*.	*pianissimo, cresc.* to *forte*.
		Mode 7-6	[0,1,2,4,5,6]	6-Z4			
		Mode 7-6	[0,1,2,4,5,6]	6-Z4			
		Mode 7-6	[0,1,2,4,5,6]	6-Z4			
		Mode 7-6	[0,1,2,4,5,6]	6-Z4			
	48	Mode 7-3	[8,T,E,2,3,5]	6-Z29		Inexact doubling: P5, d5, m6, d7, d5, d6, m7, M7, m7, M9. A scandicus and climacus followed by porrectus flexus.	*forte*.
		Mode 7-2	[1,3,4,6,8,T]	6-33			
		Mode 7-1	[2,3,5,7,9]	5-24			
		Near total chromatic	Total:[1,2,3,4,5,6,7,8,9,T,E]	11-1			
	49	Mode 7-5	[3,4,6,7,T,E]	6-Z19		Inexact doubling:M7, M7, m9, m9, M7, M9, M3, m6, M9, m3. Three groups of porrectus in anapest, each one lower than the previous.	*forte*.
		Mode 7-1 2^{nd} CCR-5A	[1,2,5,6,8,9]	6-Z19			
		Mode 7-5	[0,1,4,6,7,9,T,E]	8-13			
	50	CTI-5B	[1,2,3,5,8,9,T]	7-20	Ashen gray, pale green and mauve.	Color chords/ tristropha.	*forte*.
		CTI-5B	[1,2,3,5,8,9,T]	7-20	Ashen gray, pale green and mauve.		
		CTI-5B	[1,2,3,5,8,9,T]	7-20	Ashen gray, pale green and mauve.		
	51	Mode 2-1	[0,1,3,6,7]	5-19		Inexact doubling: A2, m9, m9, m3, m3, A2, A2, A3, P4, P4.	*forte*.

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong		Mode 2-2	[2,4,5,7,8,E]	6-27		Tristropha of climacus in falling fourths; each one higher than previous, the last one is a climacus flexus.	
		Mode 7-4	[3,4,5,6,8,9,T,E]	8-6			
	52	Mode 3-3	[0,1,4,5]	4-7		Inexact doubling: m3, m3, M3. Distropha overlap with iambic clivis.	*mezzo forte*.
	53	Mode 7-2	[7,T,1,2,3]	5-Z38		Inexact doubling: m9, m3, M3, m3, p4, M9, M3. Two clivis ending with climacus.	*forte*.
		Mode 7-3	[4,5,7,8,T,E]	5-19			
		Mode 7-1	[2,6]	2-4			
	54	Mode 7-1	[2,3,6,7,8,9,E]	7-Z18		Mixed inexact doubling: m7, A2, A2, M9, P4, A2. Two torculus in anapest, the second being higher and louder than the first.	*forte*
		Non modal	[1,3,5,6,7,8,9,T]	8-11			*più forte*.
	55	Mode 7-2	[7,8,9,T,1,4]	6-Z42		Inexact doubling: M6, M7, M7, m6, M7. A podatus and a scandicus.	*fortissimo*
		Mode 7-1	[E,0,2,6]	4-Z29			
		CTI-8C	[8,9,T,1,2,3,5]	7-20	Purple amethysts, mauve campanulas, and white pebbles set against a green and ashen-gray foundation.	Color chord.	

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong	56	Mode 4-6	[T,E,0,1,4,6]	6-Z41		Inexact doubling: A6, M6, M7, M7, M7, A2. Two anapest porrectus, each one lower than the previous.	*forte*.
		Mode 4-4	[8,9,T,E,2,3]	6-5			
		Mode 4-1	[1,6]	2-5		Chordal clusters/Iambic clivis.	
		Mode 3-4 M3MC 12	[E,2,3,5,6,7]	6-15			
Background chord	57	Mode 4-3	[2,3,4,8,9]	5-7		Lower-register pentachord.	
Birdsong	58	Mode 4-6	[6,T,E,0,1]	5-5		Inexact doubling: P5, P5, M7, d7, M7. Distropha overlap with iambic clivis.	*forte*.
	59	Mode 7-1	[0,8]	2-4		Inexact doubling: m6, m6, m7, M6, m6, m7, m7, d7, M7, A6, M7, M7. Distropha followed by three groups of climacus in falling fourths, the last one being a climacus resupinus.	
		Mode 7-3	[7,9,T,E,2,4]	6-Z47			
		Mode 7-3	[7,8,9,E,2,4]	6-Z47			
		Mode 7-5	[6,7,9,T,1,3]	6-Z49			

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong		Mode 7-1	[E,0]	2-1			
	60	Mode 7-2	[7,8,T,1,2,3]	6-18		Mixed inexact doubling: M7, m3, A2, m3.	*forte*.
		Mode 7-2	[2,4,6,7,9]	5-23		Torculus flexus.	
	61	Mode 4-1	[012678]	6-7		Mixed inexact doubling: P5, A3, M3, P4, P5.	
		Mode 4-4	[3,4,5,8,9,T]	6-Z6		Climacus of falling fourths in anapest, followed by iambic clivis.	
	62	Mode 4-2	[0,1,2,3,6,8]	6-Z41		Inexact doubling: M9, d3, d3, M7, M7, M7, M7.	*forte*.
		Mode 4-5	[5,6,T,E,0]	5-7		A climacus and distropha overlapping with scandicus.	
	63	Mode 7-2	[6,7,8,T,E,0,2,3]	8-19		Chordal clusters/ two scandicus anapests.	
	64	Mode 7-1	[3,5,6,7,8,9,E,0]	8-12		Inexact doubling: m3, m3, A4. Scandicus.	
	65	Mode 7-3	[E,1,3,4,7,8]	6-31		Inexact doubling: A2, A2, M3, d4, M3.	*forte*.
		Mode 7-2	[2,4,8,T]	4-25		Porrectus and two iambic podatus.	
		Mode 7-1	[5,6,7,8,9,0,1,2]	8-8			*più forte*

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong	66	Mode 7-2	[6,8,T,0,1,3]	6-33		Inexact doubling: M3, A2, A2, m3, m3, m3, m3, M3. Two climacus, the second one is climacus resupinus.	
		Mode 7-2	[0,1,3,4,6,9]	6-27			
		Mode 7-1	[7,E]	2-5			
	67	Near total chromatic	[1,2,3,4,5,6,7,8,9 ,T,E]	11-1		Chromatic chordal clusters/ in climacus resupinus, ending with a septad at the end.	*fortissimo*
		CTI-12B	[3,4,5,8,9,T,0]	7-20	pink, mauve, purple violet and turquoise blue mosaic.		
	68	CTI-10C	[T,E,0,3,4,5,7]	7-20	Ruby red zone, encircled by a pinkish zone with black drawings.	Color chords	*fortissimo* *Un peu vif* (A little fast) ♪=104
		CTI-10D	[5,6,7,T,E,0,2]	7-20	a reef of red corals, encircled with pink, gray and pale green.		
		Mode 7-5	[9,T,E,0,1,3,4,5, 6]	9-5		Chordal clusters/Iambic clivis	
	69	CTI-10C	[T,E,0,3,4,5,7]	7-20	Ruby red zone, encircled by a	Color chords.	
		CTI-10D	[5,6,7,T,E,0,2]	7-20	a reef of red corals, encircled with pink,		

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong		Mode 7-5	[9,T,E,0,1,3,4,5, 6]	9-5		Chordal clusters/Iambic clivis.	
	70	Mode 2-2	[7,8,T,E,2,4]	6-Z49		Mixed inexact doubling: d3, m3, m3, d3, d3. Torculus, scandicus and climacus, and ends in a chromatic cluster in the left hand.	*Vif* (fast) ♪=126
		Mode 7-2	[6,8,T,0,1,3]	6-33			
		Mode 7-1	[1,3,7,9]	4-25			
		Mode 7-6	[T,0,2,5,7]	5-35			
	71	Mode 7-5	[0,1,3,4,5,6,T,E]	8-6		Chromatic chordal clusters/three chordal iambic clivis, with each pair being louder and higher than the preceding one.	*forte* to *fortissimo*
		Mode 7-1	[0,1,2,3,5,7,9,E]	8-22			
			[T,E,0,1,3,5,6,7, 8]	9-9			
Background chord	72	Mode 2-2	[1,2,7,8]	4-9		Low register tetrachord.	
Birdsong	73	Mode 7-4	[9,T,E,0,3,4]	6-5		Inexact doubling: m9, M7, M7, m9, M7, M7,m9, M7,M7. Porrectus in anapest followed by a clivis and climacus resupinus.	
		Mode 7-4	[9,T,E,0,3,4]	6-5			

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong		Mode 7-4	[9,T,E,0,3,4]	6-5			
	74	Chromatic	[2,3,4,5,6,7,8,E]	8-3		Inexact doubling: m3, m3, m3, A2, M3, m9. A porrectus resupinus followed by iambic clivis.	
		Mode 3-2	[7,8,9,1]	4-5			
	75	Mode 3-1	[3,6,7b,9,T]	5-16		Torculus	*mezzoforte*
	76	Mode 3-3	[6,8,0,1]	4-16		Tetrachord.	*fortissimo*
	77	Mode 4-5	[9,T,E,0,4,5]	6-Z38		Hexachord.	*fortissimo*
	78	Mode 4-2	[1,2,3,6,7,8]	6-Z6		Inexact doubling: M3, P4, d4, M3, P4, d4, M3, P4, d4, M3, P4, d4, M3, P4, d4, M3, P4, d4. Five repeated climacus in falling fourths.	*pianissimo* then *cres.* to *forte*.
		Mode 4-2	[1,2,3,6,7,8]	6-Z6			
		Mode 4-2	[1,2,3,6,7,8]	6-Z6			
		Mode 4-2	[1,2,3,6,7,8]	6-Z6			
		Mode 4-2	[1,2,3,6,7,8]	6-Z6			
	79	Mode 7-2	[2,4,6,7,8,T]	6-21		Inexact doubling: M3, m3, M9, M3, m9, m3, m7, m7, M2, M7, M7, M7. Torculus	
		Mode 7-3	[T,E,1,3,4,7]	6-Z28		Chordal clusters/Torculus.	
		Mode 7-1	[1,3,6,7,8,9]	6-Z41			
		Mode 7-1	[0,1,6,7]	4-9			
		Mode 7-4	[4,5,6,E]	4-6			

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong	80	Mode 7-1	[E,0,1,2,6,7]	6-Z38		Inexact doubling: M7, M7, M7, M7, M7, M7, M7, m9, m9, M7. Two repeated motifs, each containing two pairs of repeated pitches and rising in fourths to ending in accented seventh intervals.	*forte*
		Mode 7-4	[9,T,E,0,3,4]	6-5			
	81	Mode 7-3	[1,3,4,5,7,8,9,T]	8-Z29		Torculus in anapest.	*forte*
	82	Mode 7-4	[8,9,E,0,3,4]	6-Z19		Inexact doubling: m6, d5, M7, m6, M7, M7. A clivis and climacus resupinus.	
		Mode 7-4	[6,9,T,E,0,2]	6-Z39			
	83	Chromatic	[8,9,T,E,0,1,2,3]	8-1		Chords/ iambic clivis	
	84	(Pick-up note)	[3]			An appoggiatura and chordal clusters/ torculus	*Un peu vif* (A little fast) ♪=104 *fortissimo*
		1st CCR-7B	[7,8,9,T,E,2,4]	7-Z12	Lemon yellow and orange and reddish mauve of petunia.		
		2nd CCR-4B	[7,8,9,0,1,3]	6-Z43	Translucent pale yellow background, with gray and pale blue drawings.		
	85	(Pick-up note)	[3]			An appoggiatura and chordal clusters/ torculus	*fortissimo*
		1st CCR-7B	[7,8,9,T,E,2,4]	7-Z12	Lemon yellow and orange and reddish mauve of petunia.		

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong		2nd CCR-4B	[7,8,9,0,1,3]	6-Z43	Translucent pale yellow background, with gray and pale blue drawings.		
	86	Mode 7-3	[2,3,4,5,8,E]	6-Z42		Inexact doubling: m7, d7, m7, m7, A6, A5, m9, m3, M7. Two climacus in falling fourths, fifths and a tritone followed by porrectus.	A little fast ♪=126 *forte*
		Mode 7-2	[6,7,9,T,1,3]	6-Z49			
		Chromatic	[E,0,1,2,3,4]	6-1			
	87	Mode 7-4	[9,T,E,0,3,4]	6-5		Inexact doubling: M7, M7, M7. Clivis and climacus followed by distropha and overlapping with iambic clivis.	
		Mode 7-4	[9,T,E,0,3,4]	6-5			
	88	(TC-1B)	[7,8,T,E,0,1,3]	7-11		Inexact doubling: A6, m9, d7, M7. Torculus resupinus.	
	89	Mode 7-2	[7,8,T,1,2,3]	6-18		Inexact doubling: M3, P4, d5, d4, P4, A2, A4, m7, A6, m7, M2, M7. Four pairs of ascending clivis, each one higher than the previous one and with the last pair overlapping with a climacus while the measure ends with porectus.	*più forte*
		Mode 7-2	[4,6,9,T,1]	5-32			
		Mode 7-1	[2,3,5,6,8,E]	6-27			
		Mode 7-4	[8,9,T,E,0]	5-1			

Table of Analysis on the Sixth Movement "L'Alouette des champs"

Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong	90	Mode 7-2	[9,T,1,3,6]	5-32		Inexact doubling: M6, M6, A4. Torculus.	
	91	CTI-2B	[5,6,7,T,E,0,2]	7-20	Red, gray and are punctuated with pale green bands.	Chordal clusters/ Five repeated and accented septachords.	*fortissimo*
		CTI-2B	[5,6,7,T,E,0,2]	7-20			
		CTI-2B	[5,6,7,T,E,0,2]	7-20			
		CTI-2B	[5,6,7,T,E,0,2]	7-20			
		CTI-2B	[5,6,7,T,E,0,2]	7-20			
	92	CTI-12B, (with added pc B)	[8,9,T,E,0,3,4,5]	8-8		Color chord/ Tristropha.	*fortissimo*
			[8,9,T,E,0,3,4,5]	8-8			
			[8,9,T,E,0,3,4,5]	8-8		Color chord/ Tristropha.	
	93	Mode 7-3	[7,8,9,T,E,2,3]	7-6		Mixed Inexact doubling: m2, m3, m3, A2.	*forte*
	94	Mode 7-3	[1,3,4,5,7,8]	6-Z10		Mixed inexact doubling/ distropha of iambic podatus.	*forte*
		Mode 7-3	[1,3,4,5,7,8]	6-Z10			
	95	Mode 7-3	[1,2,3,4,5,8]	6-Z36		Inexact doubling: A3, M2, M2, M2. Porrectus resupinus.	
	96	Mode 7-4	[8,9,T,E,0,3,4]	7-6		Inexact doubling: M7, M6, M7, M7, M7.	
	97	Mode 7-3	[3,4,7,8,9,E]	6-16		Inexact doubling: m9, M3, m9. Torculus in anapest.	*forte*
	98	Mode 7-1	[5,6,7,8,0,1]	6-Z38		Inexact doubling: m9, M9, M9. Porrectus in anapest.	
	99	Mode 3-1	[6,7,T,E,0,2]	6-16		Inexact doubling: M7, M7, m7, m9,	*Cresc.*

Table of Analysis on the Sixth Movement "L'Alouette des champs"

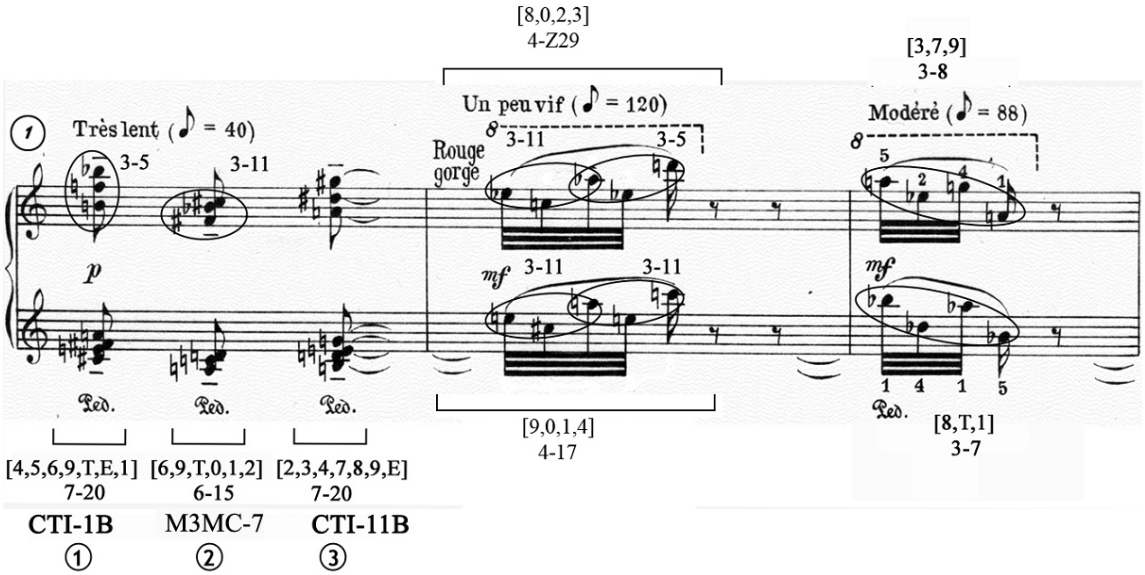
Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong		Mode 4-3	[9,T,2,3,4]	5-7		m9, m9, M9, m9, m9, m9. Three groups of climacus built of falling fourths and tritones, the last one being a climacus resupinus.	from *forte* to *fortissimo.*
		Mode 7-6	[2,4,5,6,7,T,E]	7-Z18			
	100	Mode 7-3	[8,9,T,E,3]	5-5		Chromatic clusters/Pentachord followed by climacus in anapest	*fortissimo*
		Chromatic	[3,4,5,6,7,8,E,0]	8-7			
	101	Mode 4-4	[8,9,T,E,3]	5-5		Chromatic clusters/Pentachord followed by climacus in anapest.	*fortissimo*
		Chromatic	[3,4,5,6,7,8,E,0]	8-7			
	102	Mode 3-2	[7,8,0,1]	4-8		Inexact doubling: P5, d6, m6, A6. Two pairs of iambic clivis, the second lower than the first.	*forte*
		Mode 3-3	[5,6,8,9]	4-3			
	103	CTI-6B	[6,9,T,E,2,3,4]	7-20	Emerald green, amethyst purple, and pale blue.	Color chords/tristropha	*più forte* and *forstissimo*
		CTI-6B	[6,9,T,E,2,3,4]	7-20			
		CTI-6B	[6,9,T,E,2,3,4]	7-20			
		Mode 7-4	[E,0,3,4]	4-7		Inexact doubling/iambic podatus	
	104	2nd CCR 4A	[2,3,6,7,9,T]	6-Z19	Translucent pale yellow background,	Descending clivis, repeated and sequenced.	Very fast ♪=144 *Decrescendo* from *mezzo forte* to *pianissimo*
		1st CCR 4B	[4,5,6,7,8,E,1]	7-Z12	Ruby red, orange, deep yellow.		
		Mode 3-1	[T,0,2,3,6,7]	6-31			
		Mode 7-1	[E,1,3,5,7,8]	6-34			
		Mode 7-4	[6,8,9,T,E,0,3]	7-10			

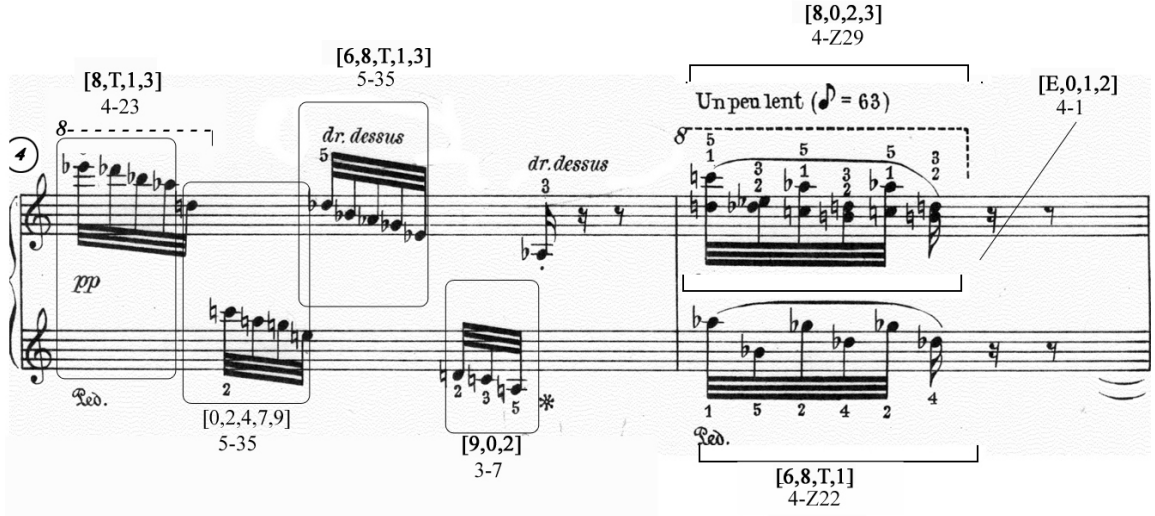
Table of Analysis on the Sixth Movement "L'Alouette des champs"

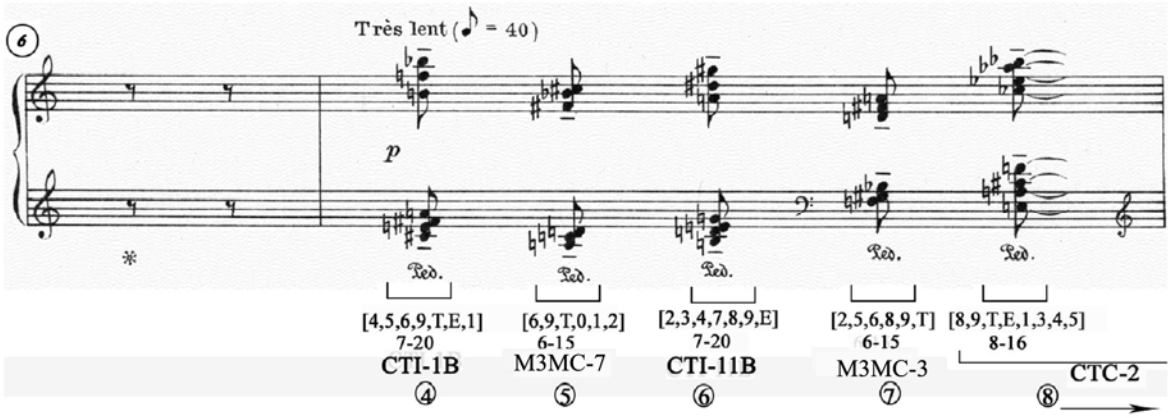
Theme	Mm.	Pitch material	Pitch-class set	Set Class	Messiaen's color description	Pitch material & Melodic contour	Tempo and dynamic
Birdsong	105	Mode 7-2	[2,3,4,8,9]	5-7		Inexact doubling/ climacus	*pianissimo vif (*fast) ♪=126
		Mode 7-6	[T,E,0,1,2,6]	6-Z37		Chromatic chordal cluster/iambic podatus	
	106	A prolonged silence, indicated by a *fermata.*					

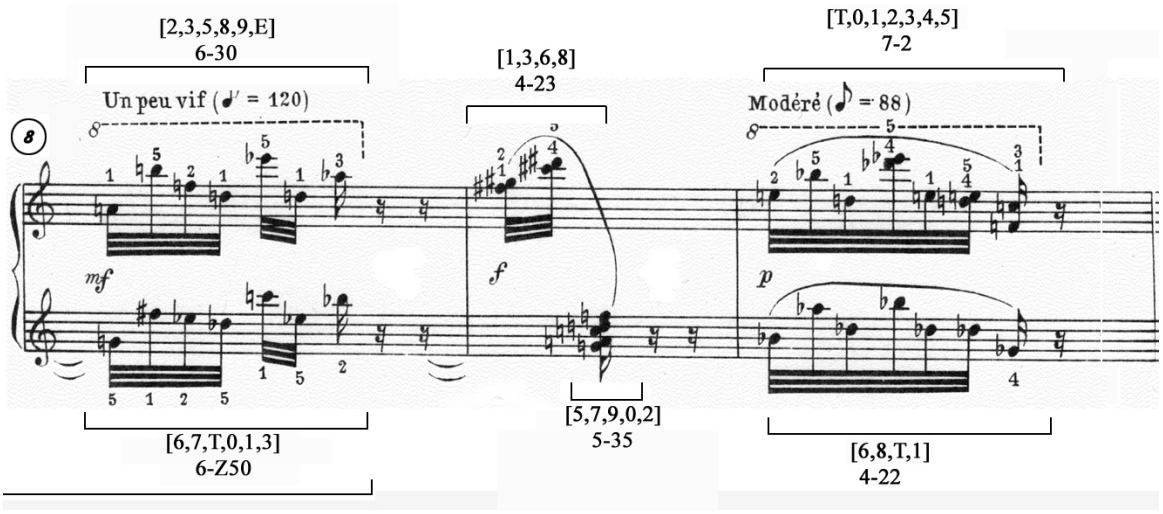
Appendix II

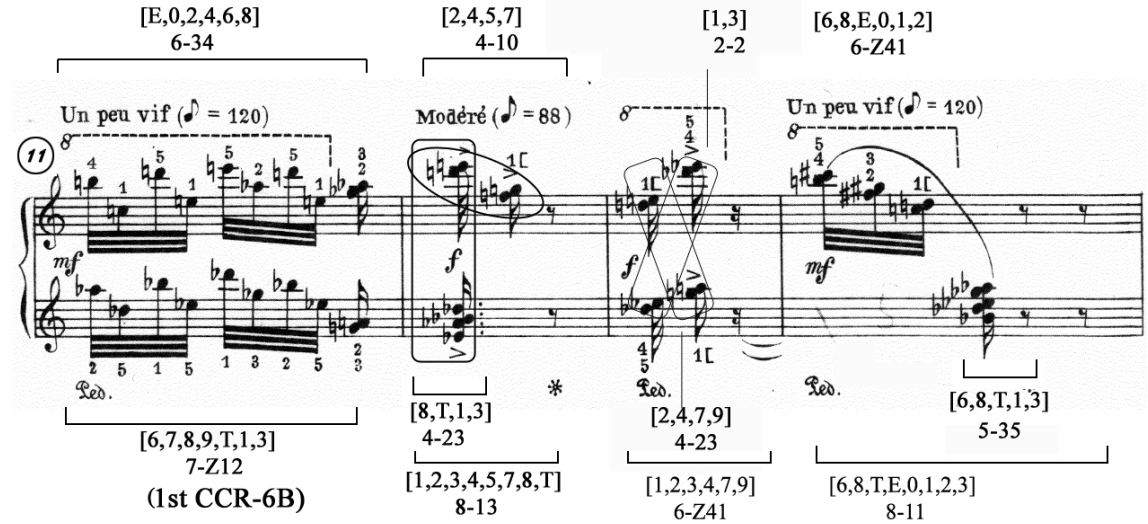
I. LE ROUGE GORGE






6
Très lent (♪ = 40)
p
Ped.
Ped.
Ped.
Ped.
Ped.
[4,5,6,9,T,E,1]
7-20
CTI-1B
④
[6,9,T,0,1,2]
6-15
M3MC-7
⑤
[2,3,4,7,8,9,E]
7-20
CTI-11B
⑥
[2,5,6,8,9,T]
6-15
M3MC-3
⑦
[8,9,T,E,1,3,4,5]
8-16
CTC-2
⑧


[2,3,5,8,9,E]
6-30
Un peu vif (♩' = 120)
8
mf
[6,7,T,0,1,3]
6-Z50
[1,3,6,8]
4-23
f
[5,7,9,0,2]
5-35
[T,0,1,2,3,4,5]
7-2
Modéré (♪ = 88)
8
p
[6,8,T,1]
4-22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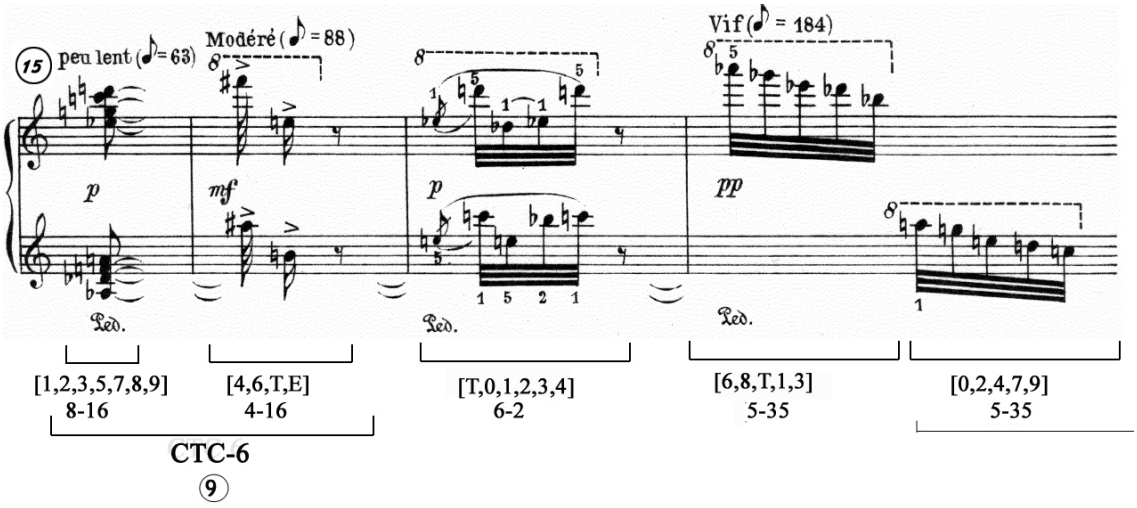
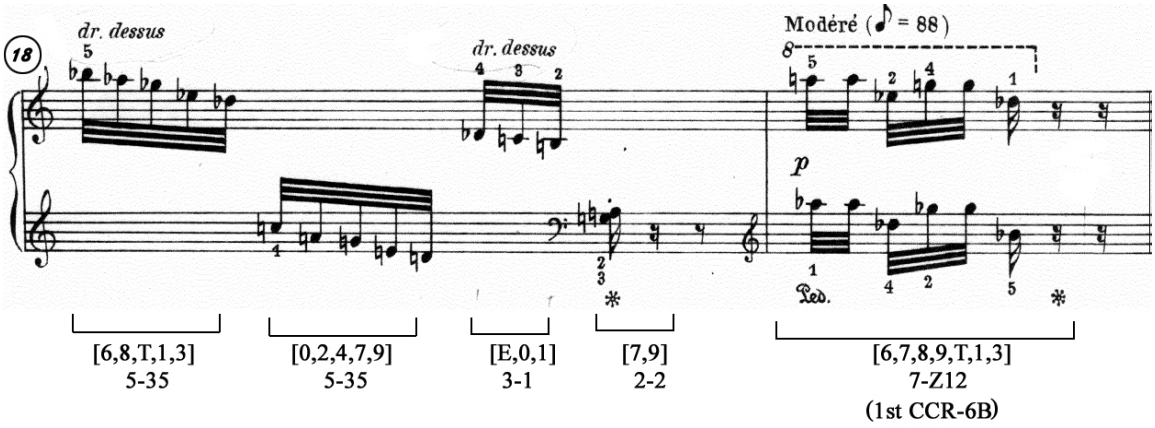
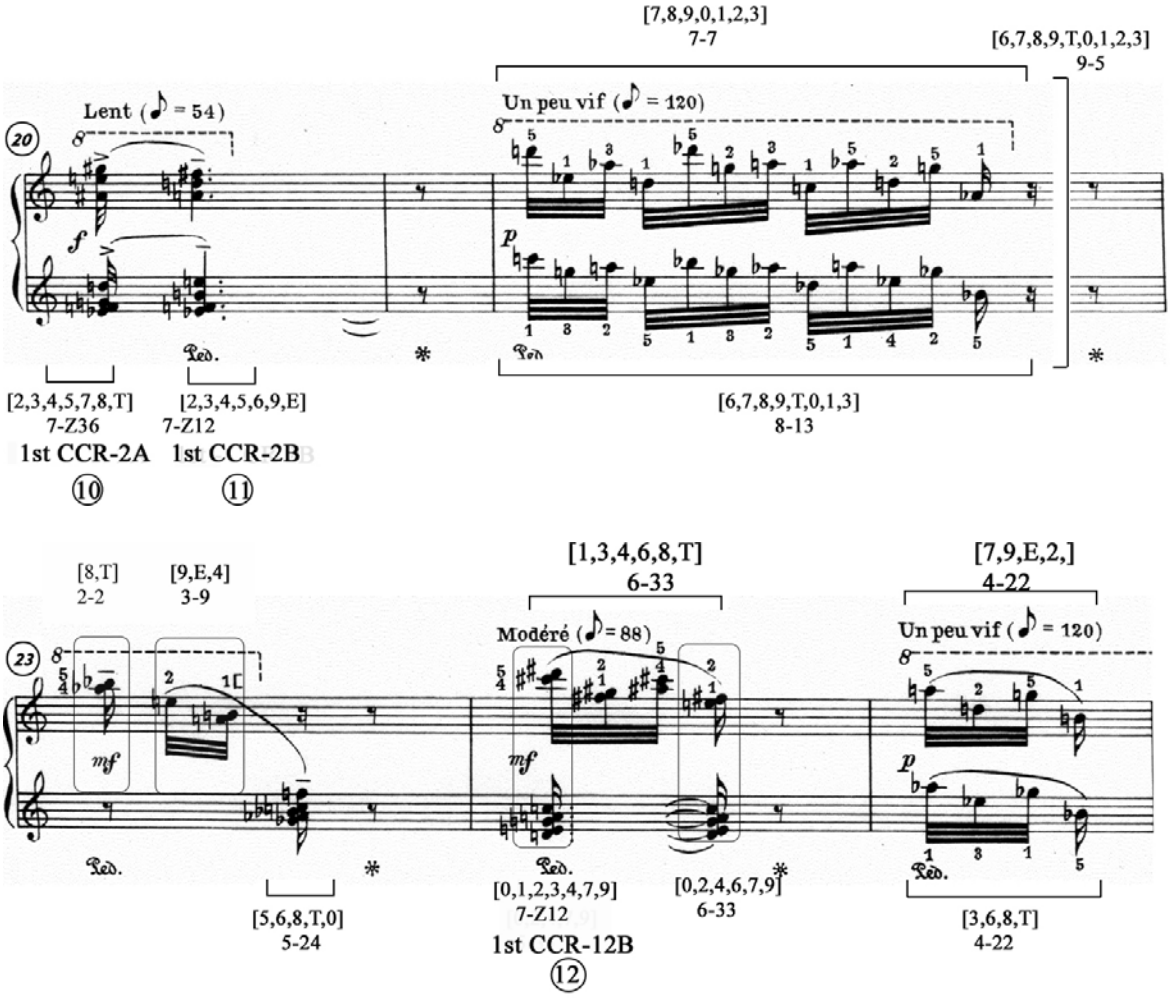
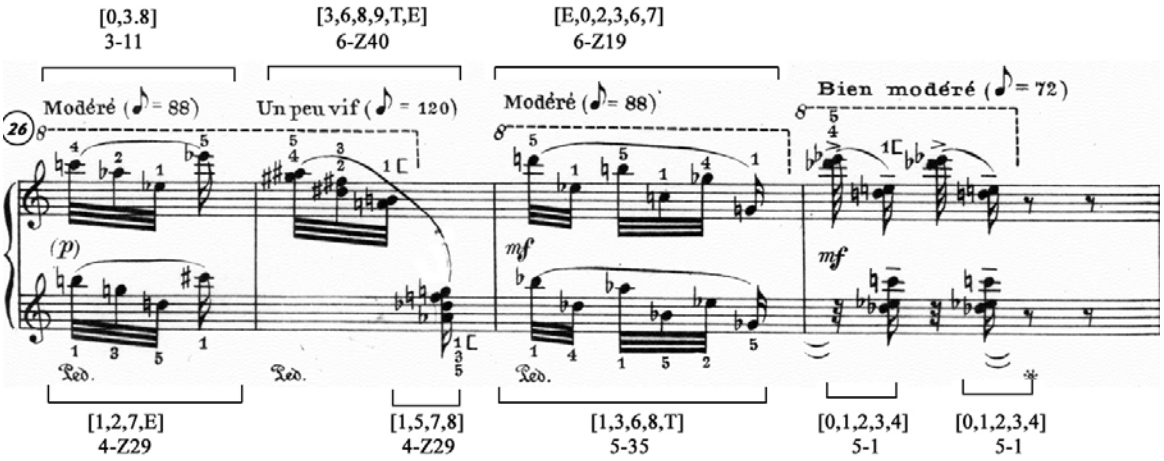
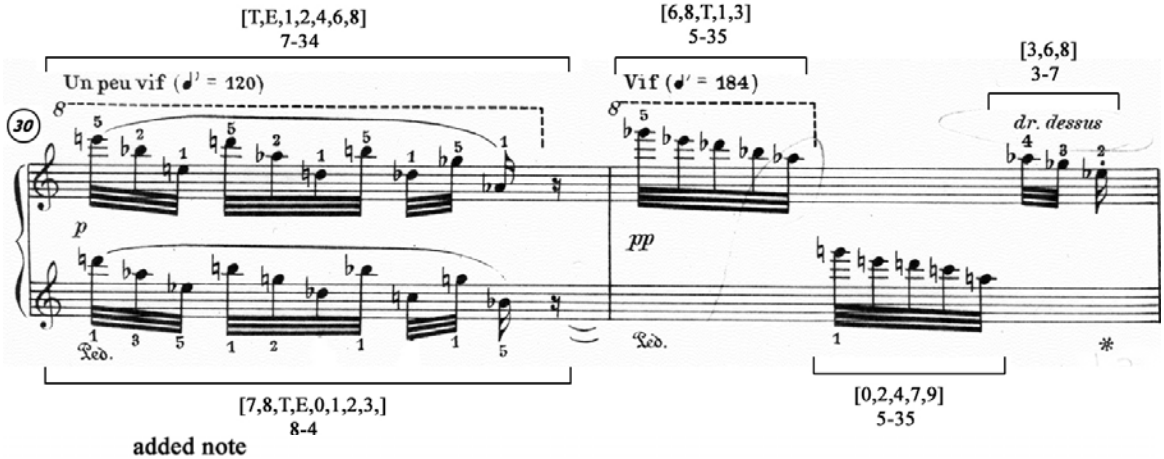
6-34
[2,4,5,7]
4-10
[1,3]
2-2
[6,8,E,0,1,2]
6-Z41
Un peu vif (♪ = 120)
Modéré (♪ = 88)
Un peu vif (♪ = 120)
11
mf
f
f
mf
Ped.
[6,7,8,9,T,1,3]
7-Z12
(1st CCR-6B)
[8,T,1,3]
4-23
[1,2,3,4,5,7,8,T]
8-13
[2,4,7,9]
4-23
[1,2,3,4,7,9]
6-Z41
[6,8,T,1,3]
5-35
[6,8,T,E,0,1,2,3]
8-11

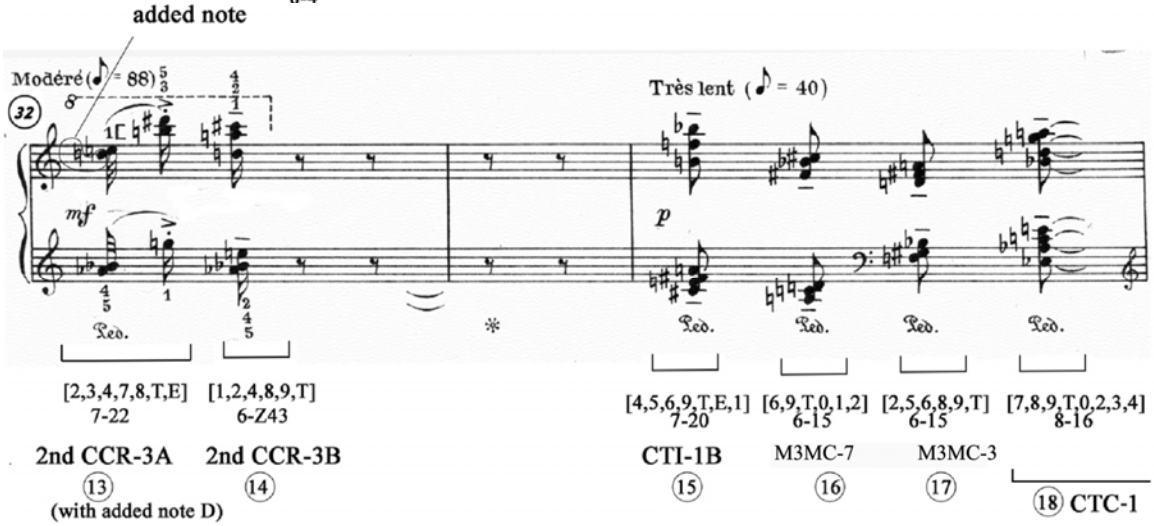

15
peu lent (♪ = 63)
Modéré (♪ = 88)
Vif (♪ = 184)
p
mf
p
pp
Ped.
[1,2,3,5,7,8,9]
8-16
[4,6,T,E]
4-16
CTC-6
9
[T,0,1,2,3,4]
6-2
[6,8,T,1,3]
5-35
[0,2,4,7,9]
5-35

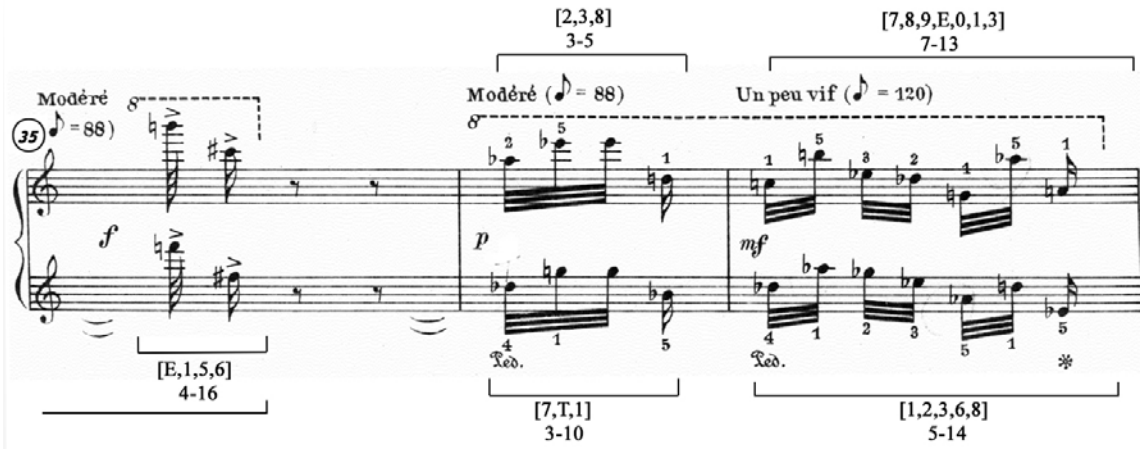

18
dr. dessus
dr. dessus
Modéré (♪ = 88)
p
Ped.
[6,8,T,1,3]
5-35
[0,2,4,7,9]
5-35
[E,0,1]
3-1
[7,9]
2-2
[6,7,8,9,T,1,3]
7-Z12
(1st CCR-6B)

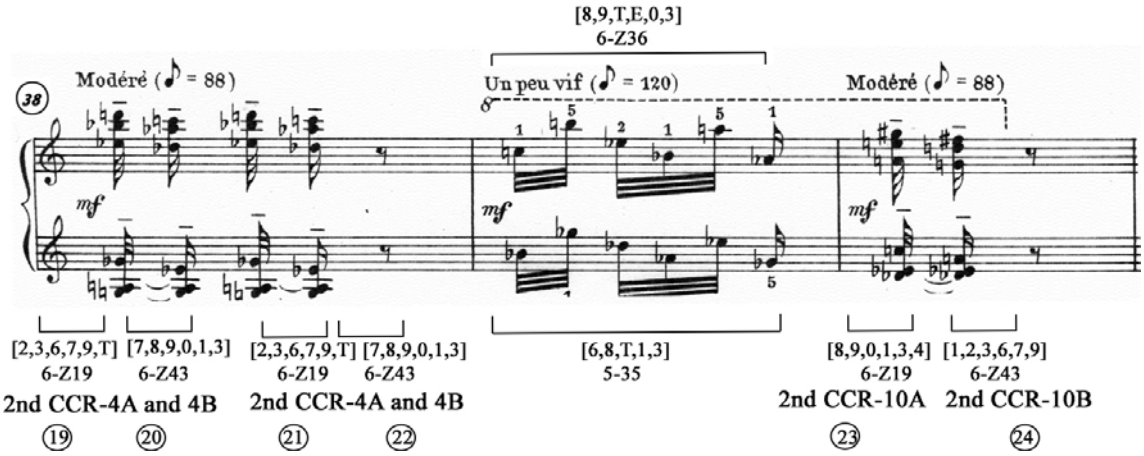

[7,8,9,0,1,2,3]
7-7
[6,7,8,9,T,0,1,2,3]
9-5
Lent (♪ = 54)
Un peu vif (♪ = 120)
20
[2,3,4,5,7,8,T]
7-Z36
[2,3,4,5,6,9,E]
7-Z12
[6,7,8,9,T,0,1,3]
8-13
1st CCR-2A
1st CCR-2B
10
11
[8,T]
2-2
[9,E,4]
3-9
[1,3,4,6,8,T]
6-33
[7,9,E,2,]
4-22
Modéré (♪ = 88)
Un peu vif (♪ = 120)
23
[5,6,8,T,0]
5-24
[0,1,2,3,4,7,9]
7-Z12
[0,2,4,6,7,9]
6-33
[3,6,8,T]
4-22
1st CCR-12B
12

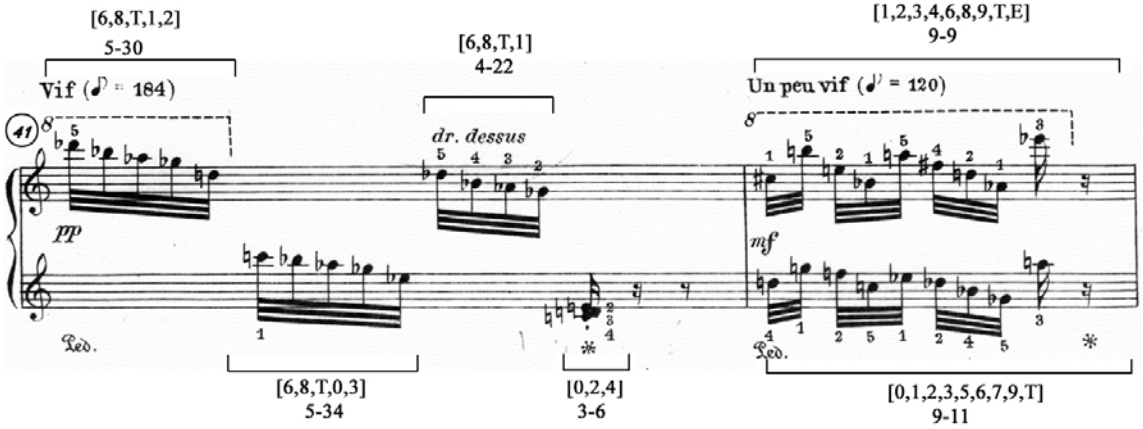

[0,3.8]
3-11
[3,6,8,9,T,E]
6-Z40
[E,0,2,3,6,7]
6-Z19
Modéré (♪ = 88)
Un peu vif (♪ = 120)
Modéré (♪ = 88)
Bien modéré (♪ = 72)
26
(p)
mf
mf
Ped.
Ped.
Ped.
[1,2,7,E]
4-Z29
[1,5,7,8]
4-Z29
[1,3,6,8,T]
5-35
[0,1,2,3,4]
5-1
[0,1,2,3,4]
5-1

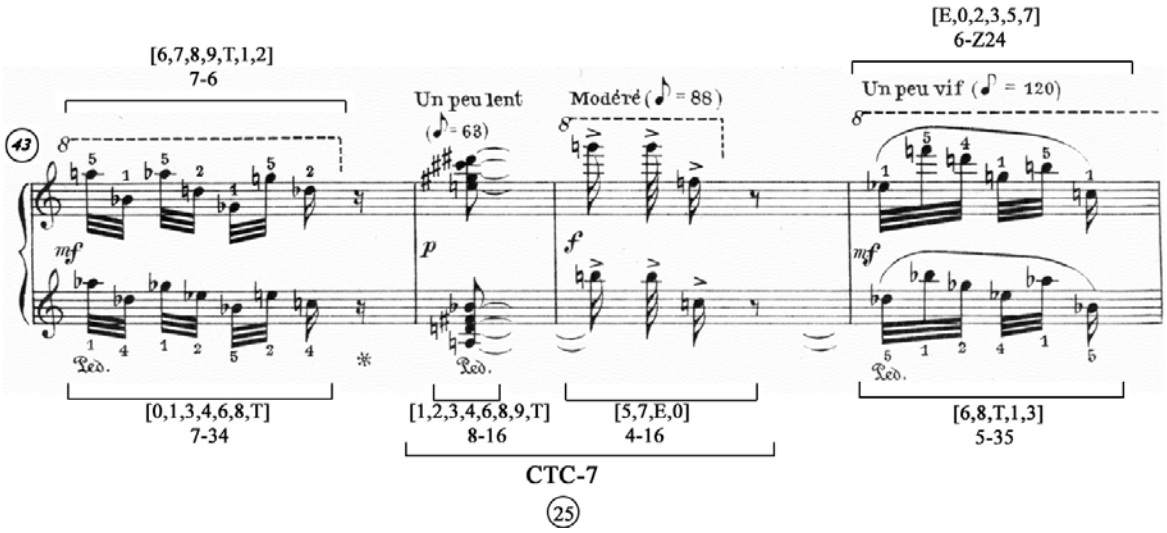

[T,E,1,2,4,6,8]
7-34
[6,8,T,1,3]
5-35
[3,6,8]
3-7
Un peu vif (♪ = 120)
Vif (♪ = 184)
30
dr. dessus
p
pp
Ped.
Ped.
[7,8,T,E,0,1,2,3,]
8-4
[0,2,4,7,9]
5-35

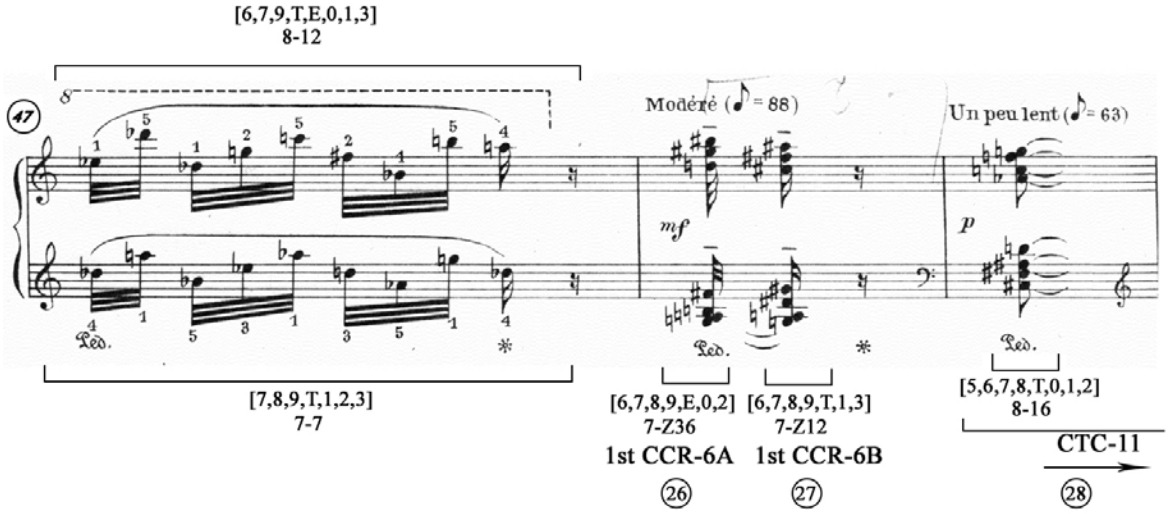

added note
Modéré (♪ = 88)
Très lent (♪ = 40)
32
mf
p
Ped.
Ped.
Ped.
Ped.
Ped.
[2,3,4,7,8,T,E]
7-22
[1,2,4,8,9,T]
6-Z43
[4,5,6,9,T,E,1]
7-20
[6,9,T,0,1,2]
6-15
[2,5,6,8,9,T]
6-15
[7,8,9,T,0,2,3,4]
8-16
2nd CCR-3A
(13)
(with added note D)
2nd CCR-3B
(14)
CTI-1B
(15)
M3MC-7
(16)
M3MC-3
(17)
(18) CTC-1

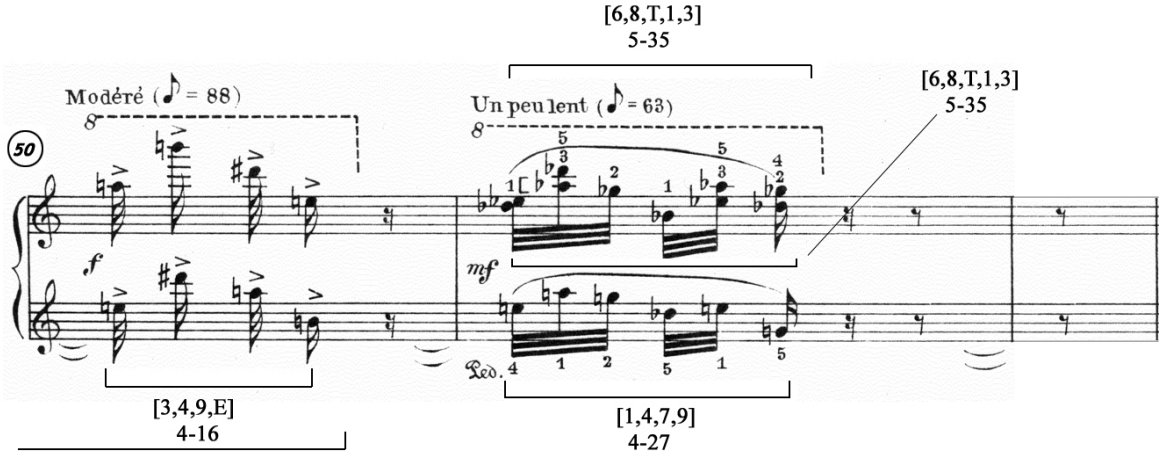

[2,3,8]
3-5
[7,8,9,E,0,1,3]
7-13
Modéré ♪ = 88)
Modéré (♪ = 88)
Un peu vif (♪ = 120)
35
f
p
mf
Ped.
Ped.
*
[E,1,5,6]
4-16
[7,T,1]
3-10
[1,2,3,6,8]
5-14

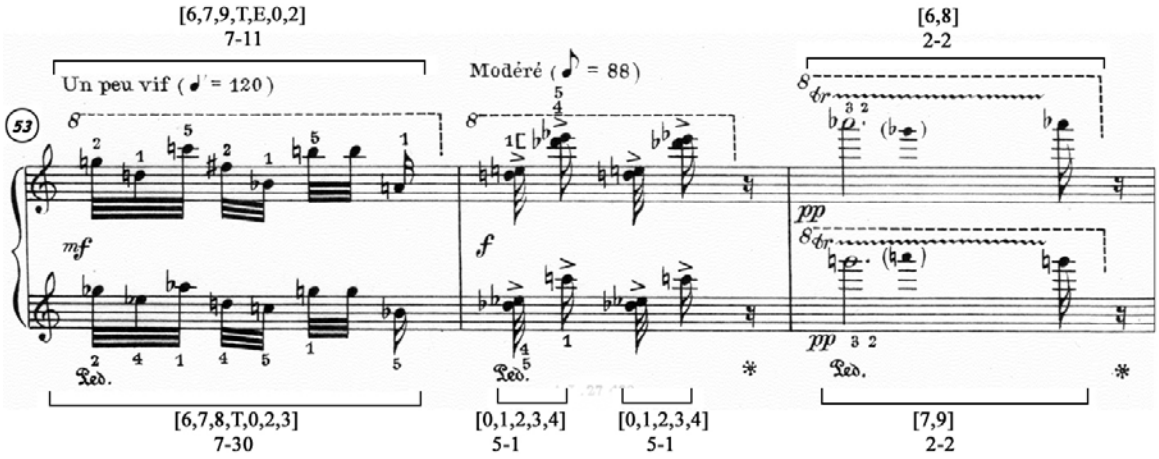

[8,9,T,E,0,3]
6-Z36
Modéré (♪ = 88)
Un peu vif (♪ = 120)
Modéré (♪ = 88)
38
mf
mf
mf
[2,3,6,7,9,T]
6-Z19
[7,8,9,0,1,3]
6-Z43
[2,3,6,7,9,T]
6-Z19
[7,8,9,0,1,3]
6-Z43
[6,8,T,1,3]
5-35
[8,9,0,1,3,4]
6-Z19
[1,2,3,6,7,9]
6-Z43
2nd CCR-4A and 4B
19
20
2nd CCR-4A and 4B
21
22
2nd CCR-10A
23
2nd CCR-10B
24

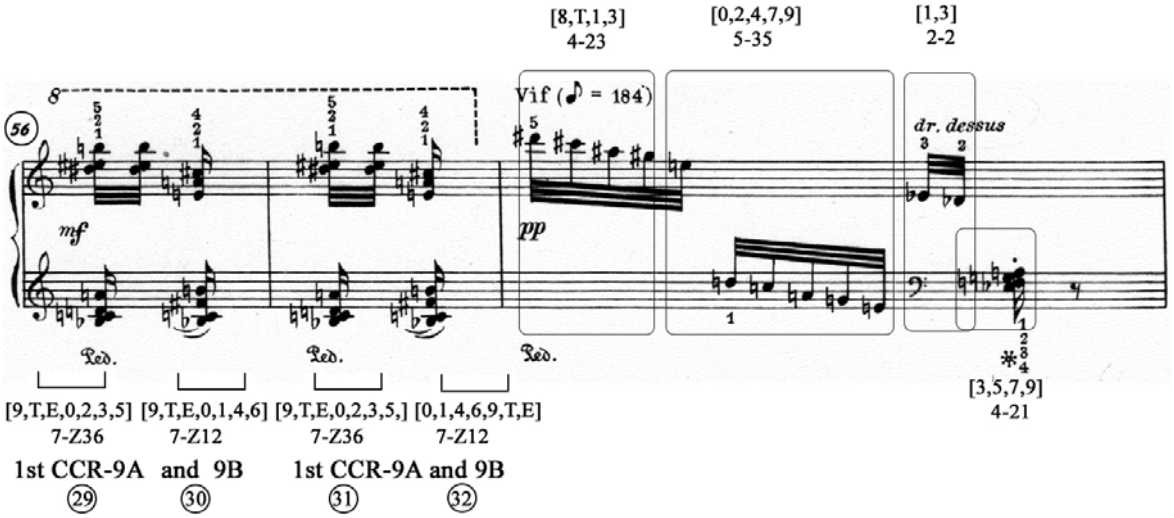

[6,8,T,1,2]
5-30
[6,8,T,1]
4-22
[1,2,3,4,6,8,9,T,E]
9-9
Vif (♪ = 184)
Un peu vif (♪ = 120)
41
dr. dessus
pp
mf
Ped.
Ped.
*
*
[6,8,T,0,3]
5-34
[0,2,4]
3-6
[0,1,2,3,5,6,7,9,T]
9-11

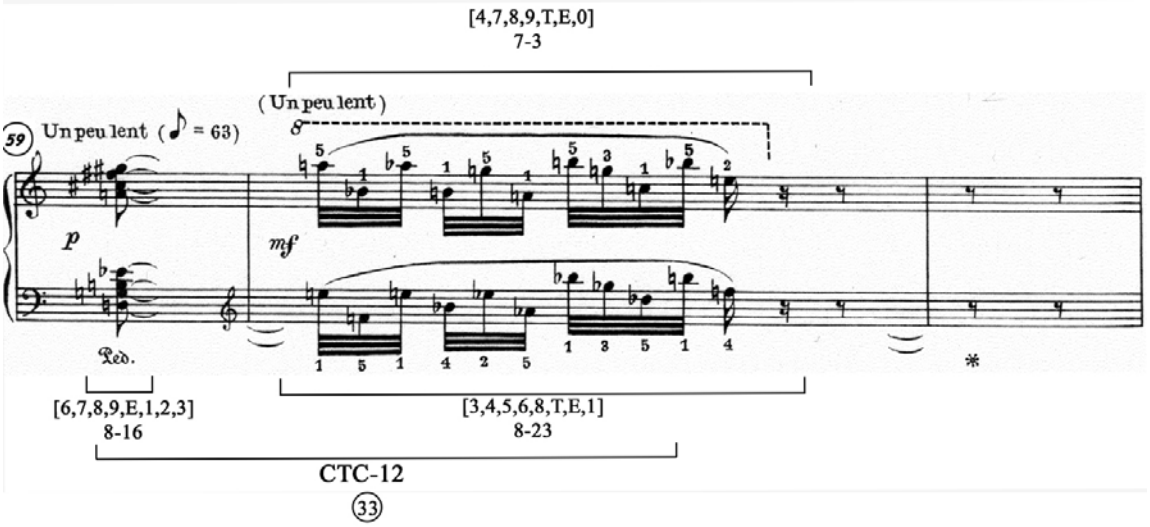

[6,7,8,9,T,1,2]
7-6
[E,0,2,3,5,7]
6-Z24
Un peu lent
Modéré
Un peu vif
[0,1,3,4,6,8,T]
7-34
[1,2,3,4,6,8,9,T]
8-16
[5,7,E,0]
4-16
[6,8,T,1,3]
5-35
CTC-7
25

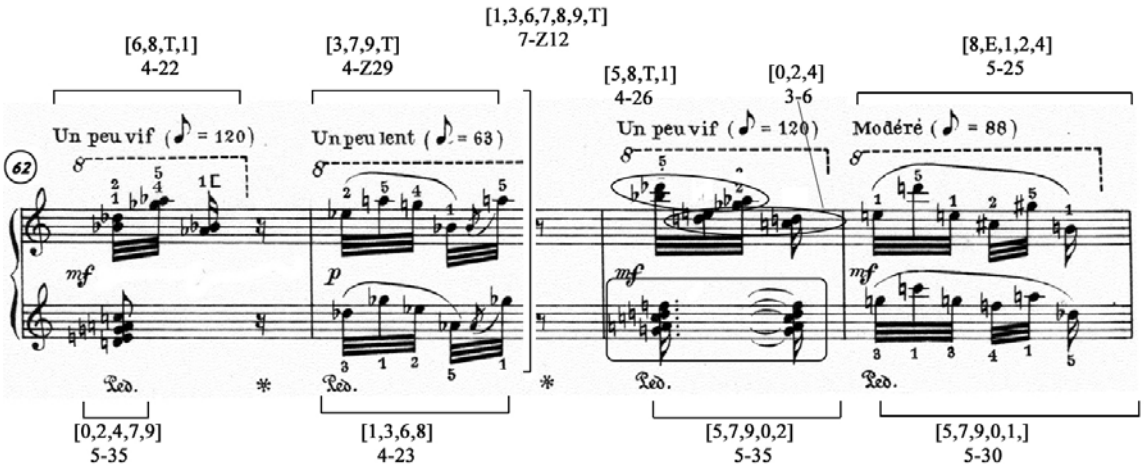

[6,7,9,T,E,0,1,3]
8-12
Modéré
Un peu lent
[7,8,9,T,1,2,3]
7-7
[6,7,8,9,E,0,2]
7-Z36
[6,7,8,9,T,1,3]
7-Z12
[5,6,7,8,T,0,1,2]
8-16
1st CCR-6A
1st CCR-6B
CTC-11
26
27
28

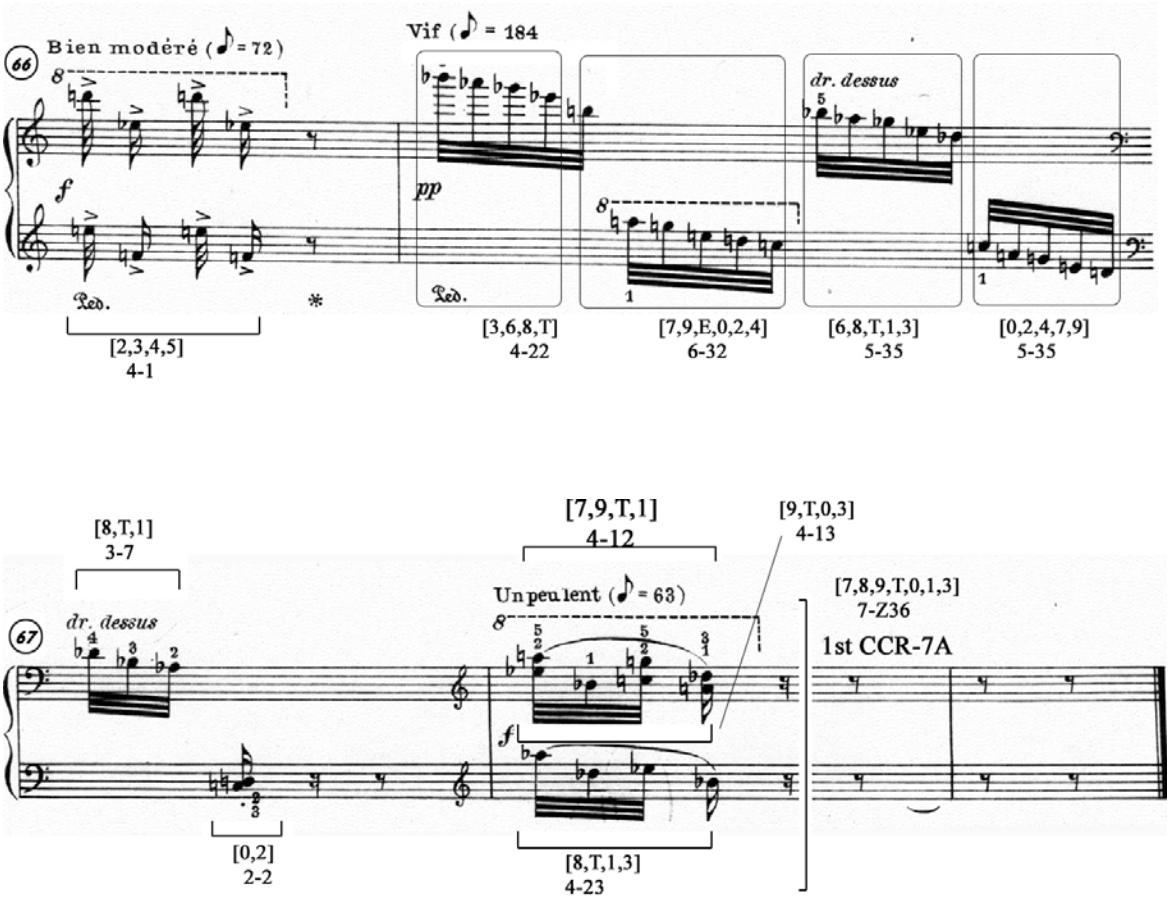

[6,8,T,1,3]
5-35
Modéré (♪ = 88)
Un peu lent (♪ = 63)
[6,8,T,1,3]
5-35
50
f
mf
Ped.
[3,4,9,E]
4-16
[1,4,7,9]
4-27


[6,7,9,T,E,0,2]
7-11
[6,8]
2-2
Un peu vif (♩ = 120)
Modéré (♪ = 88)
53
mf
f
pp
pp
Ped.
Ped.
Ped.
[6,7,8,T,0,2,3]
7-30
[0,1,2,3,4]
5-1
[0,1,2,3,4]
5-1
[7,9]
2-2

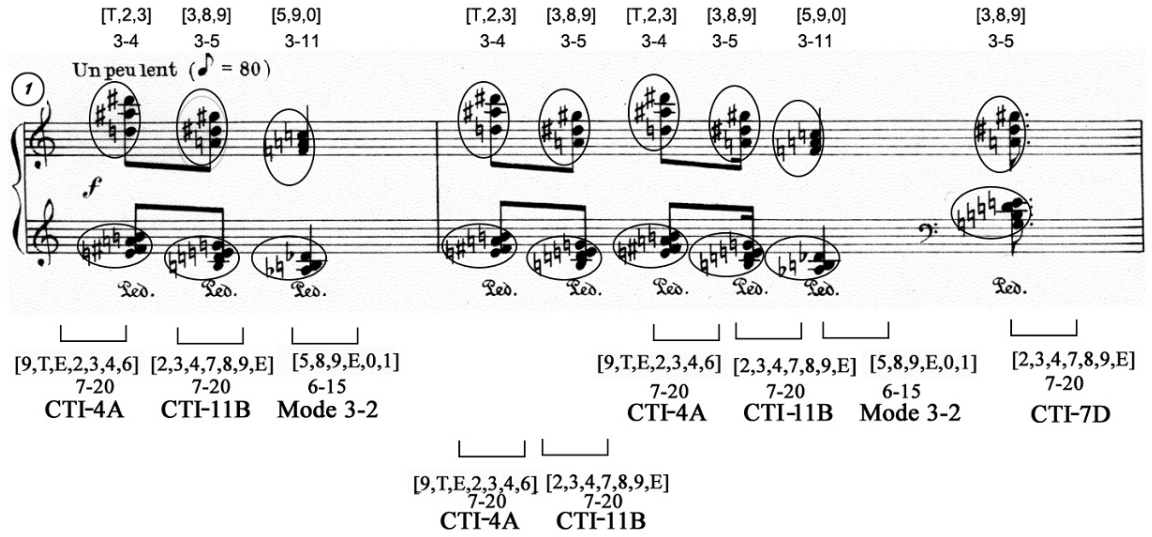

[8,T,1,3]
4-23
[0,2,4,7,9]
5-35
[1,3]
2-2
56
Vif (♪ = 184)
dr. dessus
mf
pp
Ped.
[9,T,E,0,2,3,5]
7-Z36
[9,T,E,0,1,4,6]
7-Z12
[9,T,E,0,2,3,5,]
7-Z36
[0,1,4,6,9,T,E]
7-Z12
[3,5,7,9]
4-21
1st CCR-9A and 9B
29
30
1st CCR-9A and 9B
31
32

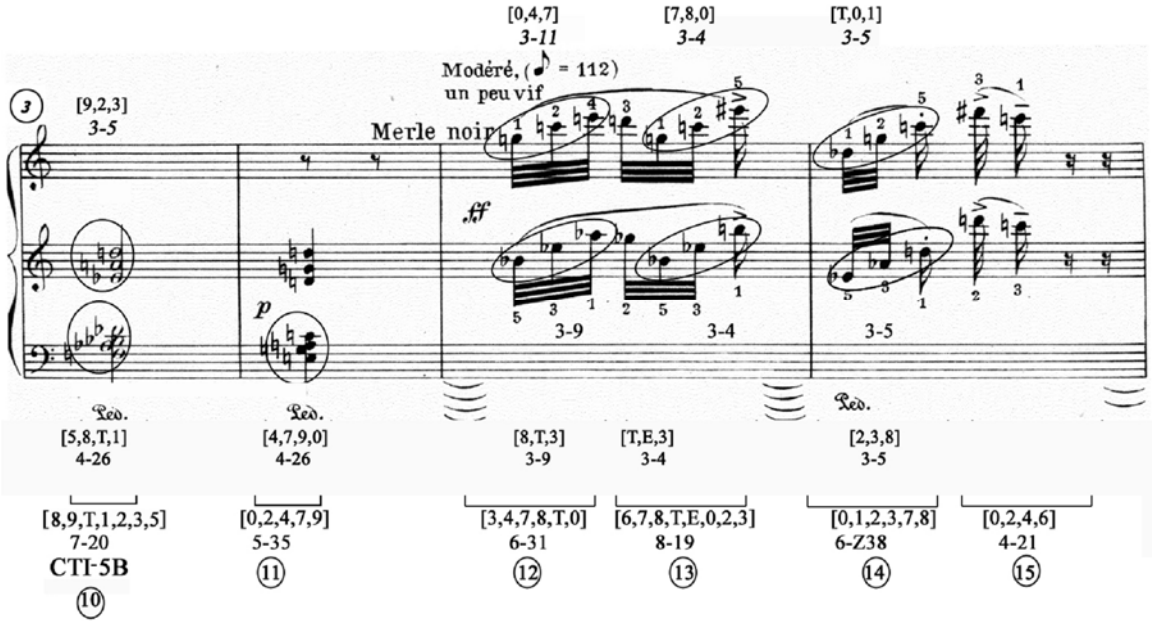

[4,7,8,9,T,E,0]
7-3
(Un peu lent)
59
Un peu lent (♪ = 63)
p
mf
Ped.
[6,7,8,9,E,1,2,3]
8-16
[3,4,5,6,8,T,E,1]
8-23
CTC-12
33

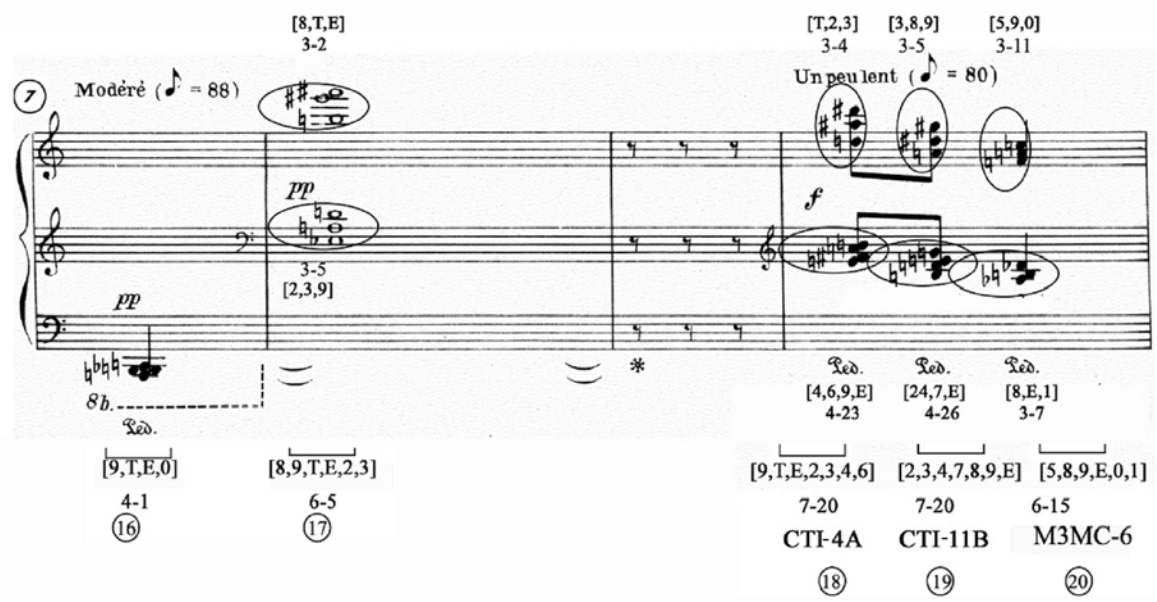

[1,3,6,7,8,9,T]
7-Z12
[6,8,T,1]
4-22
[3,7,9,T]
4-Z29
[5,8,T,1]
4-26
[0,2,4]
3-6
[8,E,1,2,4]
5-25
62
Un peu vif (♪ = 120)
Un peu lent (♪ = 63)
Un peu vif (♪ = 120)
Modéré (♪ = 88)
mf
p
Ped.
[0,2,4,7,9]
5-35
[1,3,6,8]
4-23
[5,7,9,0,2]
5-35
[5,7,9,0,1,]
5-30

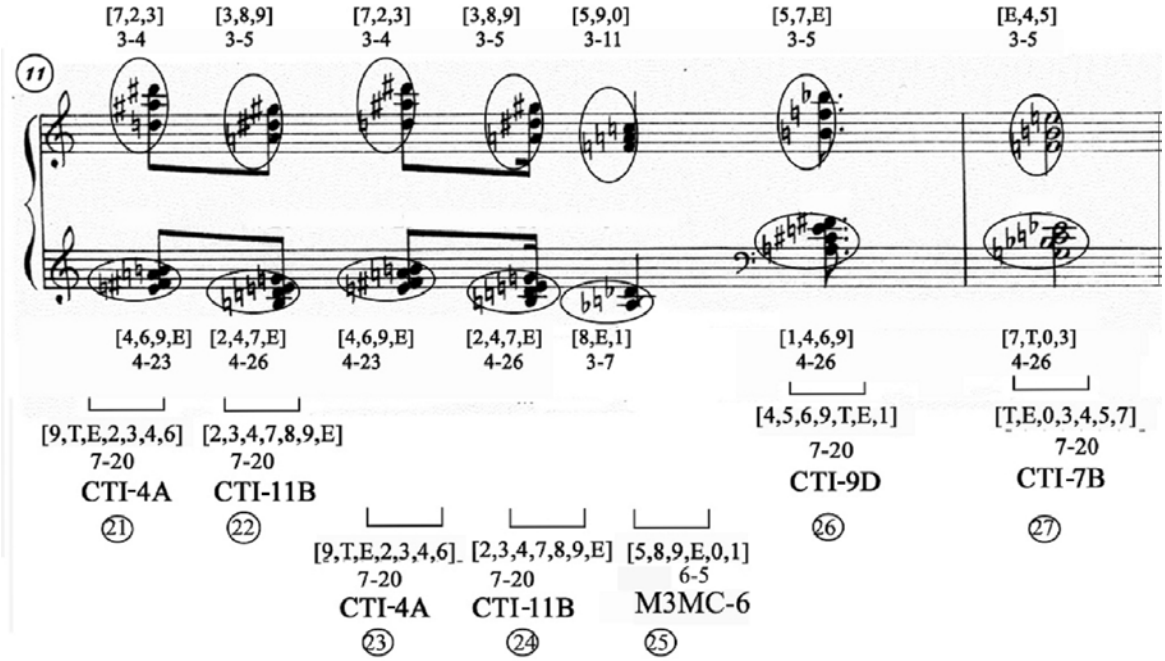

66
Bien modéré (♪ = 72)
Vif (♪ = 184
dr. dessus
pp
f
Ped.
Ped.
*
[2,3,4,5]
4-1
[3,6,8,T]
4-22
[7,9,E,0,2,4]
6-32
[6,8,T,1,3]
5-35
[0,2,4,7,9]
5-35
67
dr. dessus
[8,T,1]
3-7
[7,9,T,1]
4-12
[9,T,0,3]
4-13
Un peu lent (♪ = 63)
[7,8,9,T,0,1,3]
7-Z36
1st CCR-7A
[0,2]
2-2
[8,T,1,3]
4-23

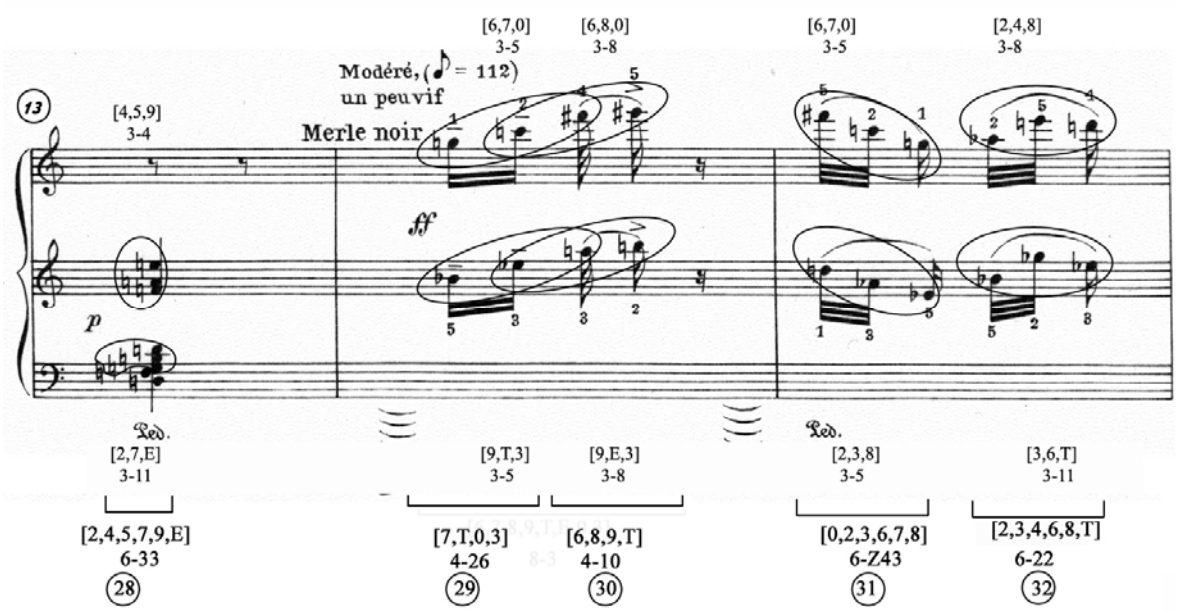
II. LE MERLE NOIR

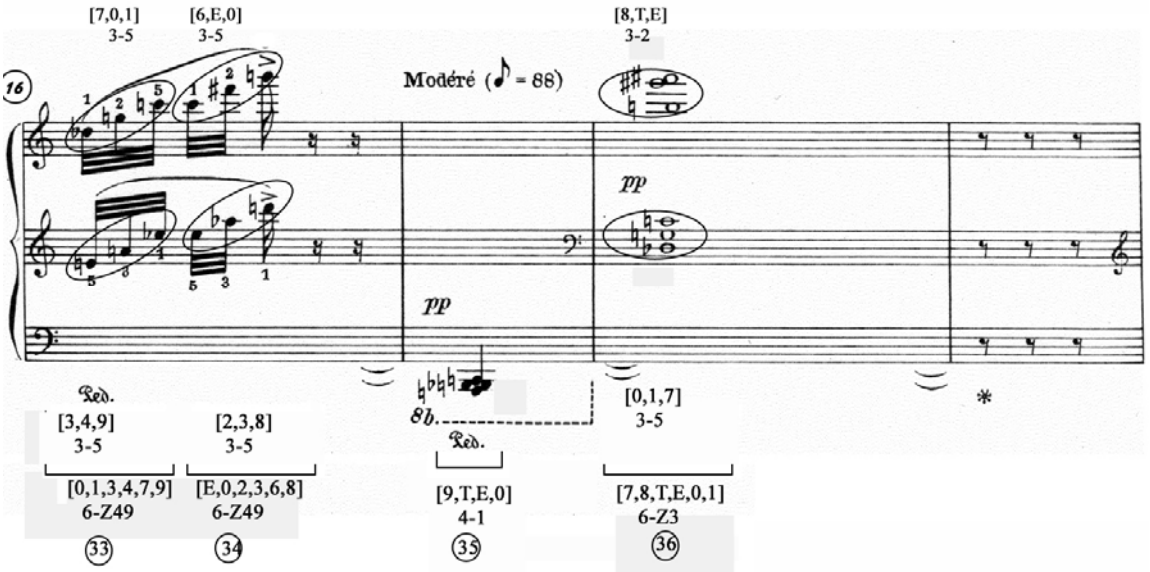


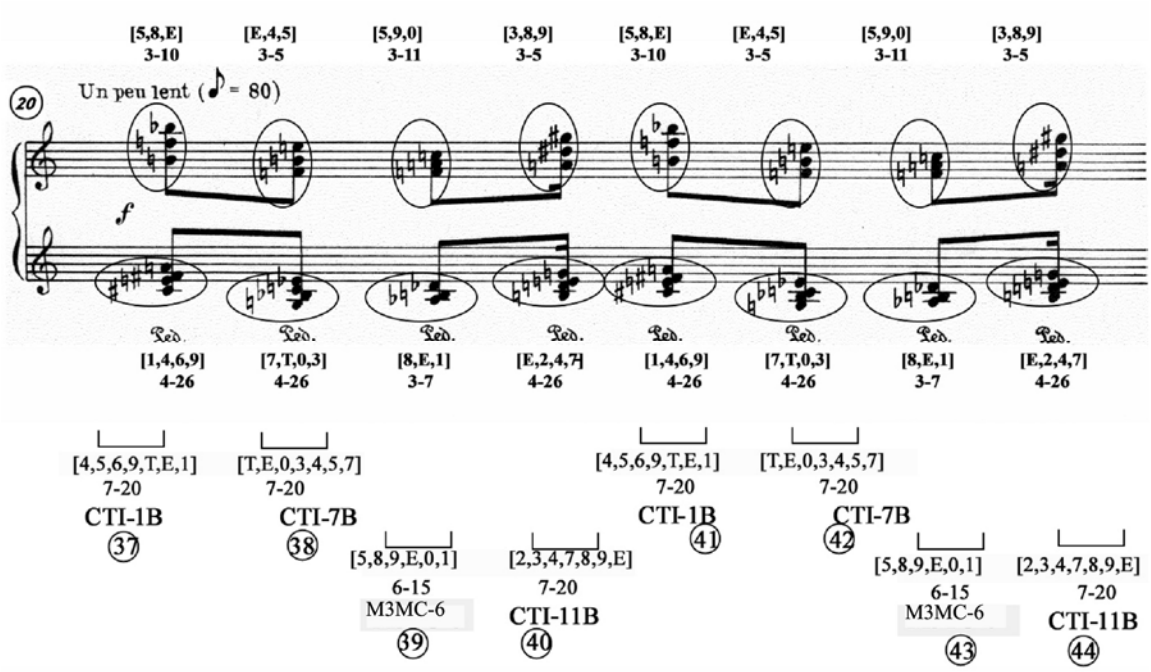


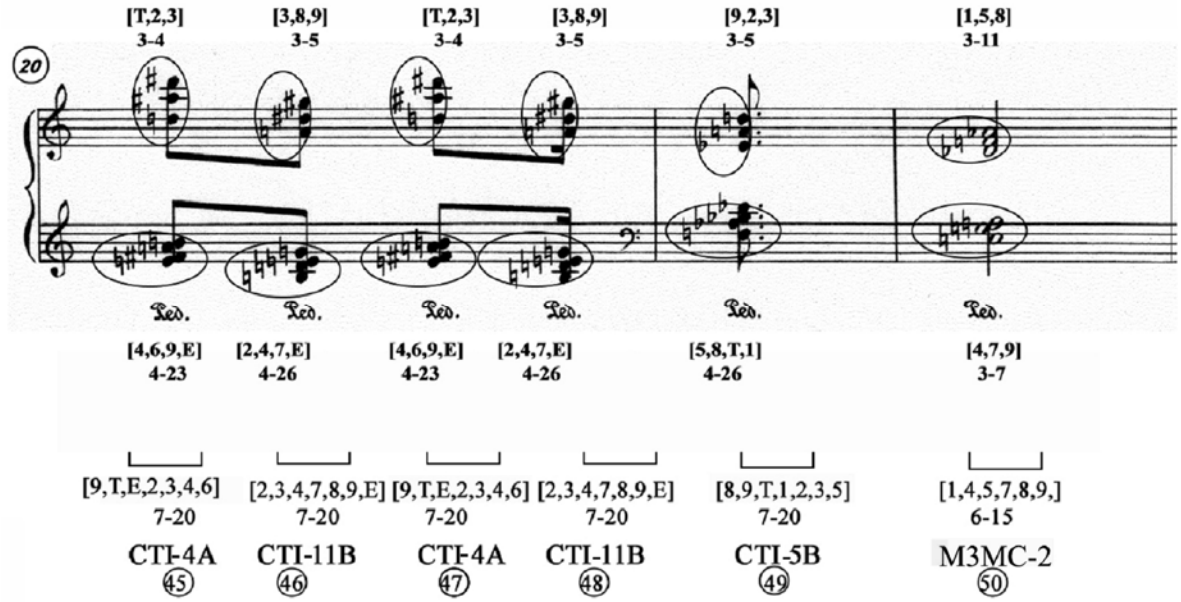

7
Modéré (♪ = 88)
[8,T,E]
3-2
pp
3-5
[2,3,9]
pp
8b.
Ped.
[9,T,E,0]
4-1
16
[8,9,T,E,2,3]
6-5
17
Un peu lent (♪ = 80)
[T,2,3]
3-4
[3,8,9]
3-5
[5,9,0]
3-11
f
Ped.
[4,6,9,E]
4-23
Ped.
[24,7,E]
4-26
Ped.
[8,E,1]
3-7
[9,T,E,2,3,4,6]
7-20
CTI-4A
18
[2,3,4,7,8,9,E]
7-20
CTI-11B
19
[5,8,9,E,0,1]
6-15
M3MC-6
20

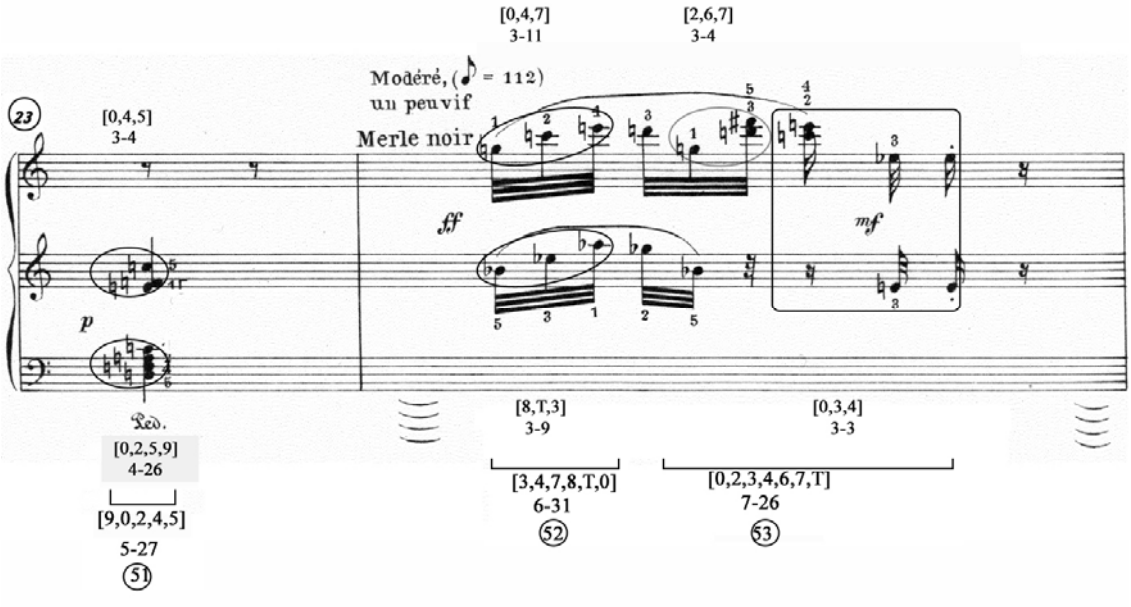

11
[7,2,3]
3-4
[3,8,9]
3-5
[7,2,3]
3-4
[3,8,9]
3-5
[5,9,0]
3-11
[5,7,E]
3-5
[E,4,5]
3-5
[4,6,9,E]
4-23
[2,4,7,E]
4-26
[4,6,9,E]
4-23
[2,4,7,E]
4-26
[8,E,1]
3-7
[1,4,6,9]
4-26
[7,T,0,3]
4-26
[9,T,E,2,3,4,6]
7-20
CTI-4A
21
[2,3,4,7,8,9,E]
7-20
CTI-11B
22
[4,5,6,9,T,E,1]
7-20
CTI-9D
26
[T,E,0,3,4,5,7]
7-20
CTI-7B
27
[9,T,E,2,3,4,6]
7-20
CTI-4A
23
[2,3,4,7,8,9,E]
7-20
CTI-11B
24
[5,8,9,E,0,1]
6-5
M3MC-6
25

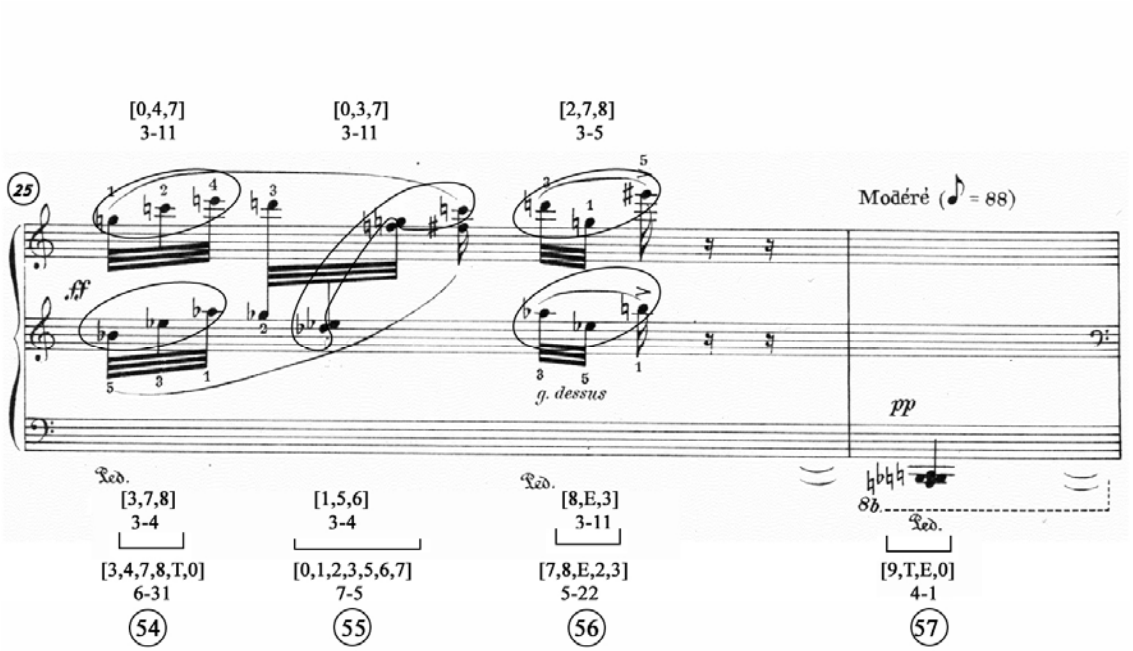

13
Modéré, (♪ = 112)
un peu vif
Merle noir
[4,5,9]
3-4
[6,7,0]
3-5
[6,8,0]
3-8
[6,7,0]
3-5
[2,4,8]
3-8
ff
p
Ped.
Ped.
[2,7,E]
3-11
[9,T,3]
3-5
[9,E,3]
3-8
[2,3,8]
3-5
[3,6,T]
3-11
[2,4,5,7,9,E]
6-33
28
[7,T,0,3]
4-26
29
[6,8,9,T]
4-10
30
[0,2,3,6,7,8]
6-Z43
31
[2,3,4,6,8,T]
6-22
32

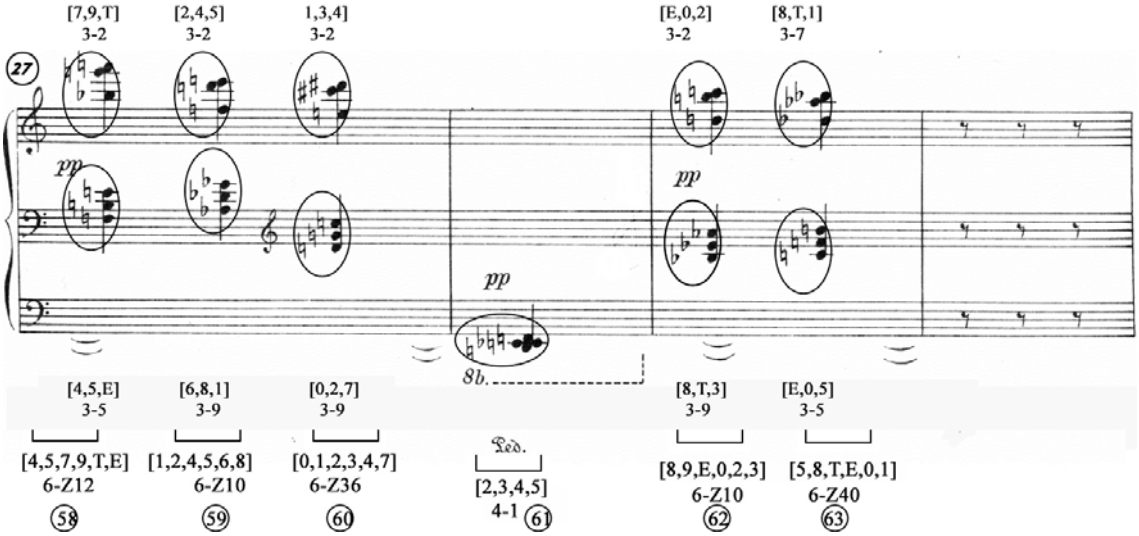

16
[7,0,1]
3-5
[6,E,0]
3-5
[8,T,E]
3-2
Modéré (♪ = 88)
pp
pp
8b
Ped.
Ped.
*
[3,4,9]
3-5
[2,3,8]
3-5
[0,1,7]
3-5
[0,1,3,4,7,9]
6-Z49
33
[E,0,2,3,6,8]
6-Z49
34
[9,T,E,0]
4-1
35
[7,8,T,E,0,1]
6-Z3
36

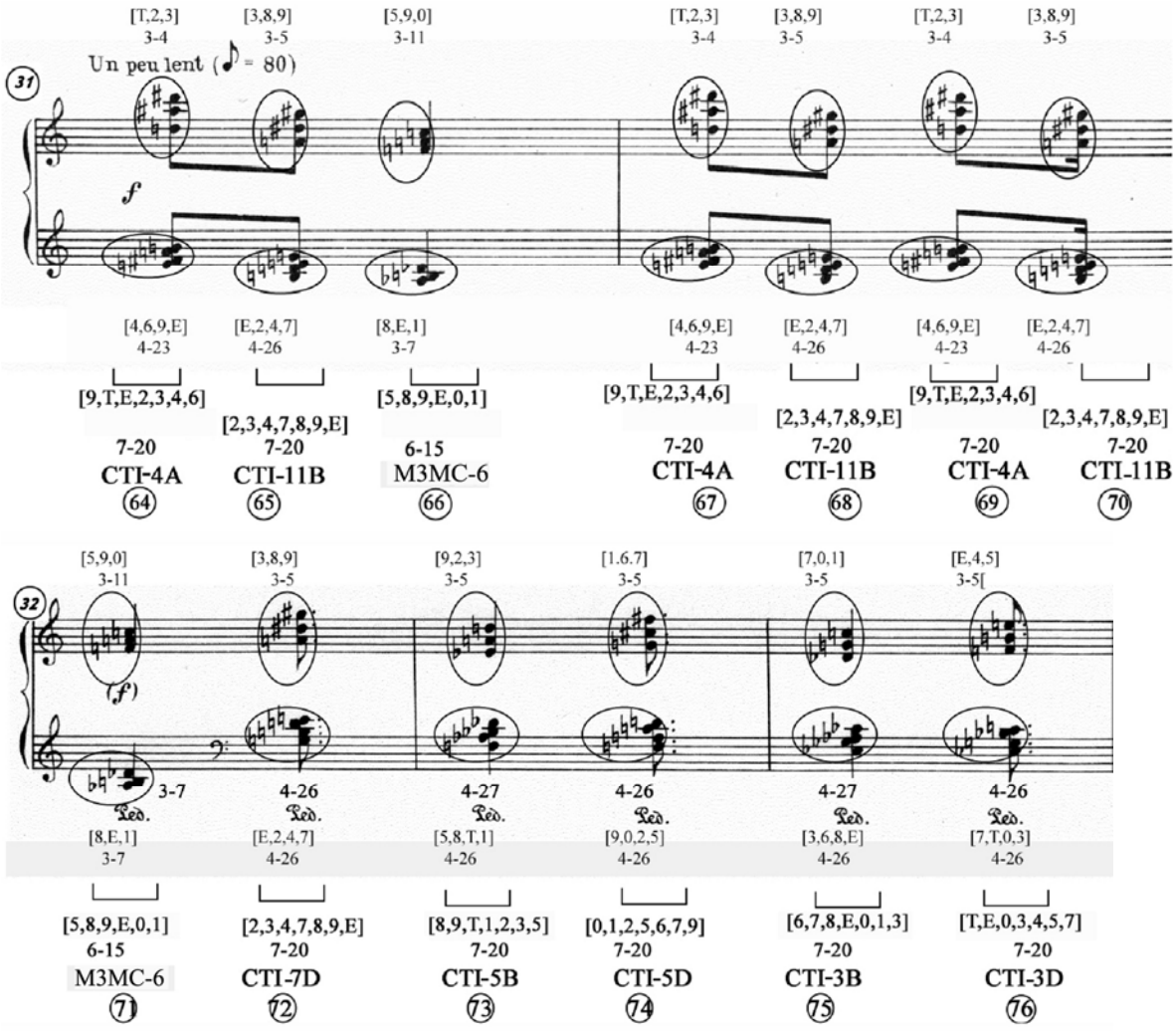

[5,8,E] 3-10
[E,4,5] 3-5
[5,9,0] 3-11
[3,8,9] 3-5
[5,8,E] 3-10
[E,4,5] 3-5
[5,9,0] 3-11
[3,8,9] 3-5
20
Un peu lent (♪ = 80)
f
Ped.
[1,4,6,9] 4-26
[7,T,0,3] 4-26
[8,E,1] 3-7
[E,2,4,7] 4-26
[1,4,6,9] 4-26
[7,T,0,3] 4-26
[8,E,1] 3-7
[E,2,4,7] 4-26
[4,5,6,9,T,E,1] 7-20
CTI-1B 37
[T,E,0,3,4,5,7] 7-20
CTI-7B 38
[5,8,9,E,0,1] 6-15 M3MC-6 39
[2,3,4,7,8,9,E] 7-20 CTI-11B 40
[4,5,6,9,T,E,1] 7-20
CTI-1B 41
[T,E,0,3,4,5,7] 7-20
CTI-7B 42
[5,8,9,E,0,1] 6-15 M3MC-6 43
[2,3,4,7,8,9,E] 7-20 CTI-11B 44

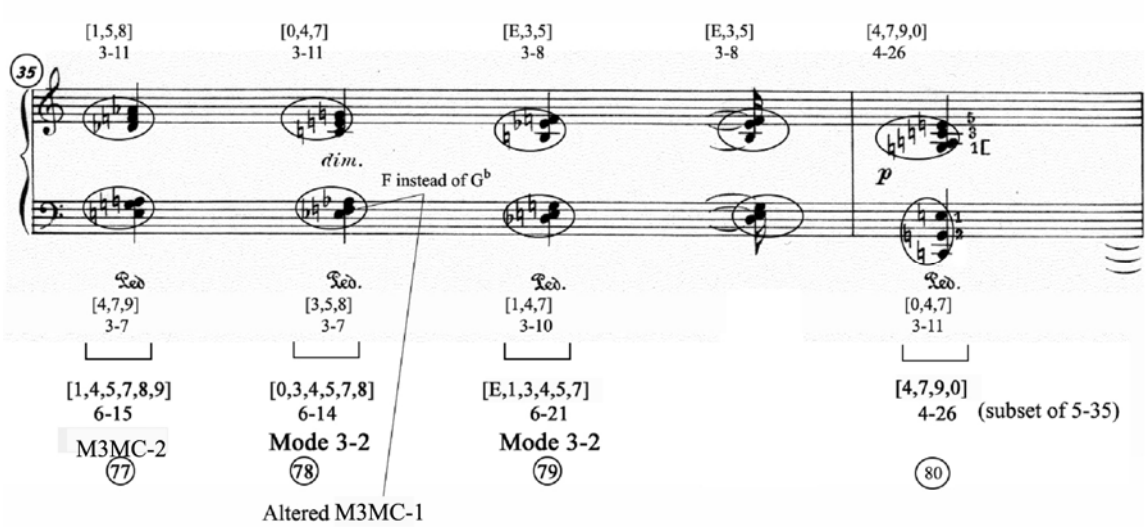

[T,2,3]
3-4
[3,8,9]
3-5
[T,2,3]
3-4
[3,8,9]
3-5
[9,2,3]
3-5
[1,5,8]
3-11
20
Ped.
Ped.
Ped.
Ped.
Ped.
Ped.
[4,6,9,E]
4-23
[2,4,7,E]
4-26
[4,6,9,E]
4-23
[2,4,7,E]
4-26
[5,8,T,1]
4-26
[4,7,9]
3-7
[9,T,E,2,3,4,6]
7-20
[2,3,4,7,8,9,E]
7-20
[9,T,E,2,3,4,6]
7-20
[2,3,4,7,8,9,E]
7-20
[8,9,T,1,2,3,5]
7-20
[1,4,5,7,8,9,]
6-15
CTI-4A
45
CTI-11B
46
CTI-4A
47
CTI-11B
48
CTI-5B
49
M3MC-2
50

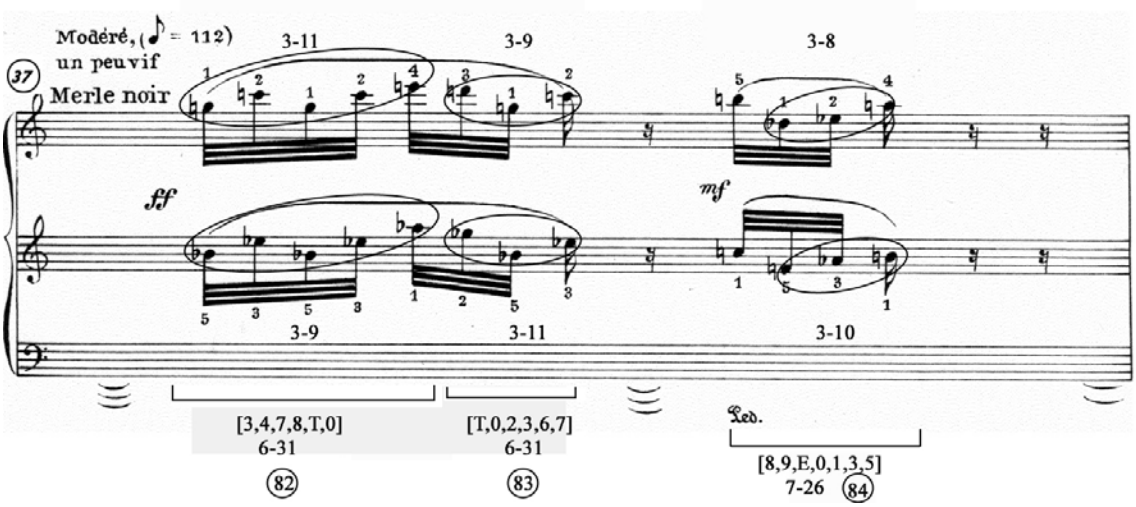

[0,4,7]
3-11
[2,6,7]
3-4
Modéré, (♪ = 112)
un peu vif
Merle noir
23
[0,4,5]
3-4
ff
mf
p
Ped.
[8,T,3]
3-9
[0,3,4]
3-3
[0,2,5,9]
4-26
[3,4,7,8,T,0]
6-31
[0,2,3,4,6,7,T]
7-26
[9,0,2,4,5]
5-27
51
52
53

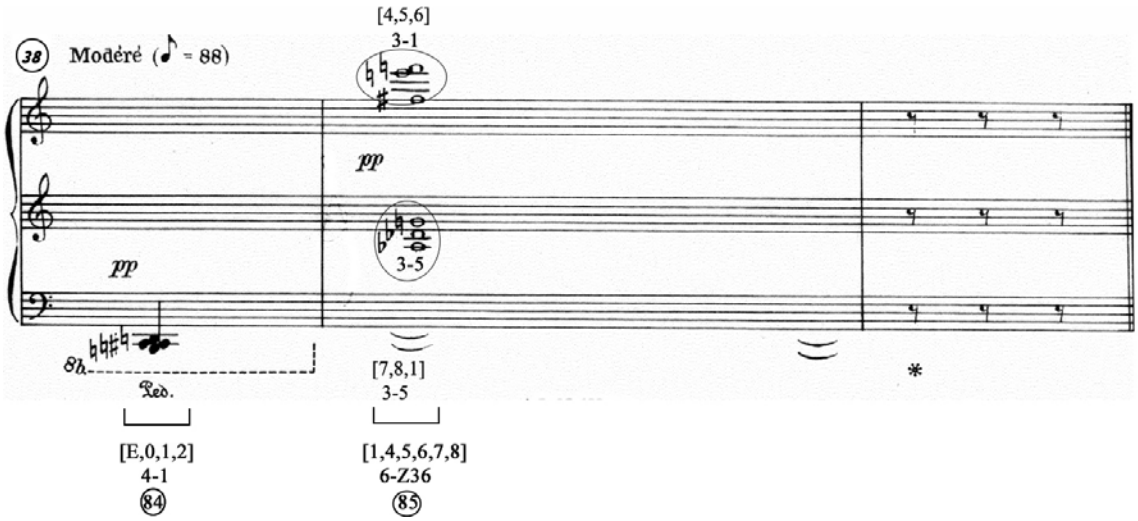

[0,4,7]
3-11
[0,3,7]
3-11
[2,7,8]
3-5
25
ff
Modéré (♪ = 88)
g. dessus
pp
8b.
Ped.
[3,7,8]
3-4
[1,5,6]
3-4
[8,E,3]
3-11
[3,4,7,8,T,0]
6-31
[0,1,2,3,5,6,7]
7-5
[7,8,E,2,3]
5-22
[9,T,E,0]
4-1
54
55
56
57


[7,9,T]
3-2
[2,4,5]
3-2
1,3,4]
3-2
[E,0,2]
3-2
[8,T,1]
3-7
27
pp
pp
pp
8b.
Ped.
[4,5,E]
3-5
[6,8,1]
3-9
[0,2,7]
3-9
[8,T,3]
3-9
[E,0,5]
3-5
[4,5,7,9,T,E]
6-Z12
[1,2,4,5,6,8]
6-Z10
[0,1,2,3,4,7]
6-Z36
[2,3,4,5]
4-1
[8,9,E,0,2,3]
6-Z10
[5,8,T,E,0,1]
6-Z40
58
59
60
61
62
63

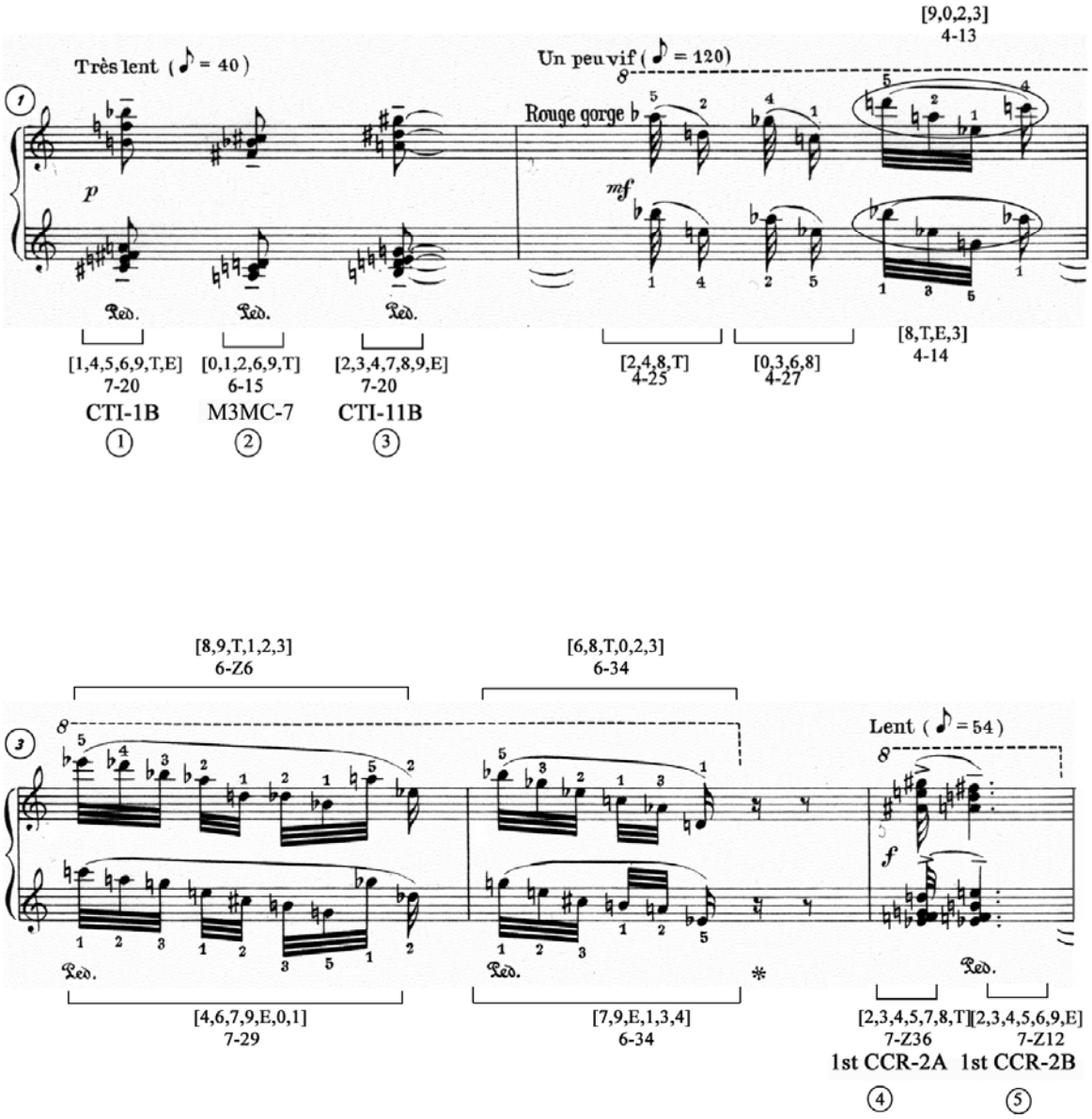

[T,2,3] 3-4
[3,8,9] 3-5
[5,9,0] 3-11
Un peu lent (♪ = 80)
31
f
[T,2,3] 3-4
[3,8,9] 3-5
[T,2,3] 3-4
[3,8,9] 3-5
[4,6,9,E] 4-23
[E,2,4,7] 4-26
[8,E,1] 3-7
[4,6,9,E] 4-23
[E,2,4,7] 4-26
[4,6,9,E] 4-23
[E,2,4,7] 4-26
[9,T,E,2,3,4,6]
[2,3,4,7,8,9,E]
[5,8,9,E,0,1]
[9,T,E,2,3,4,6]
[2,3,4,7,8,9,E]
[9,T,E,2,3,4,6]
[2,3,4,7,8,9,E]
7-20 CTI-4A (64)
7-20 CTI-11B (65)
6-15 M3MC-6 (66)
7-20 CTI-4A (67)
7-20 CTI-11B (68)
7-20 CTI-4A (69)
7-20 CTI-11B (70)
[5,9,0] 3-11
[3,8,9] 3-5
[9,2,3] 3-5
[1.6.7] 3-5
[7,0,1] 3-5
[E,4,5] 3-5[
32
(f)
3-7
4-26
4-27
4-26
4-27
4-26
Ped.
[8,E,1] 3-7
[E,2,4,7] 4-26
[5,8,T,1] 4-26
[9,0,2,5] 4-26
[3,6,8,E] 4-26
[7,T,0,3] 4-26
[5,8,9,E,0,1]
[2,3,4,7,8,9,E]
[8,9,T,1,2,3,5]
[0,1,2,5,6,7,9]
[6,7,8,E,0,1,3]
[T,E,0,3,4,5,7]
6-15 M3MC-6 (71)
7-20 CTI-7D (72)
7-20 CTI-5B (73)
7-20 CTI-5D (74)
7-20 CTI-3B (75)
7-20 CTI-3D (76)

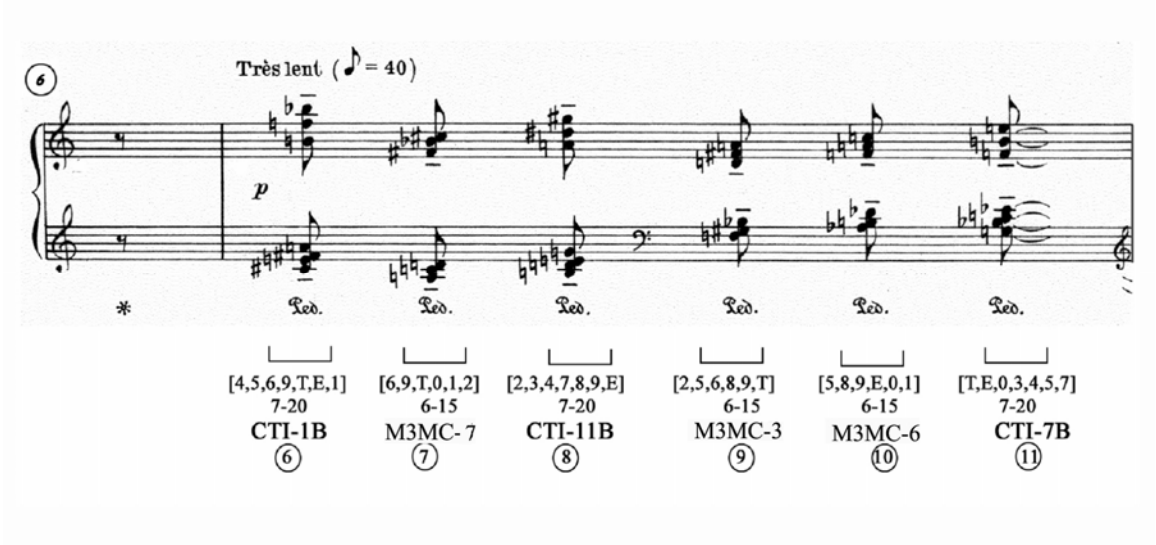

[1,5,8]
3-11
[0,4,7]
3-11
[E,3,5]
3-8
[E,3,5]
3-8
[4,7,9,0]
4-26
35
dim.
F instead of G♭
p
Ped
[4,7,9]
3-7
Ped.
[3,5,8]
3-7
Ped.
[1,4,7]
3-10
Ped.
[0,4,7]
3-11
[1,4,5,7,8,9]
6-15
[0,3,4,5,7,8]
6-14
[E,1,3,4,5,7]
6-21
[4,7,9,0]
4-26
(subset of 5-35)
M3MC-2
77
Mode 3-2
78
Mode 3-2
79
80
Altered M3MC-1

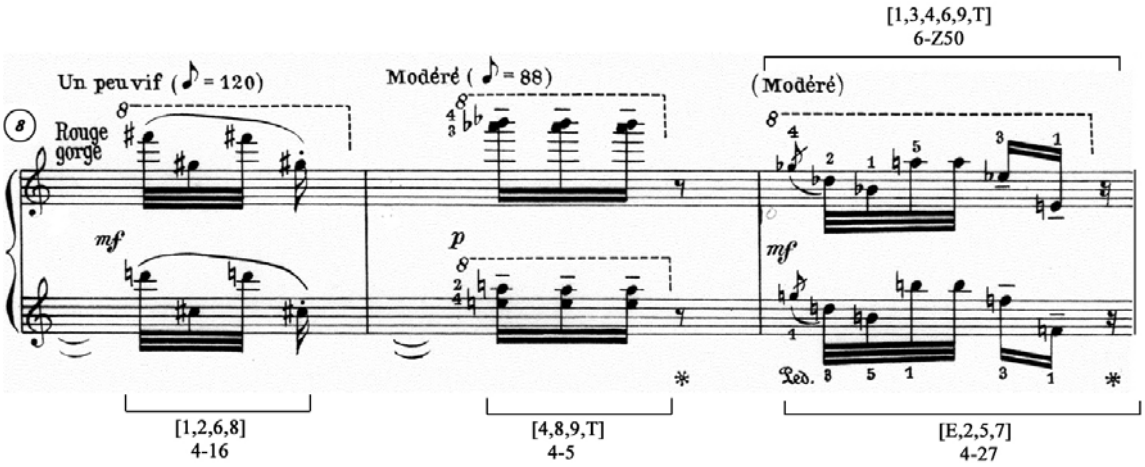

Modéré, (♪ = 112)
un peu vif
Merle noir
37
3-11
3-9
3-8
ff
mf
3-9
3-11
3-10
[3,4,7,8,T,0]
6-31
[T,0,2,3,6,7]
6-31
Ped.
[8,9,E,0,1,3,5]
7-26
82
83
84

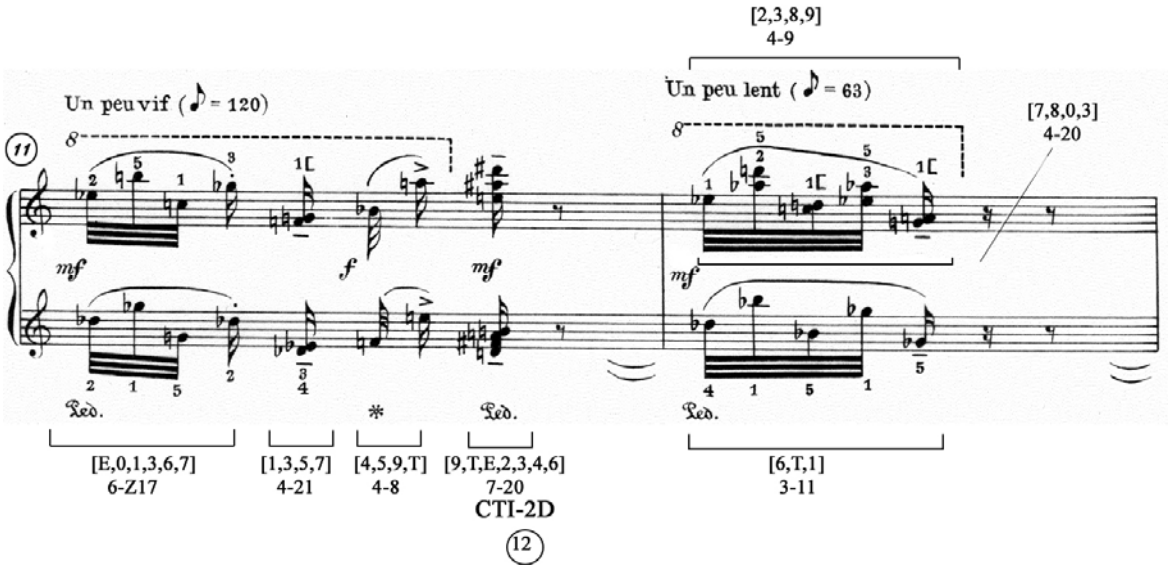

[4,5,6]
3-1
38
Modéré (♪ = 88)
pp
pp
3-5
8va
Ped.
[7,8,1]
3-5
*
[E,0,1,2]
4-1
84
[1,4,5,6,7,8]
6-Z36
85

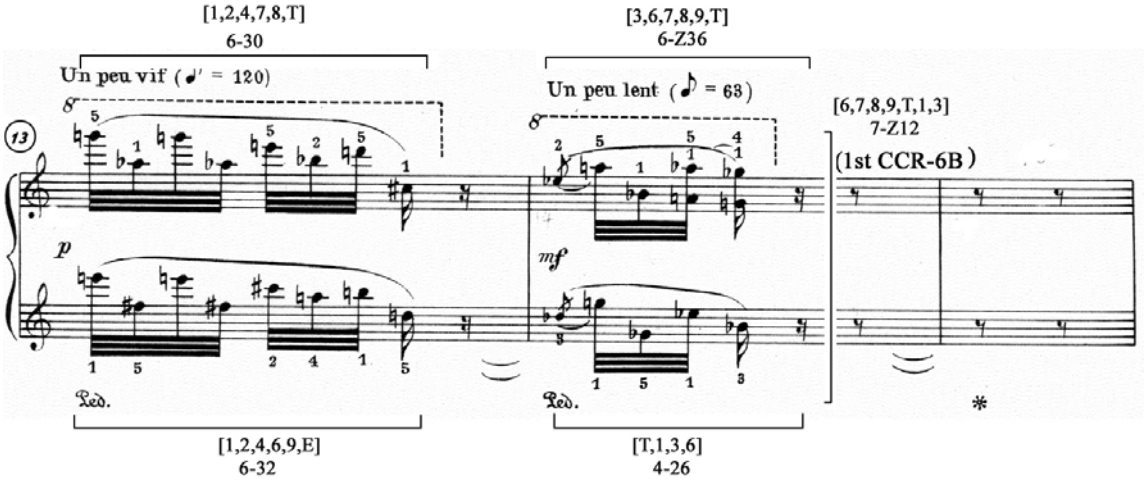
III. LE ROUGE GORGE

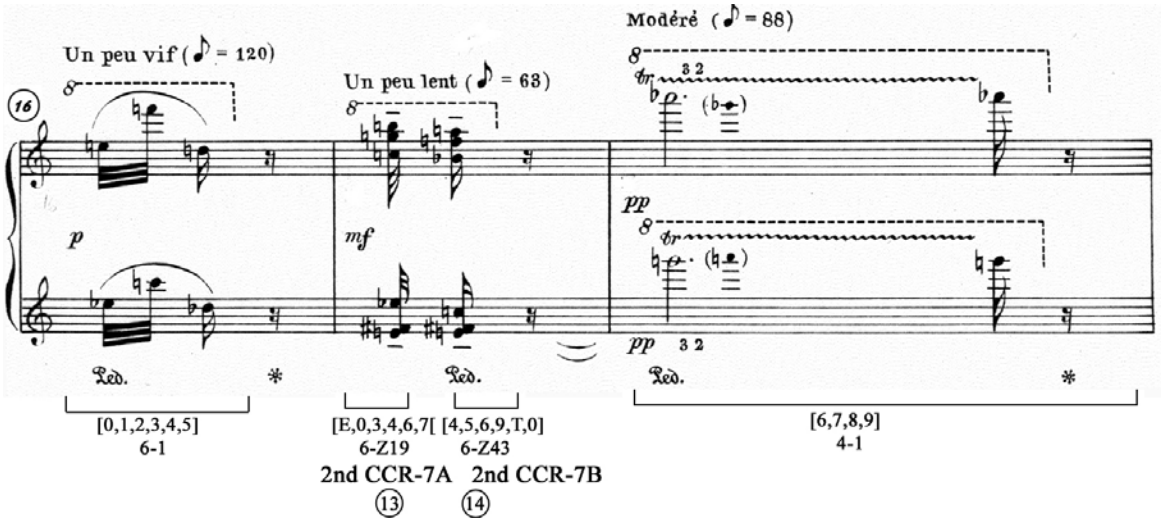


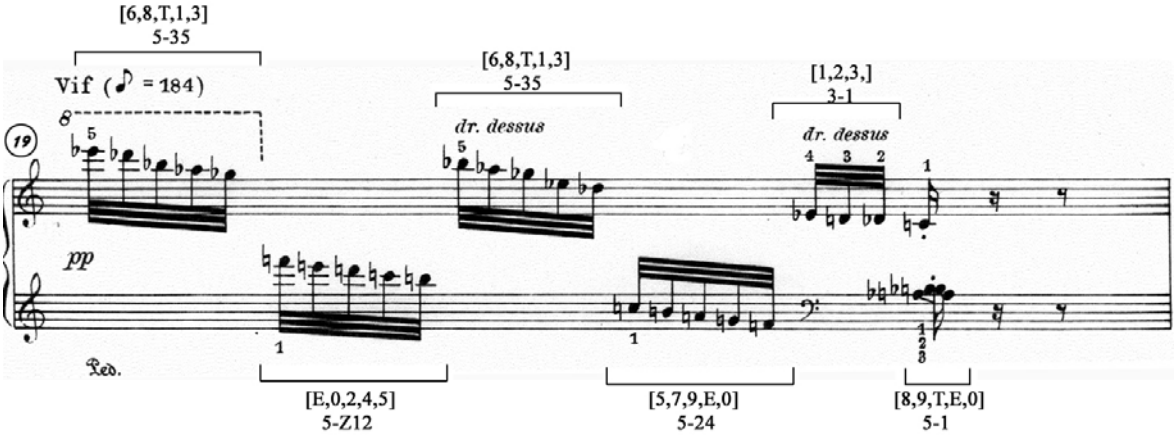

6
Très lent (♪ = 40)
p
Ped.
[4,5,6,9,T,E,1]
7-20
CTI-1B
6
[6,9,T,0,1,2]
6-15
M3MC- 7
7
[2,3,4,7,8,9,E]
7-20
CTI-11B
8
[2,5,6,8,9,T]
6-15
M3MC-3
9
[5,8,9,E,0,1]
6-15
M3MC-6
10
[T,E,0,3,4,5,7]
7-20
CTI-7B
11

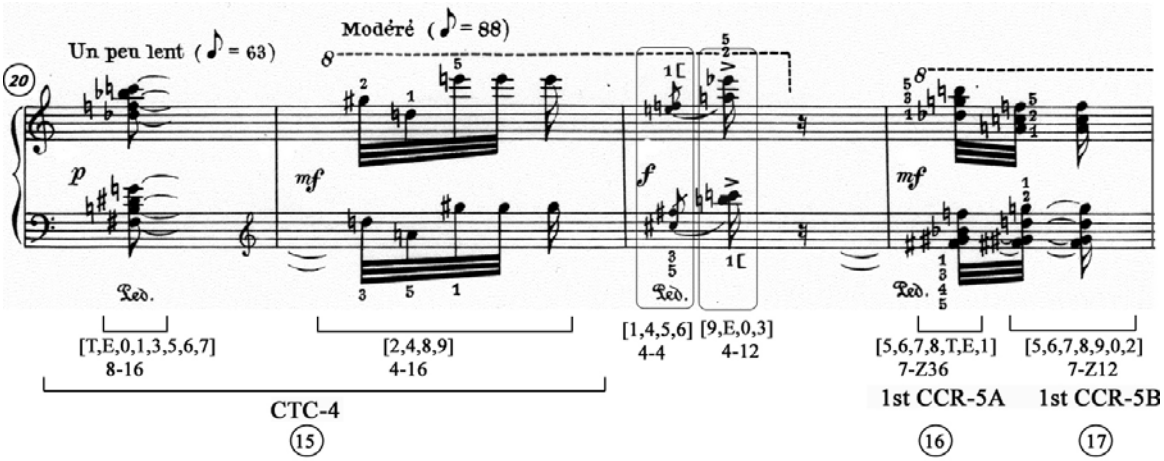

[1,3,4,6,9,T]
6-Z50
8
Un peu vif (♪ = 120)
Rouge gorge
mf
Modéré (♪ = 88)
p
(Modéré)
mf
Ped.
[1,2,6,8]
4-16
[4,8,9,T]
4-5
[E,2,5,7]
4-27

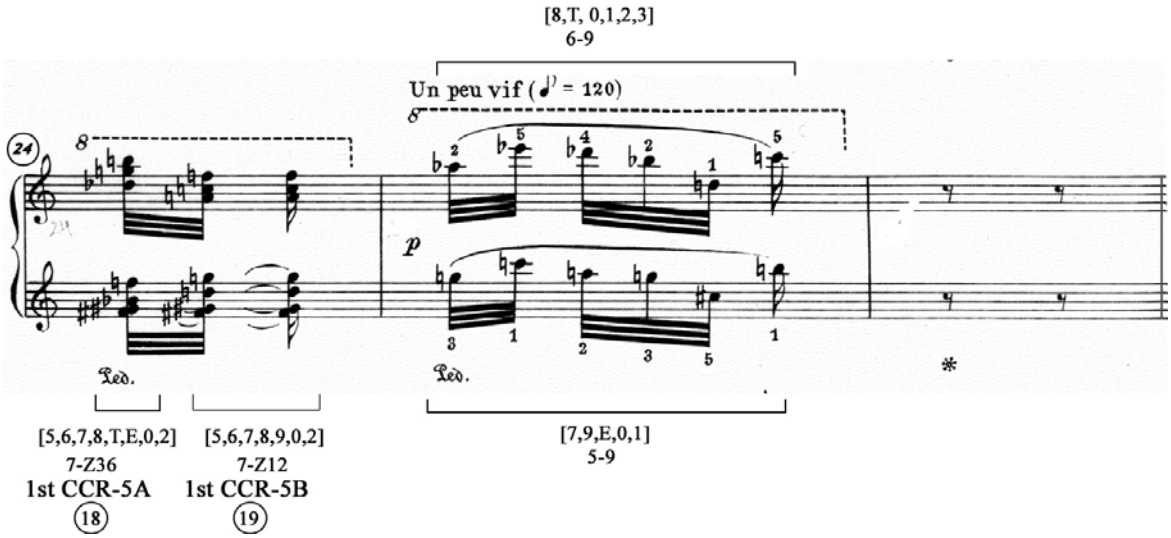

[2,3,8,9]
4-9
11
Un peu vif (♪ = 120)
mf
f
mf
Un peu lent (♪ = 63)
[7,8,0,3]
4-20
mf
Ped.
[E,0,1,3,6,7]
6-Z17
[1,3,5,7]
4-21
[4,5,9,T]
4-8
[9,T,E,2,3,4,6]
7-20
CTI-2D
12
[6,T,1]
3-11

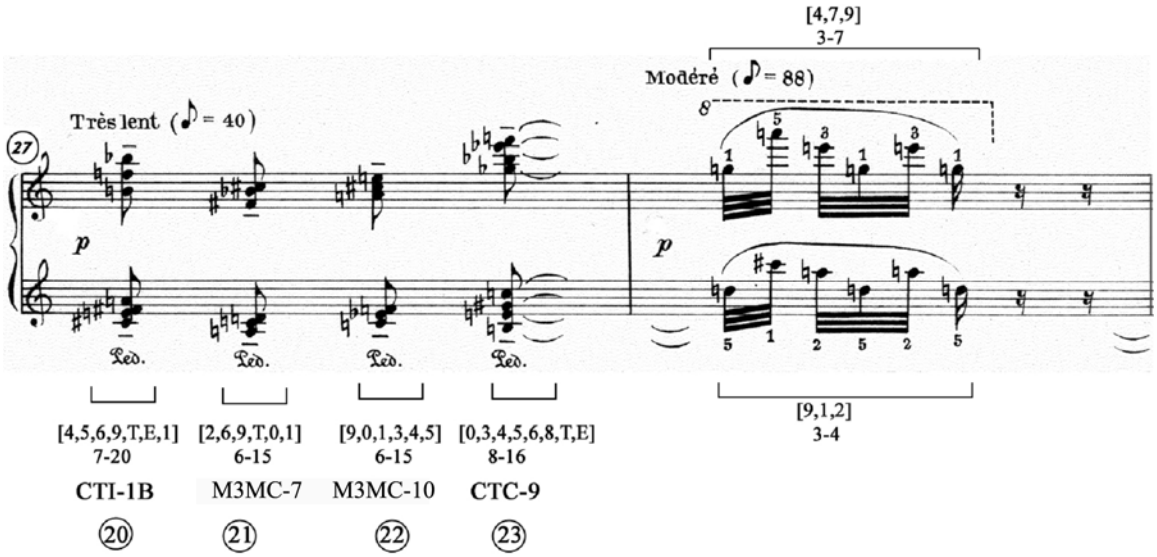

[1,2,4,7,8,T]
6-30
[3,6,7,8,9,T]
6-Z36
Un peu vif (♪ = 120)
Un peu lent (♪ = 63)
[6,7,8,9,T,1,3]
7-Z12
(1st CCR-6B)
13
p
mf
Ped.
*
[1,2,4,6,9,E]
6-32
[T,1,3,6]
4-26

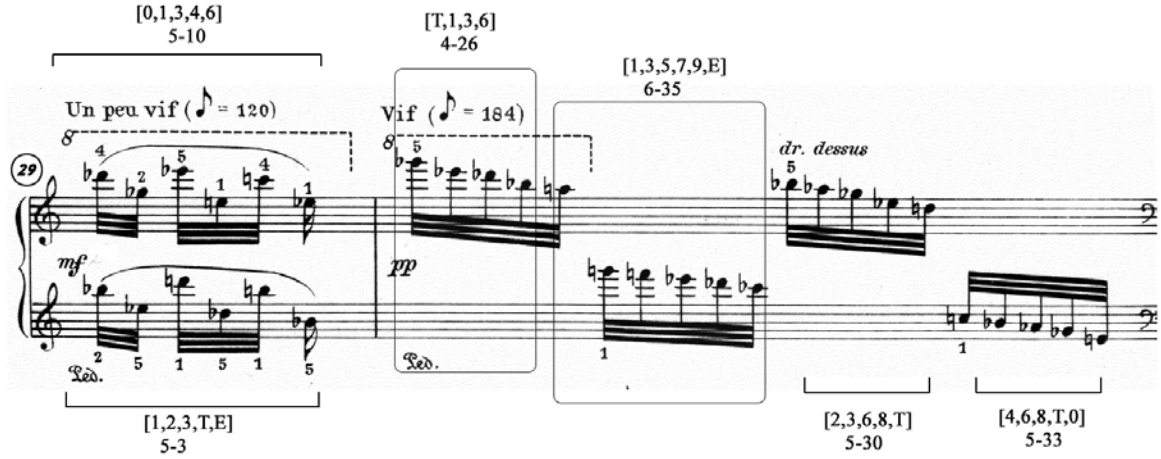

Un peu vif (♪ = 120)
Un peu lent (♪ = 63)
Modéré (♪ = 88)
16
p
mf
pp
Ped.
*
[0,1,2,3,4,5]
6-1
[E,0,3,4,6,7[
6-Z19
[4,5,6,9,T,0]
6-Z43
[6,7,8,9]
4-1
2nd CCR-7A
2nd CCR-7B
13
14

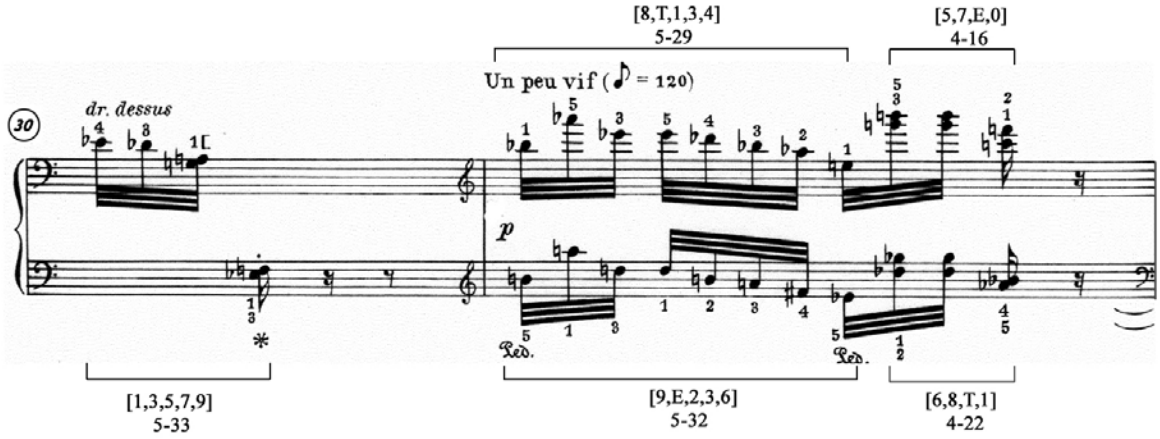

[6,8,T,1,3]
5-35
Vif (♪ = 184)
[6,8,T,1,3]
5-35
[1,2,3,]
3-1
dr. dessus
dr. dessus
19
pp
Ped.
[E,0,2,4,5]
5-Z12
[5,7,9,E,0]
5-24
[8,9,T,E,0]
5-1

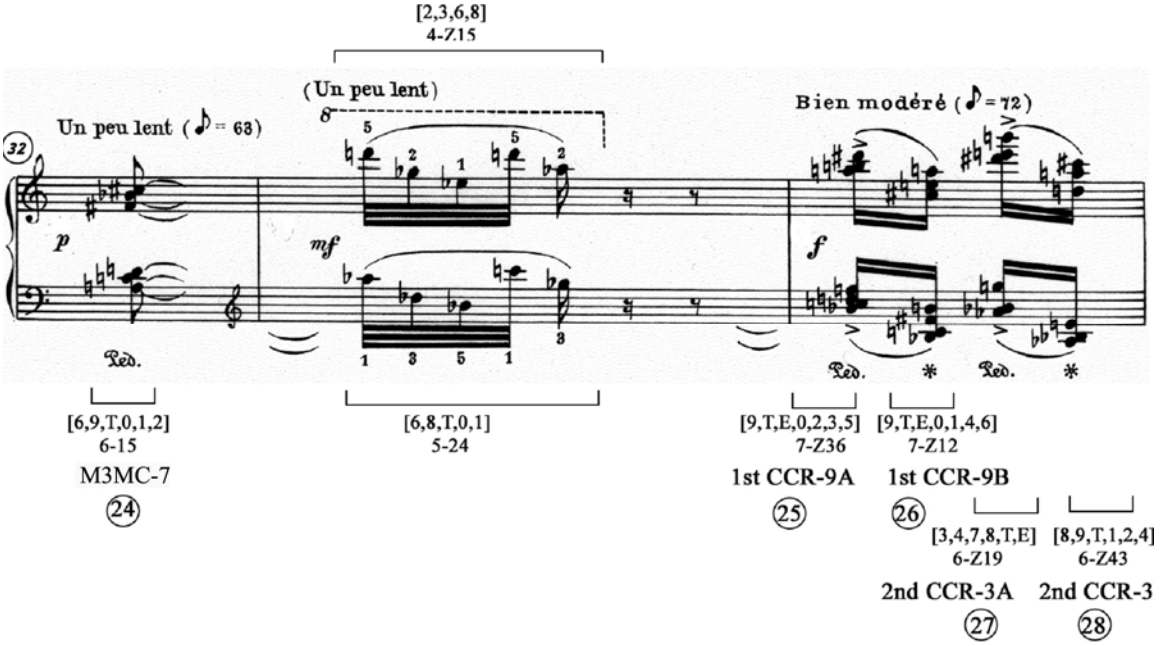

Un peu lent (♪ = 63)
Modéré (♪ = 88)
20
p
mf
f
mf
Ped.
[T,E,0,1,3,5,6,7]
8-16
[2,4,8,9]
4-16
CTC-4
15
[1,4,5,6]
4-4
[9,E,0,3]
4-12
[5,6,7,8,T,E,1]
7-Z36
1st CCR-5A
16
[5,6,7,8,9,0,2]
7-Z12
1st CCR-5B
17

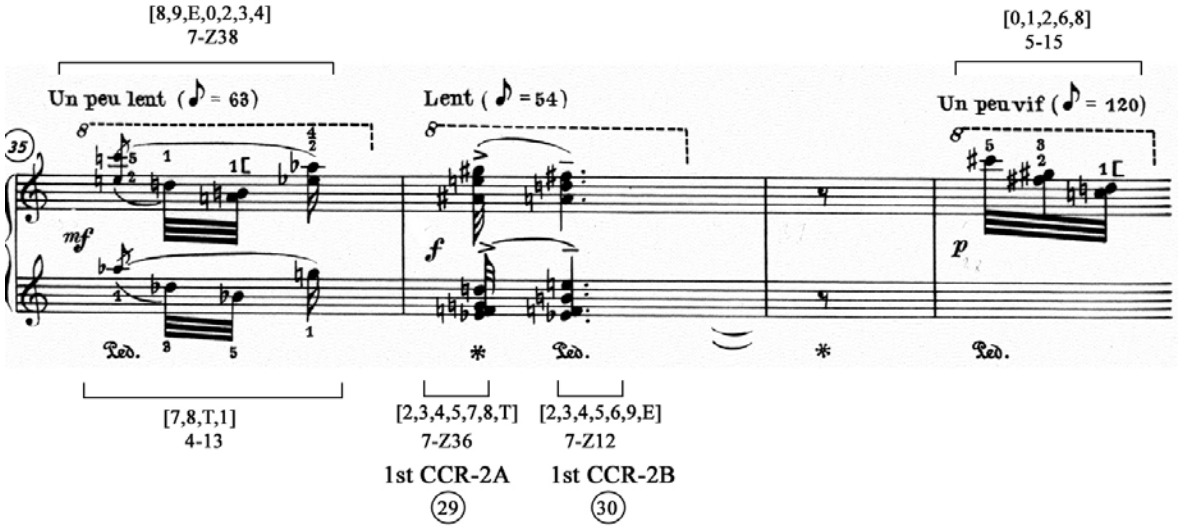

[8,T, 0,1,2,3]
6-9
Un peu vif (♪ = 120)
24
p
Ped.
*
[5,6,7,8,T,E,0,2]
7-Z36
1st CCR-5A
18
[5,6,7,8,9,0,2]
7-Z12
1st CCR-5B
19
[7,9,E,0,1]
5-9

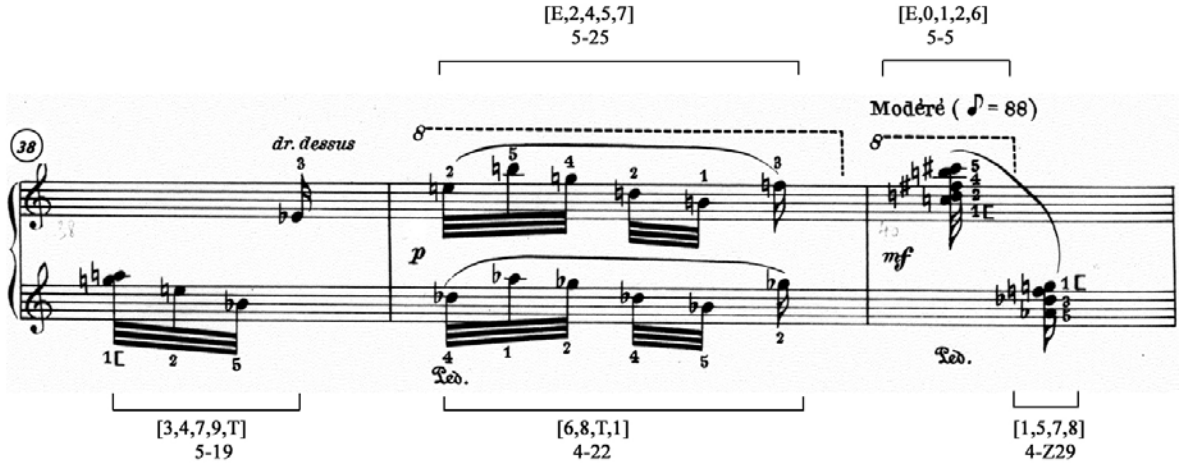

[4,7,9]
3-7
Modéré (♪ = 88)
Très lent (♪ = 40)
27
p
p
Ped.
Ped.
Ped.
Ped.
[4,5,6,9,T,E,1]
7-20
[2,6,9,T,0,1]
6-15
[9,0,1,3,4,5]
6-15
[0,3,4,5,6,8,T,E]
8-16
[9,1,2]
3-4
CTI-1B
M3MC-7
M3MC-10
CTC-9
20
21
22
23

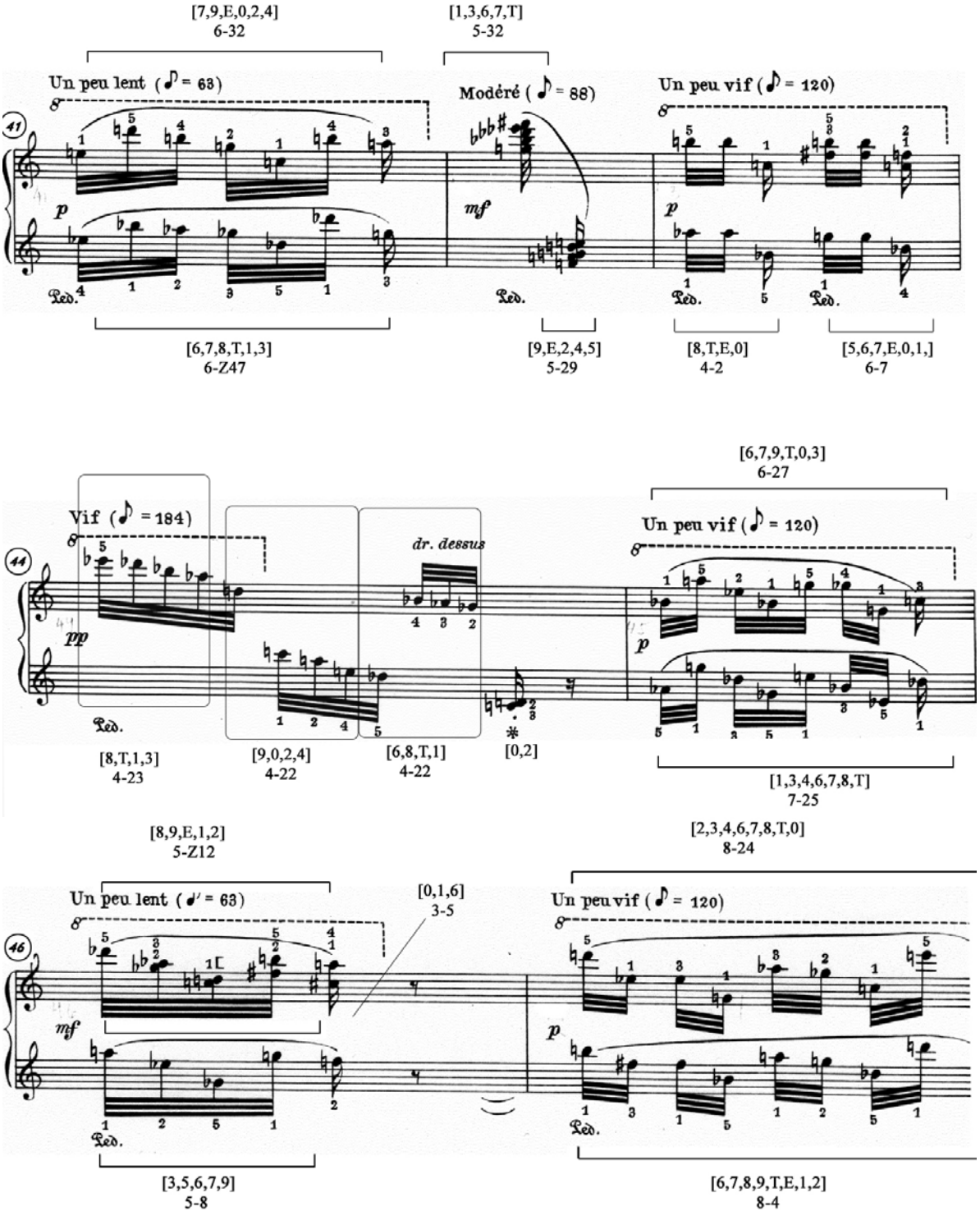

[0,1,3,4,6]
5-10
[T,1,3,6]
4-26
[1,3,5,7,9,E]
6-35
Un peu vif (♪ = 120)
Vif (♪ = 184)
dr. dessus
29
mf
pp
Ped.
Ped.
[1,2,3,T,E]
5-3
[2,3,6,8,T]
5-30
[4,6,8,T,0]
5-33

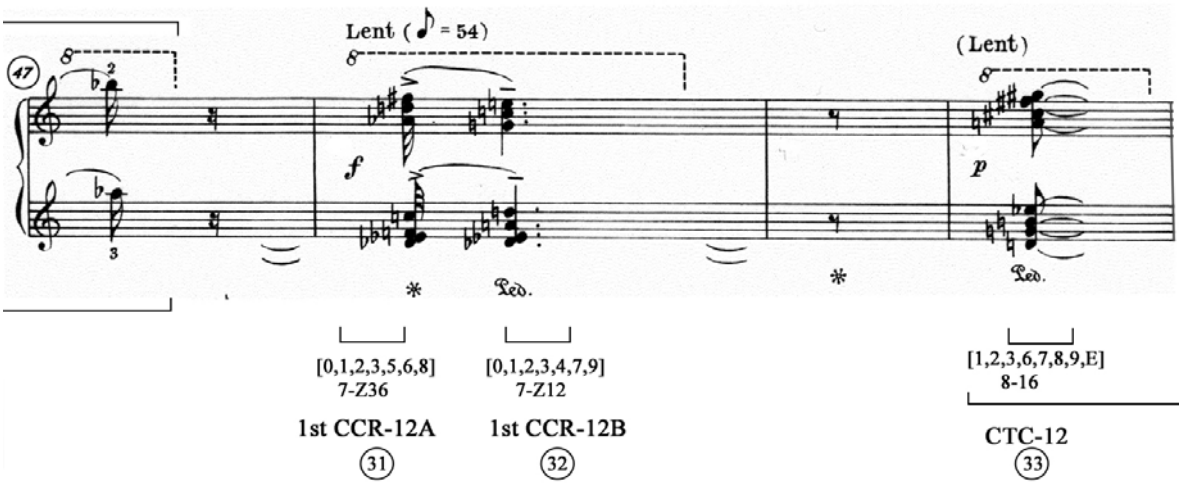

[8,T,1,3,4]
5-29
[5,7,E,0]
4-16
Un peu vif (♪ = 120)
30
dr. dessus
p
Ped.
Ped.
[1,3,5,7,9]
5-33
[9,E,2,3,6]
5-32
[6,8,T,1]
4-22

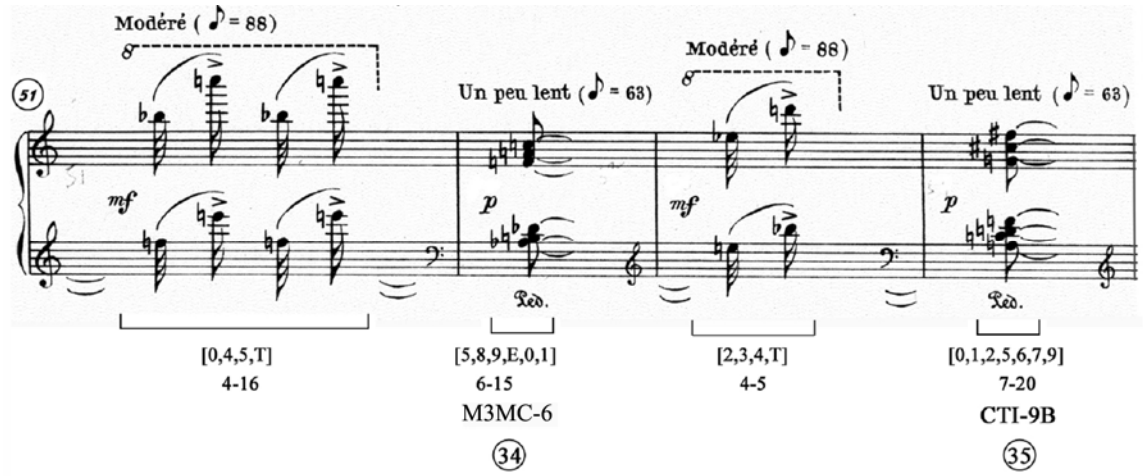

[2,3,6,8]
4-Z15
(Un peu lent)
Un peu lent (♪ = 63)
Bien modéré (♪ = 72)
32
p
mf
f
Ped.
Ped.
Ped.
[6,9,T,0,1,2]
6-15
M3MC-7
24
[6,8,T,0,1]
5-24
[9,T,E,0,2,3,5]
7-Z36
1st CCR-9A
25
[9,T,E,0,1,4,6]
7-Z12
1st CCR-9B
26
[3,4,7,8,T,E]
6-Z19
2nd CCR-3A
27
[8,9,T,1,2,4]
6-Z43
2nd CCR-3
28

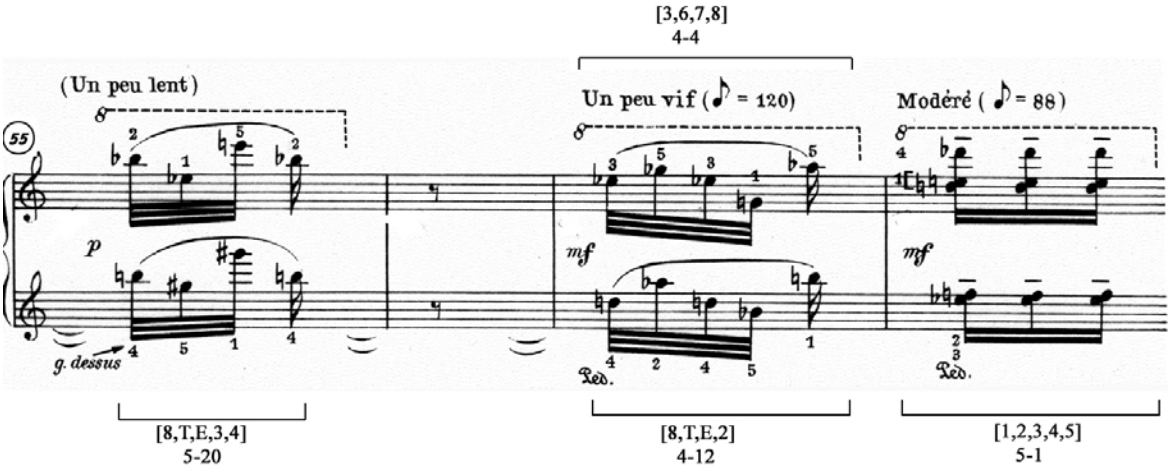

[8,9,E,0,2,3,4]
7-Z38
[0,1,2,6,8]
5-15
Un peu lent (♪ = 63)
Lent (♪ = 54)
Un peu vif (♪ = 120)
35
mf
f
p
Ped.
*
[7,8,T,1]
4-13
[2,3,4,5,7,8,T]
7-Z36
[2,3,4,5,6,9,E]
7-Z12
1st CCR-2A
1st CCR-2B
29
30

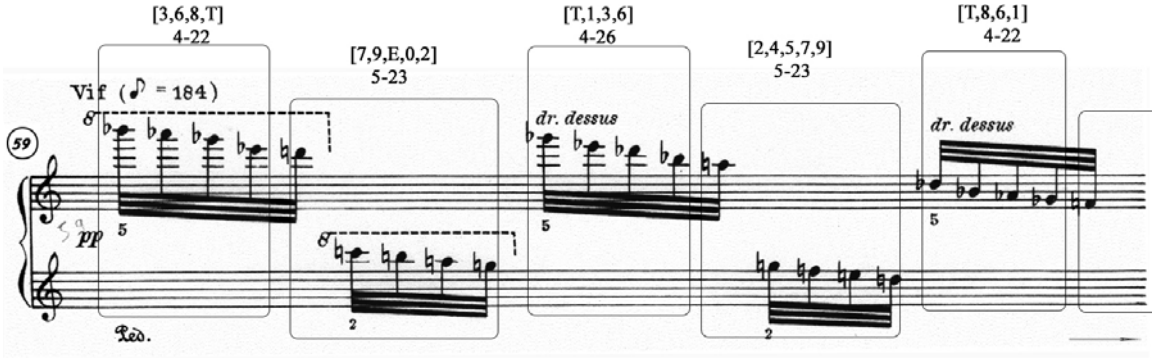

[E,2,4,5,7]
5-25
[E,0,1,2,6]
5-5
Modéré (♪ = 88)
38
dr. dessus
p
mf
Ped.
[3,4,7,9,T]
5-19
[6,8,T,1]
4-22
[1,5,7,8]
4-Z29

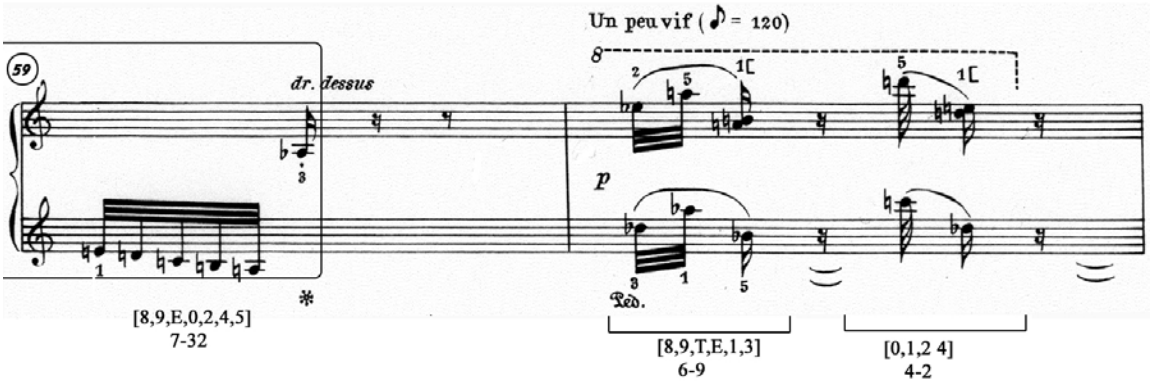

[7,9,E,0,2,4]
6-32
[1,3,6,7,T]
5-32
Un peu lent (♪ = 63)
Modéré (♪ = 88)
Un peu vif (♪ = 120)
41
p
mf
p
Ped.
Ped.
Ped.
Ped.
[6,7,8,T,1,3]
6-Z47
[9,E,2,4,5]
5-29
[8,T,E,0]
4-2
[5,6,7,E,0,1,]
6-7
[6,7,9,T,0,3]
6-27
Vif (♪ = 184)
Un peu vif (♪ = 120)
44
dr. dessus
pp
p
Ped.
[8,T,1,3]
4-23
[9,0,2,4]
4-22
[6,8,T,1]
4-22
[0,2]
[1,3,4,6,7,8,T]
7-25
[8,9,E,1,2]
5-Z12
[2,3,4,6,7,8,T,0]
8-24
Un peu lent (♪ = 63)
[0,1,6]
3-5
Un peu vif (♪ = 120)
46
mf
p
Ped.
Ped.
[3,5,6,7,9]
5-8
[6,7,8,9,T,E,1,2]
8-4

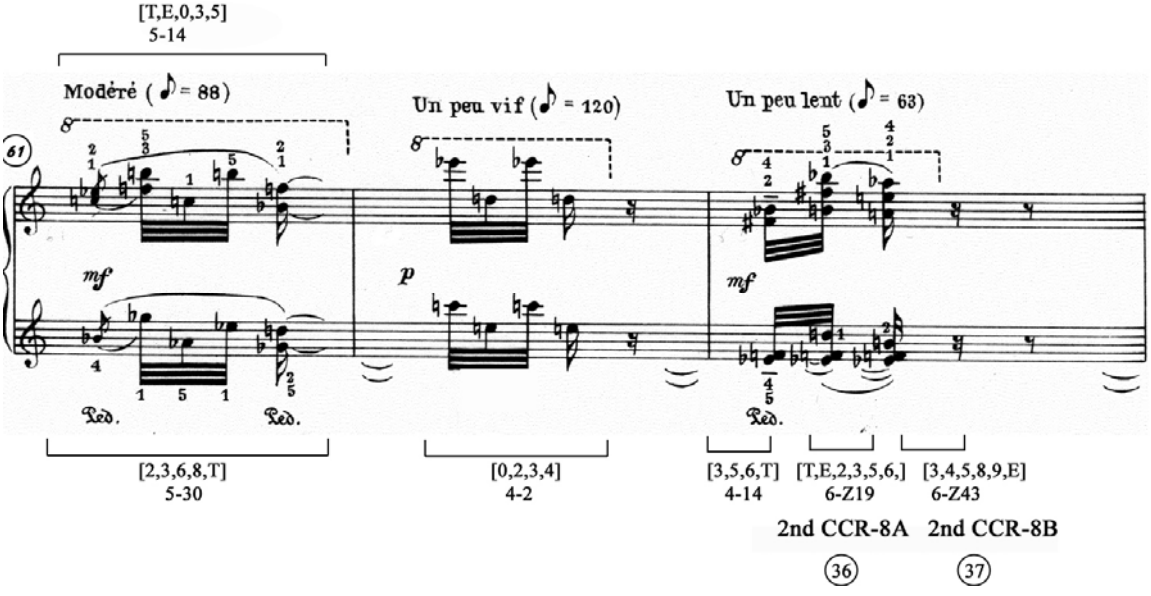

47
Lent (= 54)
(Lent)
f
p
Red.
Red.
[0,1,2,3,5,6,8]
7-Z36
[0,1,2,3,4,7,9]
7-Z12
[1,2,3,6,7,8,9,E]
8-16
1st CCR-12A
1st CCR-12B
CTC-12
31
32
33

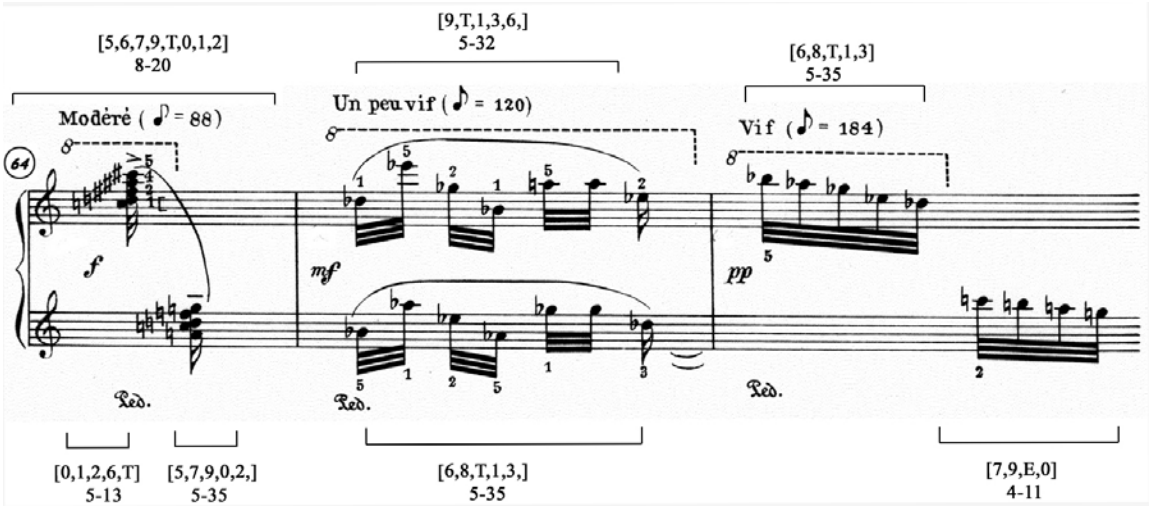

51
Modéré (= 88)
Un peu lent (= 63)
Modéré (= 88)
Un peu lent (= 63)
mf
p
mf
p
Red.
Red.
[0,4,5,T]
4-16
[5,8,9,E,0,1]
6-15
[2,3,4,T]
4-5
[0,1,2,5,6,7,9]
7-20
M3MC-6
CTI-9B
34
35

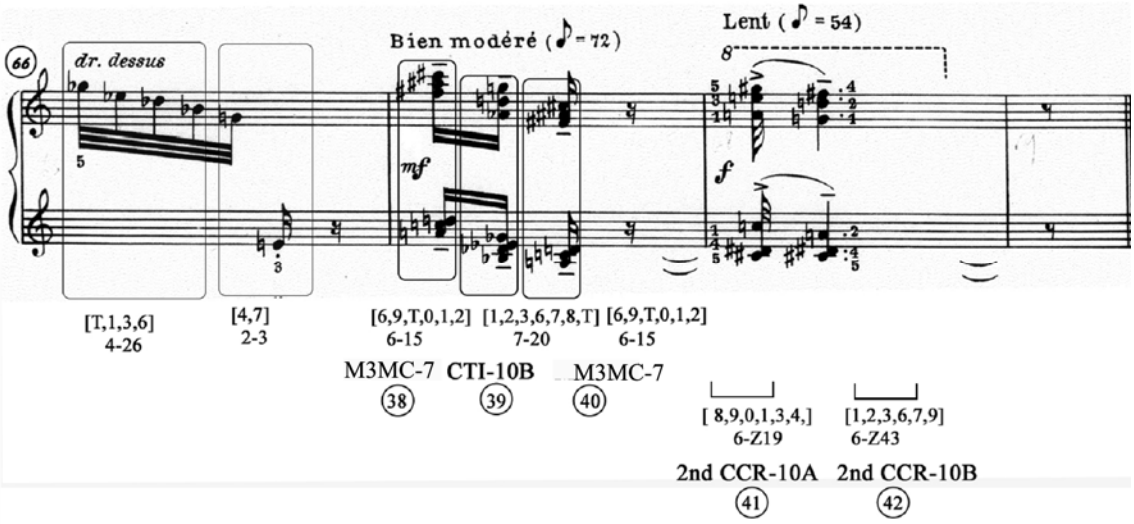

[3,6,7,8]
4-4
(Un peu lent)
Un peu vif (♪ = 120)
Modéré (♪ = 88)
55
p
mf
mf
g. dessus
Ped.
Ped.
[8,T,E,3,4]
5-20
[8,T,E,2]
4-12
[1,2,3,4,5]
5-1


[3,6,8,T]
4-22
[7,9,E,0,2]
5-23
[T,1,3,6]
4-26
[2,4,5,7,9]
5-23
[T,8,6,1]
4-22
Vif (♪ = 184)
59
pp
dr. dessus
dr. dessus
Ped.

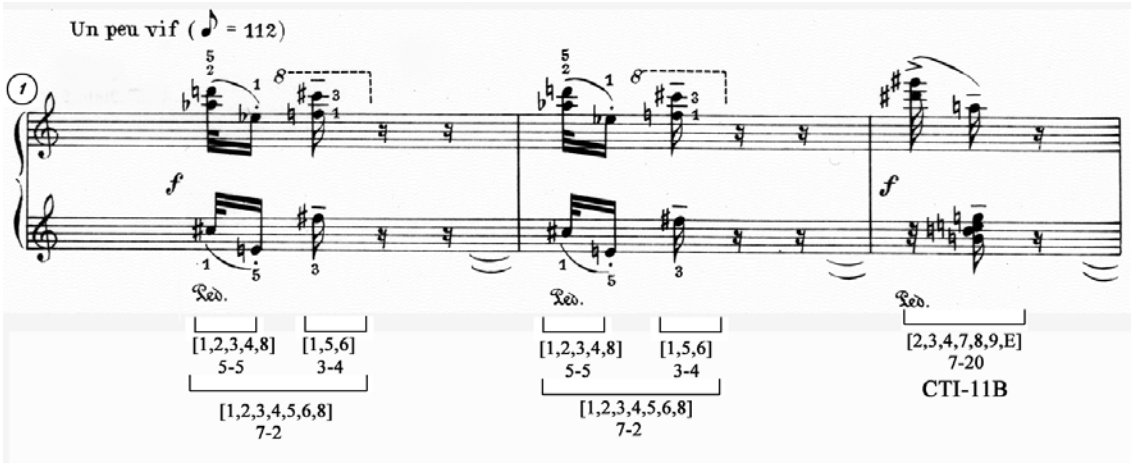

Un peu vif (♪ = 120)
59
dr. dessus
p
Ped.
[8,9,E,0,2,4,5]
7-32
[8,9,T,E,1,3]
6-9
[0,1,2 4]
4-2

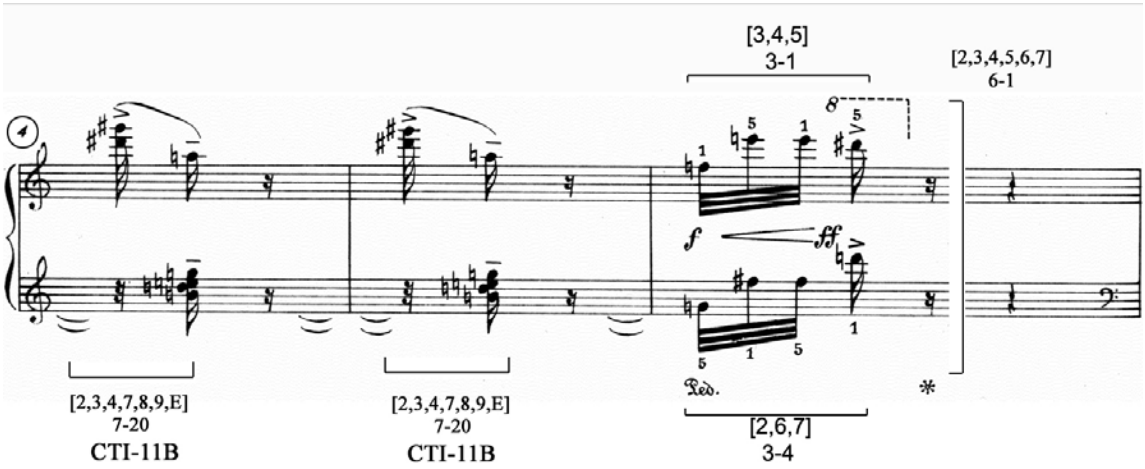

[T,E,0,3,5]
5-14
Modéré (♪ = 88)
Un peu vif (♪ = 120)
Un peu lent (♪ = 63)
61
mf
p
mf
Ped.
Ped.
Ped.
[2,3,6,8,T]
5-30
[0,2,3,4]
4-2
[3,5,6,T]
4-14
[T,E,2,3,5,6,]
6-Z19
[3,4,5,8,9,E]
6-Z43
2nd CCR-8A
2nd CCR-8B
36
37

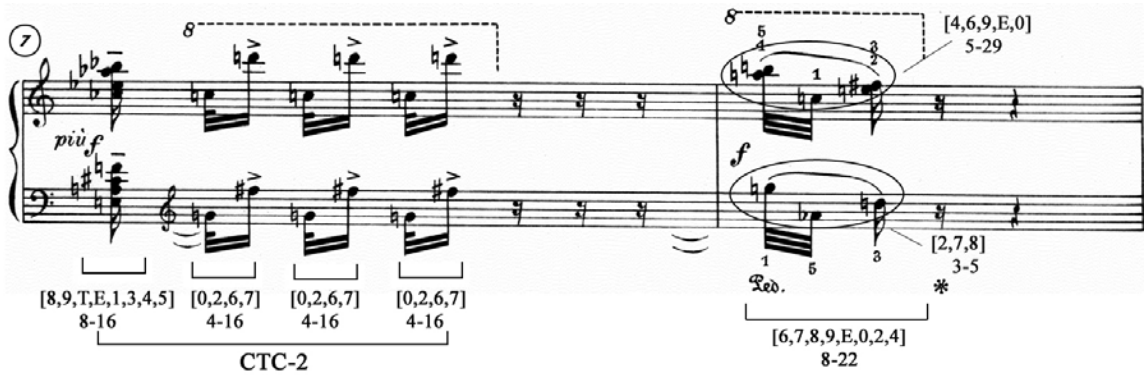

[5,6,7,9,T,0,1,2]
8-20
[9,T,1,3,6,]
5-32
[6,8,T,1,3]
5-35
Modéré (♪ = 88)
Un peu vif (♪ = 120)
Vif (♪ = 184)
64
f
mf
pp
Ped.
Ped.
Ped.
[0,1,2,6,T]
5-13
[5,7,9,0,2,]
5-35
[6,8,T,1,3,]
5-35
[7,9,E,0]
4-11

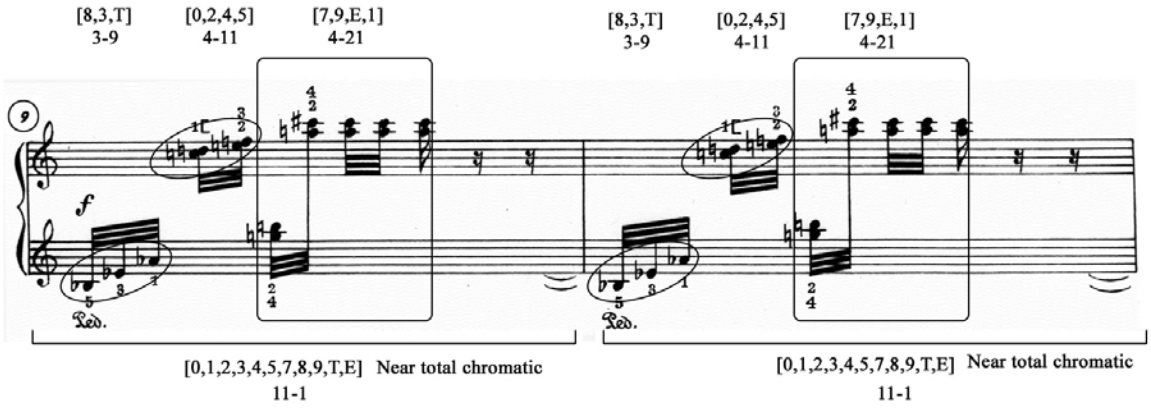

66
dr. dessus
Bien modéré (♪ = 72)
Lent (♪ = 54)
mf
f
[T,1,3,6]
4-26
[4,7]
2-3
[6,9,T,0,1,2]
6-15
[1,2,3,6,7,8,T]
7-20
[6,9,T,0,1,2]
6-15
M3MC-7
38
CTI-10B
39
M3MC-7
40
[8,9,0,1,3,4,]
6-Z19
[1,2,3,6,7,9]
6-Z43
2nd CCR-10A
41
2nd CCR-10B
42

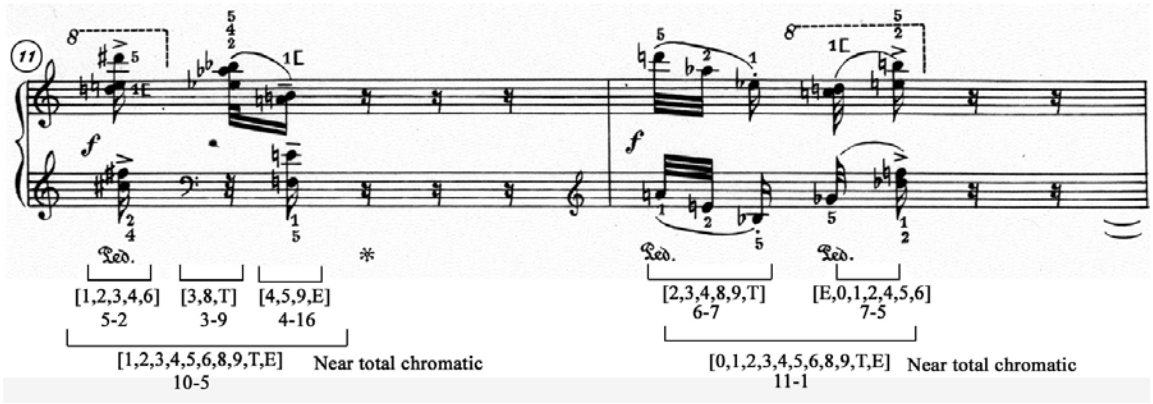
IV. LA GRIVE MUSICIENNE

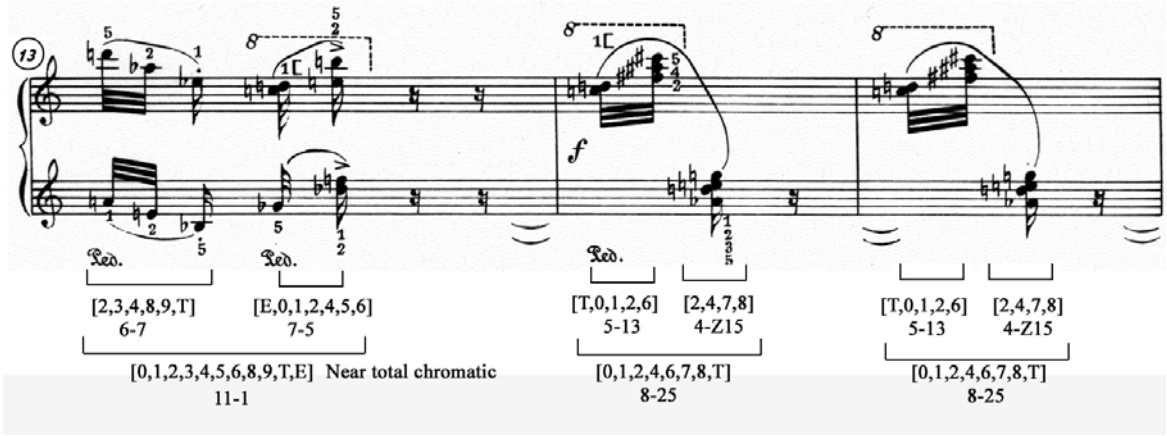


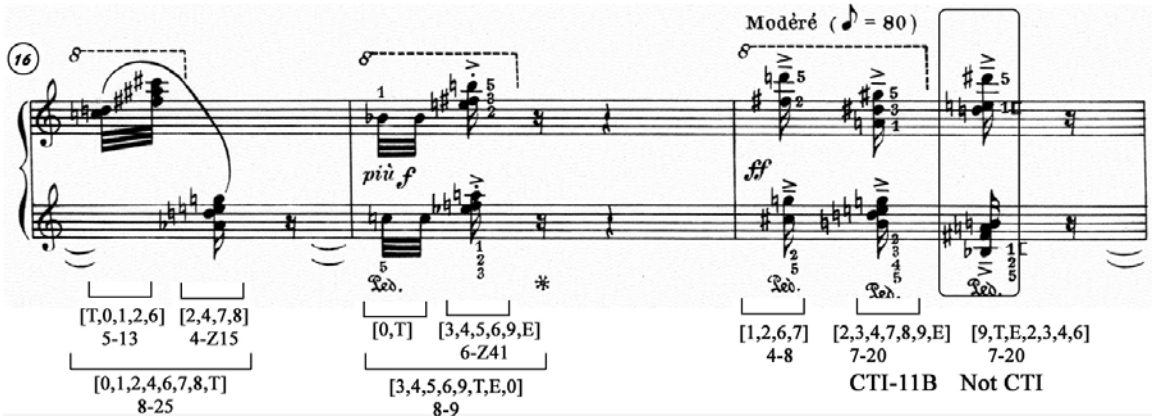


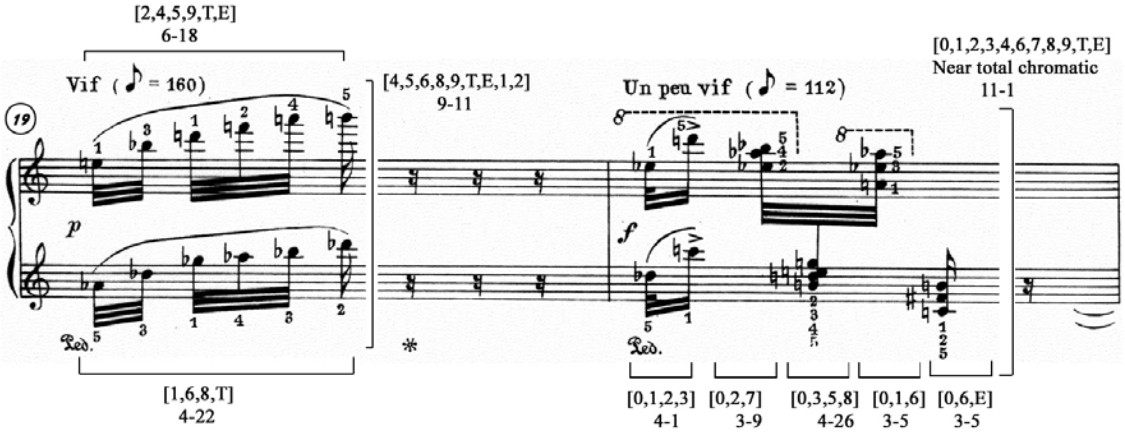


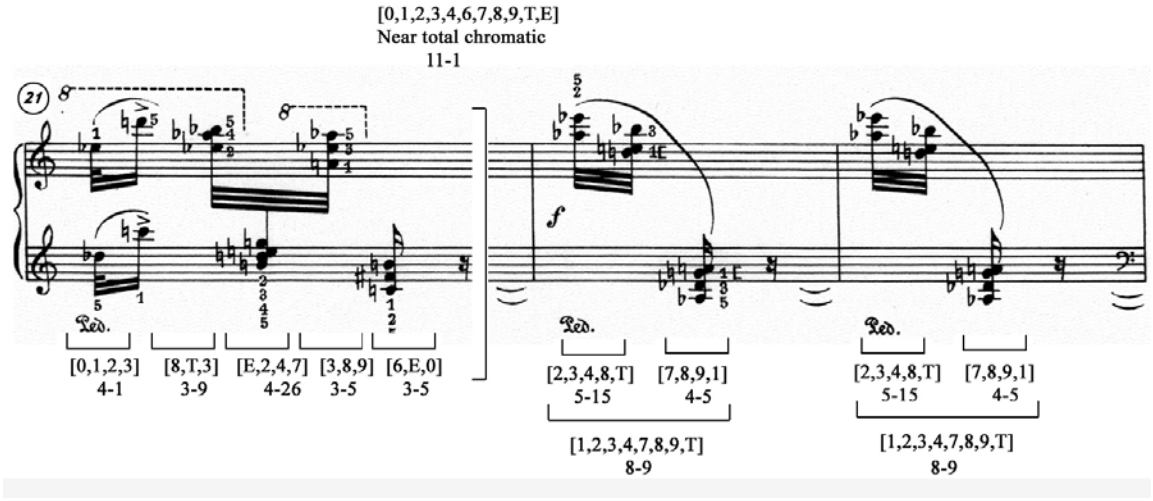

[8,3,T]
3-9
[0,2,4,5]
4-11
[7,9,E,1]
4-21
[8,3,T]
3-9
[0,2,4,5]
4-11
[7,9,E,1]
4-21
9
f
Ped.
Ped.
[0,1,2,3,4,5,7,8,9,T,E] Near total chromatic
11-1
[0,1,2,3,4,5,7,8,9,T,E] Near total chromatic
11-1

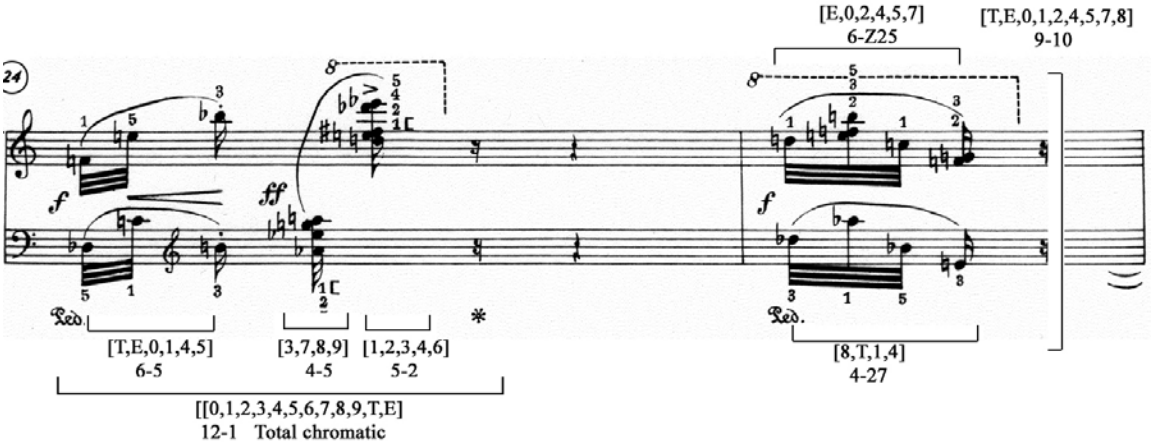

11
f
Ped.
[1,2,3,4,6]
5-2
[3,8,T]
3-9
[4,5,9,E]
4-16
[1,2,3,4,5,6,8,9,T,E] Near total chromatic
10-5
f
Ped.
Ped.
[2,3,4,8,9,T]
6-7
[E,0,1,2,4,5,6]
7-5
[0,1,2,3,4,5,6,8,9,T,E] Near total chromatic
11-1

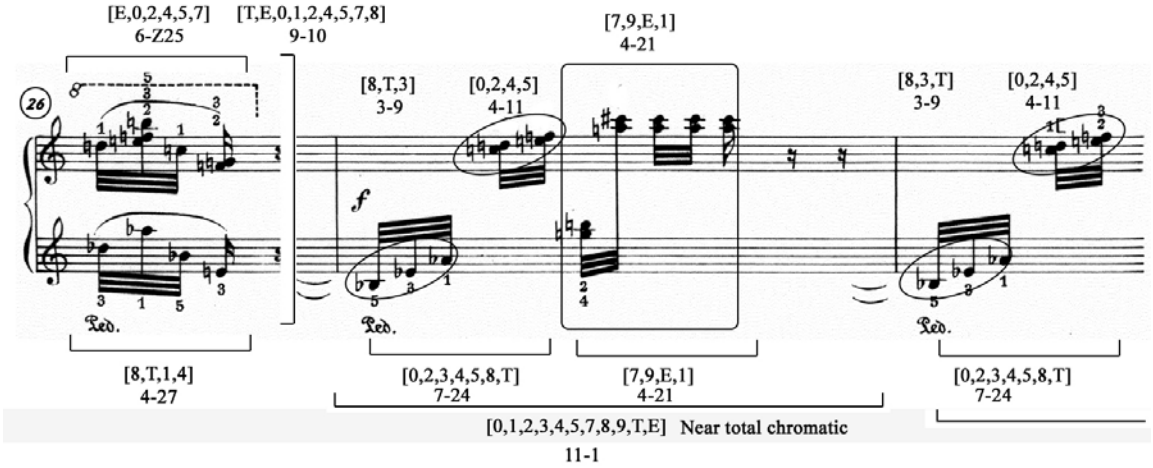

13
Ped.
Ped.
[2,3,4,8,9,T]
6-7
[E,0,1,2,4,5,6]
7-5
[0,1,2,3,4,5,6,8,9,T,E] Near total chromatic
11-1
f
Ped.
[T,0,1,2,6]
5-13
[2,4,7,8]
4-Z15
[0,1,2,4,6,7,8,T]
8-25
[T,0,1,2,6]
5-13
[2,4,7,8]
4-Z15
[0,1,2,4,6,7,8,T]
8-25

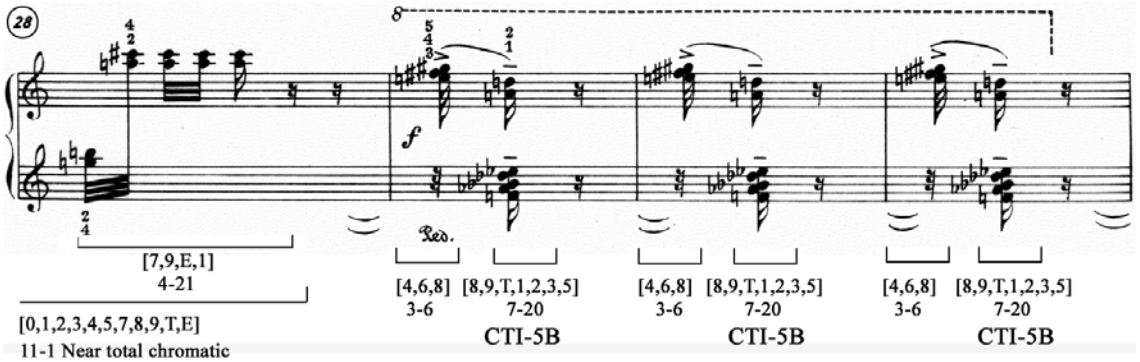

Modéré (♪ = 80)
16
più f
ff
Ped.
[T,0,1,2,6] 5-13
[2,4,7,8] 4-Z15
[0,1,2,4,6,7,8,T] 8-25
[0,T]
[3,4,5,6,9,E] 6-Z41
[3,4,5,6,9,T,E,0] 8-9
[1,2,6,7] 4-8
[2,3,4,7,8,9,E] 7-20
[9,T,E,2,3,4,6] 7-20
CTI-11B Not CTI

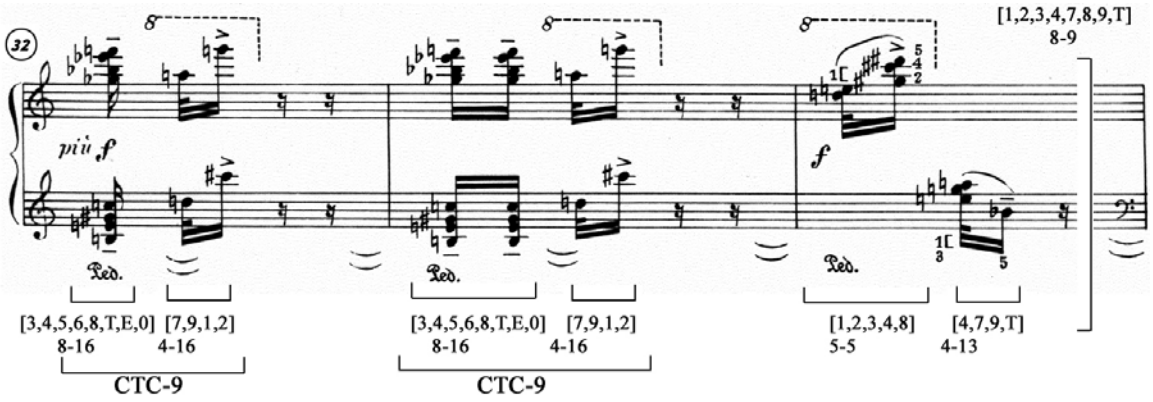

[2,4,5,9,T,E] 6-18
Vif (♪ = 160)
19
p
Ped.
[1,6,8,T] 4-22
[4,5,6,8,9,T,E,1,2] 9-11
Un peu vif (♪ = 112)
f
[0,1,2,3,4,6,7,8,9,T,E] Near total chromatic 11-1
[0,1,2,3] 4-1
[0,2,7] 3-9
[0,3,5,8] 4-26
[0,1,6] 3-5
[0,6,E] 3-5

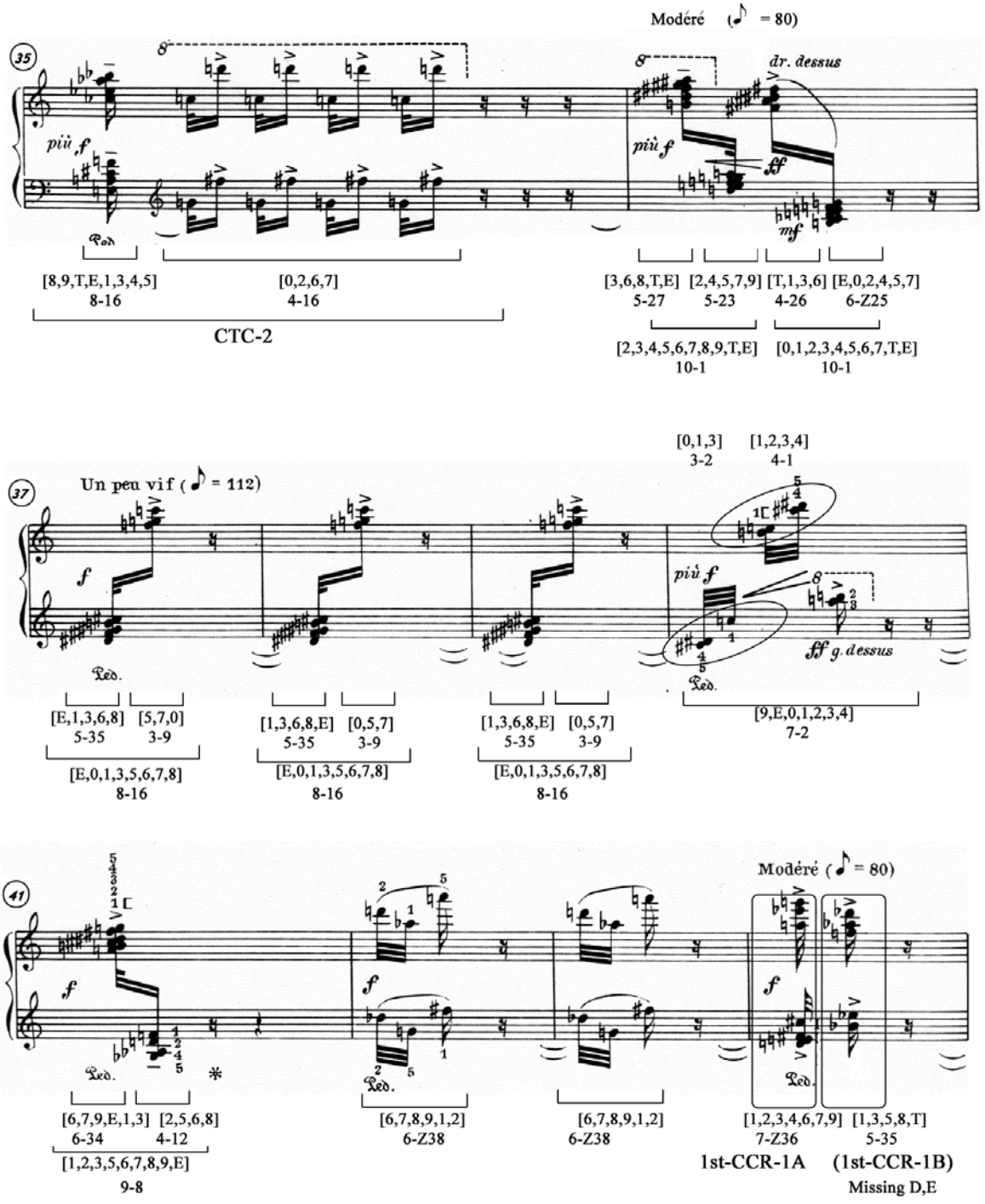

[0,1,2,3,4,6,7,8,9,T,E]
Near total chromatic
11-1
21
[0,1,2,3]
4-1
[8,T,3]
3-9
[E,2,4,7]
4-26
[3,8,9]
3-5
[6,E,0]
3-5
[2,3,4,8,T]
5-15
[7,8,9,1]
4-5
[1,2,3,4,7,8,9,T]
8-9
[2,3,4,8,T]
5-15
[7,8,9,1]
4-5
[1,2,3,4,7,8,9,T]
8-9

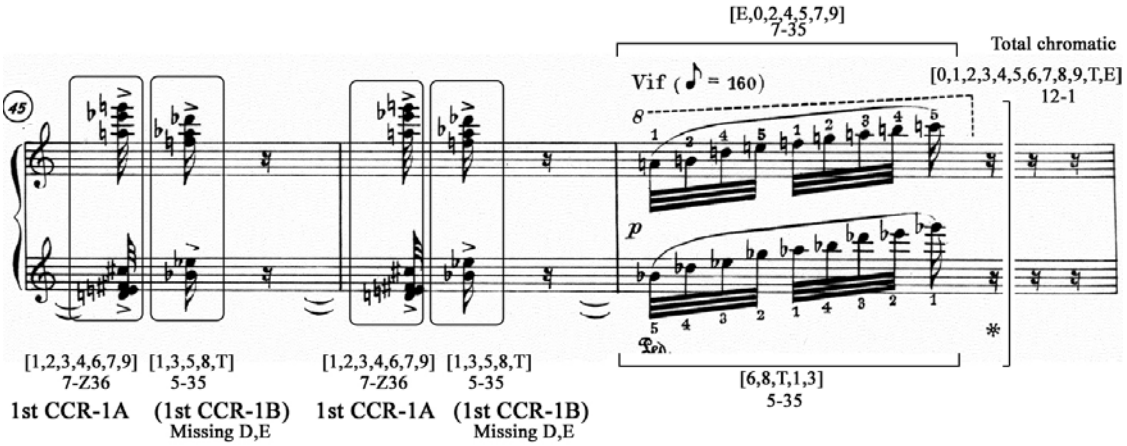

[E,0,2,4,5,7]
6-Z25
[T,E,0,1,2,4,5,7,8]
9-10
24
[T,E,0,1,4,5]
6-5
[3,7,8,9]
4-5
[1,2,3,4,6]
5-2
[8,T,1,4]
4-27
[[0,1,2,3,4,5,6,7,8,9,T,E]
12-1 Total chromatic

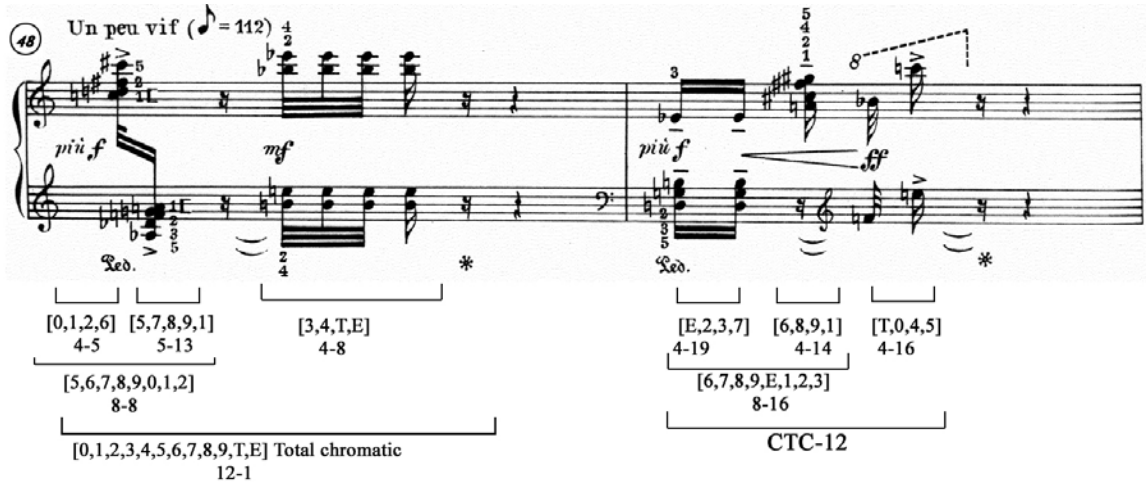

[E,0,2,4,5,7]
6-Z25
[T,E,0,1,2,4,5,7,8]
9-10
[7,9,E,1]
4-21
[8,T,3]
3-9
[0,2,4,5]
4-11
[8,3,T]
3-9
[0,2,4,5]
4-11
26
f
Ped.
[8,T,1,4]
4-27
[0,2,3,4,5,8,T]
7-24
[7,9,E,1]
4-21
[0,2,3,4,5,8,T]
7-24
[0,1,2,3,4,5,7,8,9,T,E] Near total chromatic
11-1

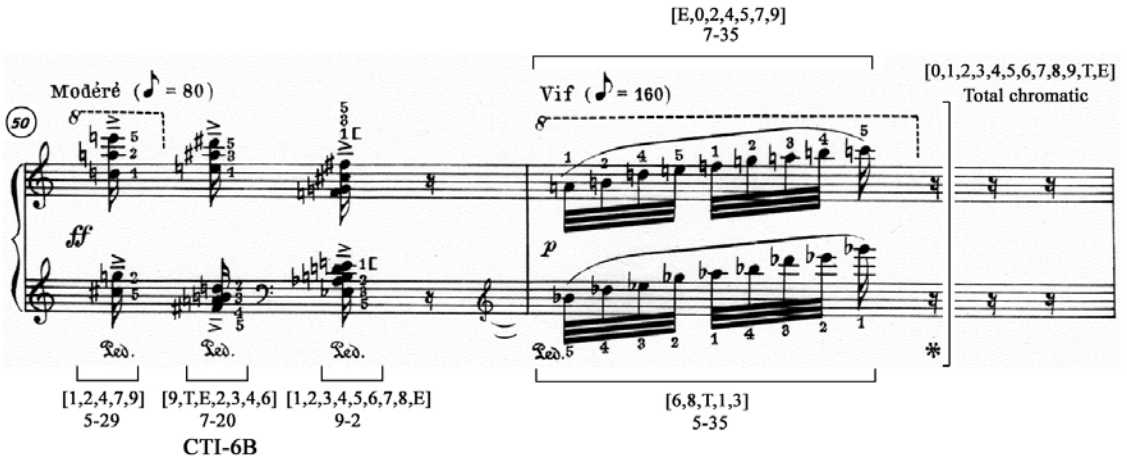

28
f
Ped.
[7,9,E,1]
4-21
[0,1,2,3,4,5,7,8,9,T,E]
11-1 Near total chromatic
[4,6,8]
3-6
[8,9,T,1,2,3,5]
7-20
CTI-5B
[4,6,8]
3-6
[8,9,T,1,2,3,5]
7-20
CTI-5B
[4,6,8]
3-6
[8,9,T,1,2,3,5]
7-20
CTI-5B

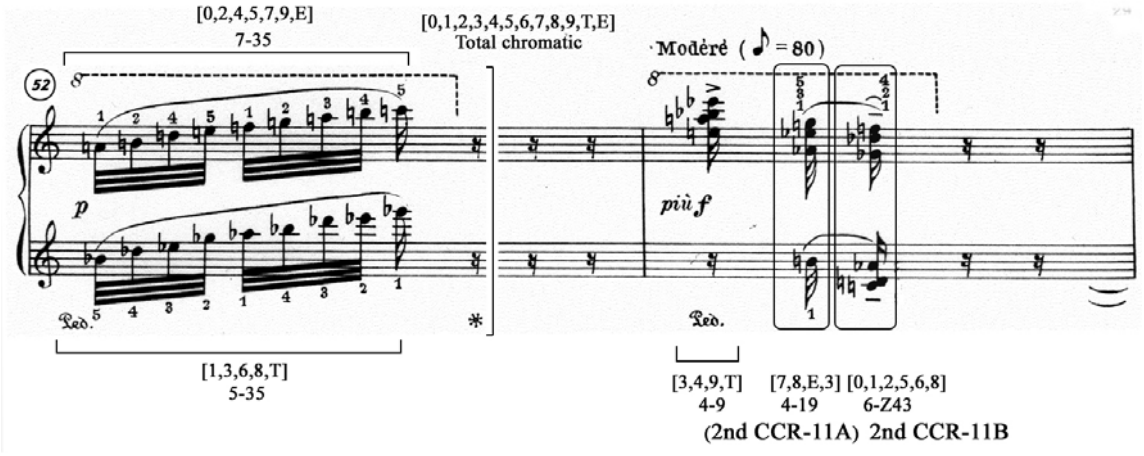

32
[1,2,3,4,7,8,9,T]
8-9
più f
f
Ped.
[3,4,5,6,8,T,E,0]
8-16
[7,9,1,2]
4-16
CTC-9
[3,4,5,6,8,T,E,0]
8-16
[7,9,1,2]
4-16
CTC-9
[1,2,3,4,8]
5-5
[4,7,9,T]
4-13

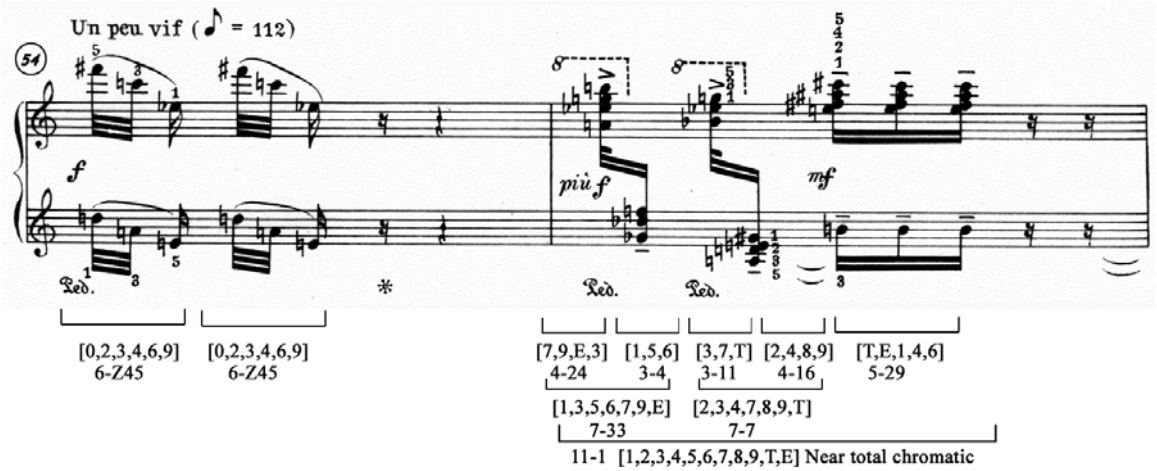

Modéré (♪ = 80)
35
8
più f
Ped.
dr. dessus
ff
mf
[8,9,T,E,1,3,4,5]
8-16
[0,2,6,7]
4-16
CTC-2
[3,6,8,T,E]
5-27
[2,4,5,7,9]
5-23
[T,1,3,6]
4-26
[E,0,2,4,5,7]
6-Z25
[2,3,4,5,6,7,8,9,T,E]
10-1
[0,1,2,3,4,5,6,7,T,E]
10-1
37
Un peu vif (♪ = 112)
f
più f
ff g. dessus
[0,1,3]
3-2
[1,2,3,4]
4-1
[E,1,3,6,8]
5-35
[5,7,0]
3-9
[E,0,1,3,5,6,7,8]
8-16
[1,3,6,8,E]
5-35
[0,5,7]
3-9
[E,0,1,3,5,6,7,8]
8-16
[1,3,6,8,E]
5-35
[0,5,7]
3-9
[E,0,1,3,5,6,7,8]
8-16
[9,E,0,1,2,3,4]
7-2
41
Modéré (♪ = 80)
f
[6,7,9,E,1,3]
6-34
[2,5,6,8]
4-12
[1,2,3,5,6,7,8,9,E]
9-8
[6,7,8,9,1,2]
6-Z38
[6,7,8,9,1,2]
6-Z38
[1,2,3,4,6,7,9]
7-Z36
[1,3,5,8,T]
5-35
1st-CCR-1A
(1st-CCR-1B)
Missing D,E

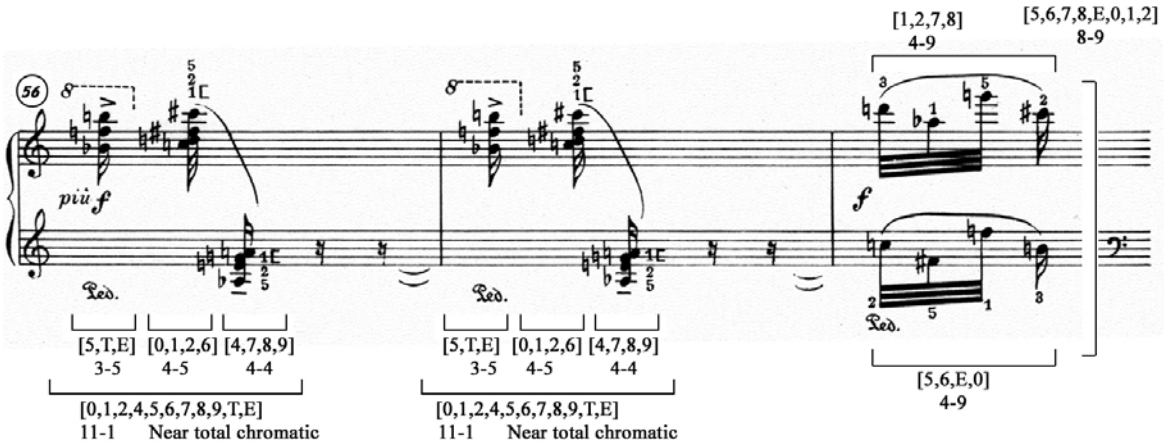

[E,0,2,4,5,7,9]
7-35
Total chromatic
[0,1,2,3,4,5,6,7,8,9,T,E]
12-1
Vif (♪ = 160)
15
[1,2,3,4,6,7,9] [1,3,5,8,T]
7-Z36 5-35
1st CCR-1A (1st CCR-1B)
Missing D,E
[1,2,3,4,6,7,9] [1,3,5,8,T]
7-Z36 5-35
1st CCR-1A (1st CCR-1B)
Missing D,E
[6,8,T,1,3]
5-35

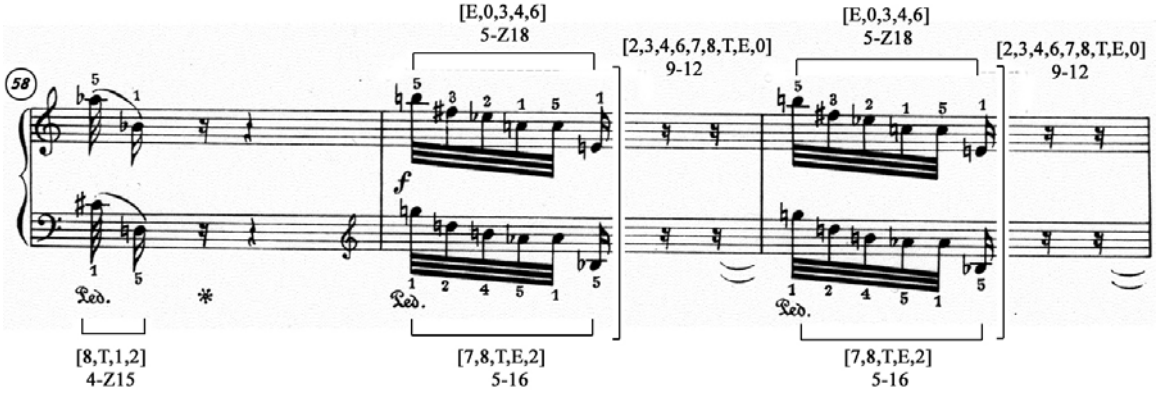

Un peu vif (♪ = 112)
18
[0,1,2,6] [5,7,8,9,1]
4-5 5-13
[3,4,T,E]
4-8
[5,6,7,8,9,0,1,2]
8-8
[0,1,2,3,4,5,6,7,8,9,T,E] Total chromatic
12-1
[E,2,3,7] [6,8,9,1] [T,0,4,5]
4-19 4-14 4-16
[6,7,8,9,E,1,2,3]
8-16
CTC-12

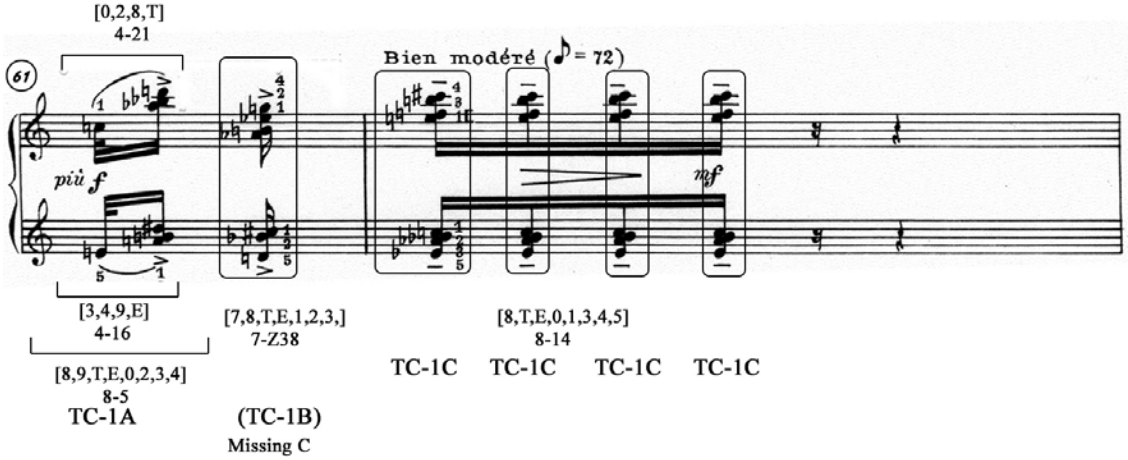

[E,0,2,4,5,7,9]
7-35
[0,1,2,3,4,5,6,7,8,9,T,E]
Total chromatic
Modéré (♪ = 80)
Vif (♪ = 160)
50
[1,2,4,7,9]
5-29
[9,T,E,2,3,4,6]
7-20
[1,2,3,4,5,6,7,8,E]
9-2
CTI-6B
[6,8,T,1,3]
5-35

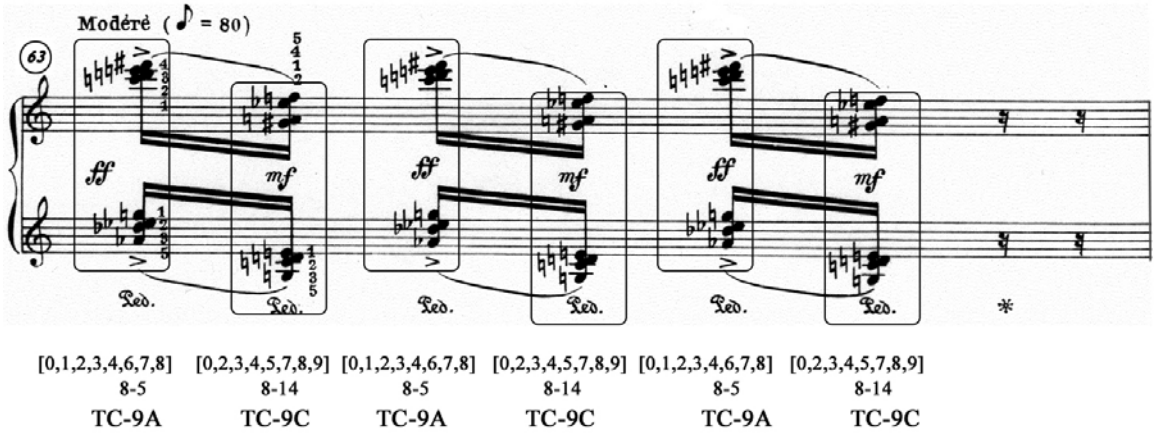

[0,2,4,5,7,9,E]
7-35
[0,1,2,3,4,5,6,7,8,9,T,E]
Total chromatic
Modéré (♪ = 80)
52
p
più f
Ped.
*
[1,3,6,8,T]
5-35
[3,4,9,T]
4-9
[7,8,E,3]
4-19
[0,1,2,5,6,8]
6-Z43
(2nd CCR-11A) 2nd CCR-11B
Missing C,D

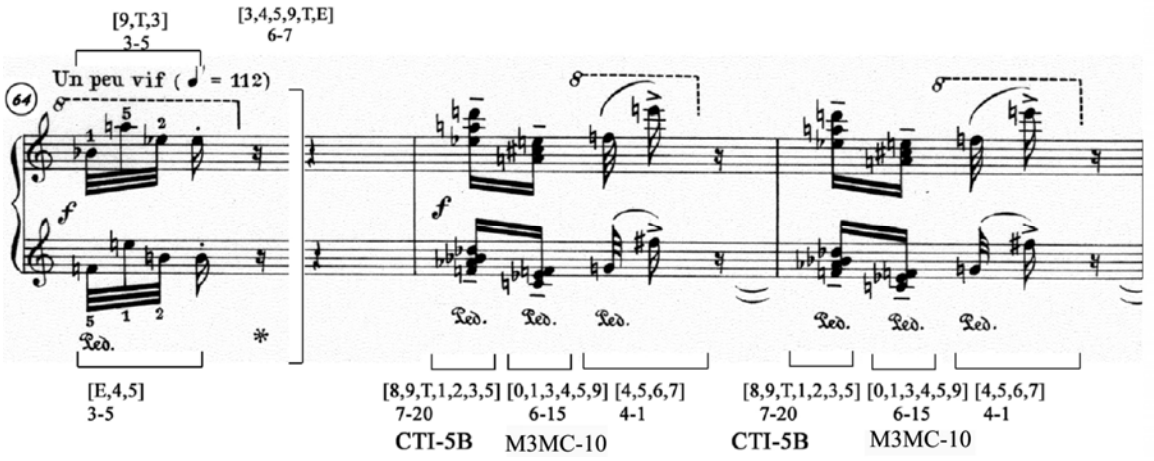

Un peu vif (♪ = 112)
54
f
più f
mf
Ped.
*
[0,2,3,4,6,9]
6-Z45
[0,2,3,4,6,9]
6-Z45
[7,9,E,3]
4-24
[1,5,6]
3-4
[3,7,T]
3-11
[2,4,8,9]
4-16
[T,E,1,4,6]
5-29
[1,3,5,6,7,9,E]
7-33
[2,3,4,7,8,9,T]
7-7
11-1 [1,2,3,4,5,6,7,8,9,T,E] Near total chromatic

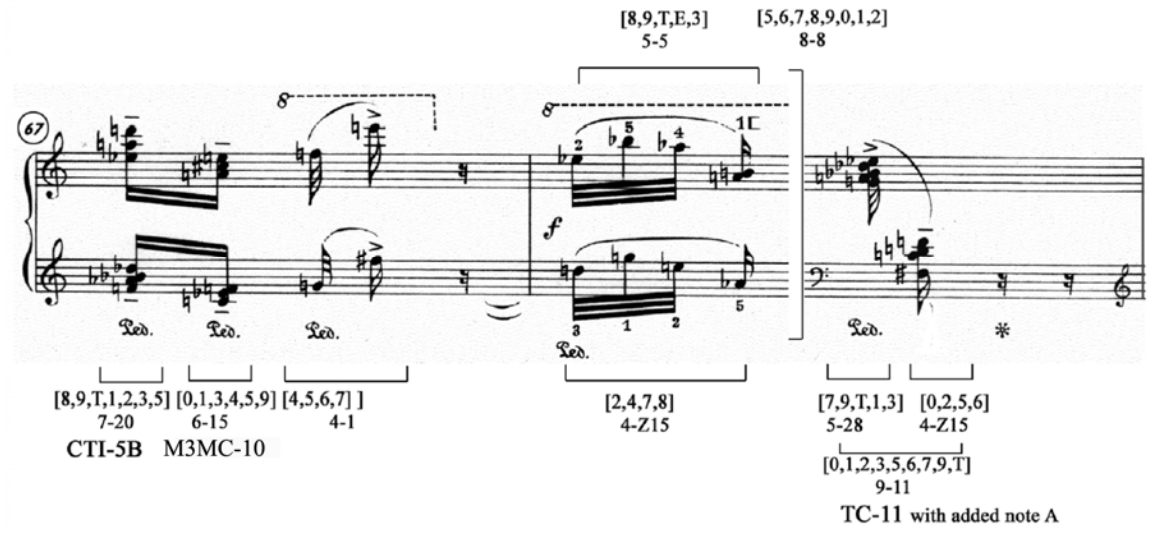

56
più f
Ped.
[5,T,E] [0,1,2,6] [4,7,8,9]
3-5 4-5 4-4
[0,1,2,4,5,6,7,8,9,T,E]
11-1 Near total chromatic
[1,2,7,8]
4-9
[5,6,7,8,E,0,1,2]
8-9
f
[5,6,E,0]
4-9

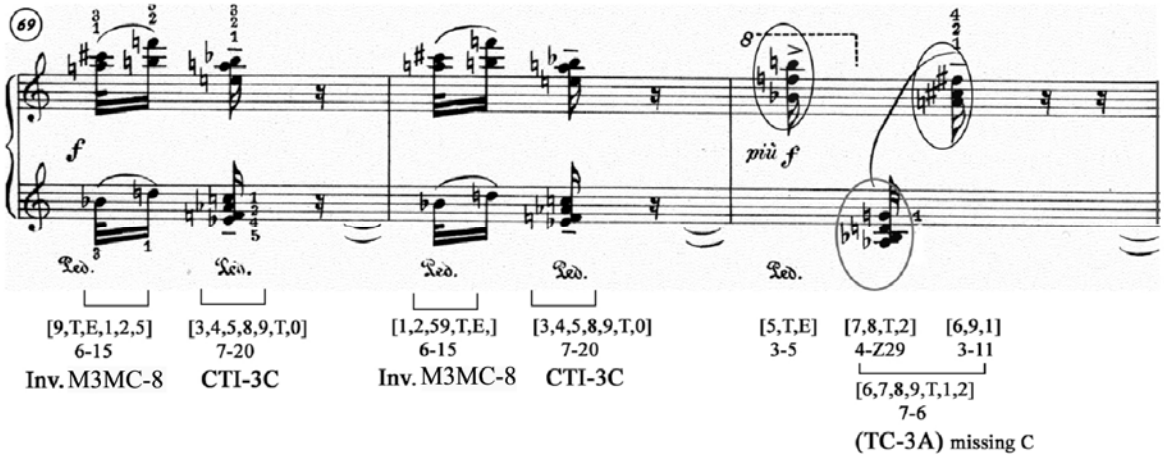

58
[E,0,3,4,6]
5-Z18
[2,3,4,6,7,8,T,E,0]
9-12
f
[8,T,1,2]
4-Z15
[7,8,T,E,2]
5-16

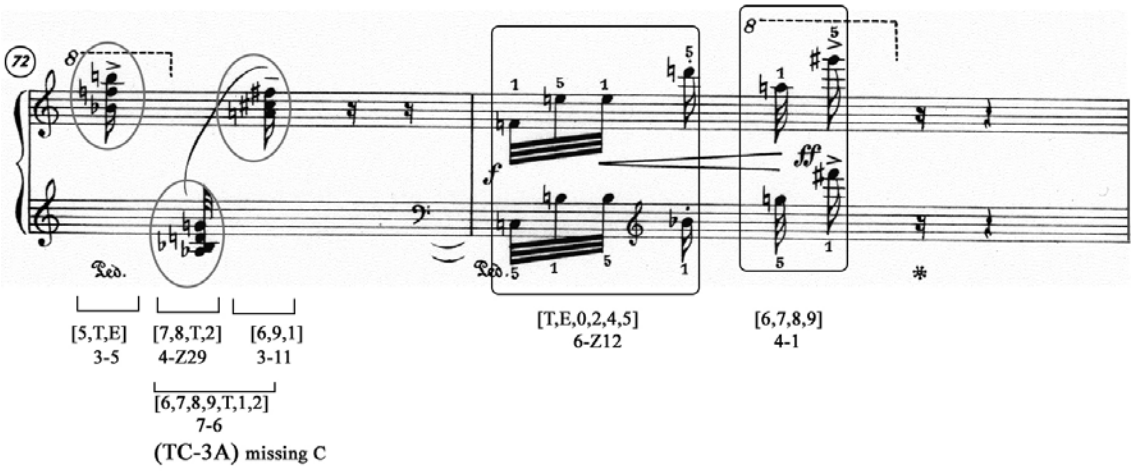

61
[0,2,8,T]
4-21
Bien modéré (♪ = 72)
più f
mf
[3,4,9,E]
4-16
[8,9,T,E,0,2,3,4]
8-5
TC-1A
[7,8,T,E,1,2,3,]
7-Z38
(TC-1B)
Missing C
[8,T,E,0,1,3,4,5]
8-14
TC-1C TC-1C TC-1C TC-1C

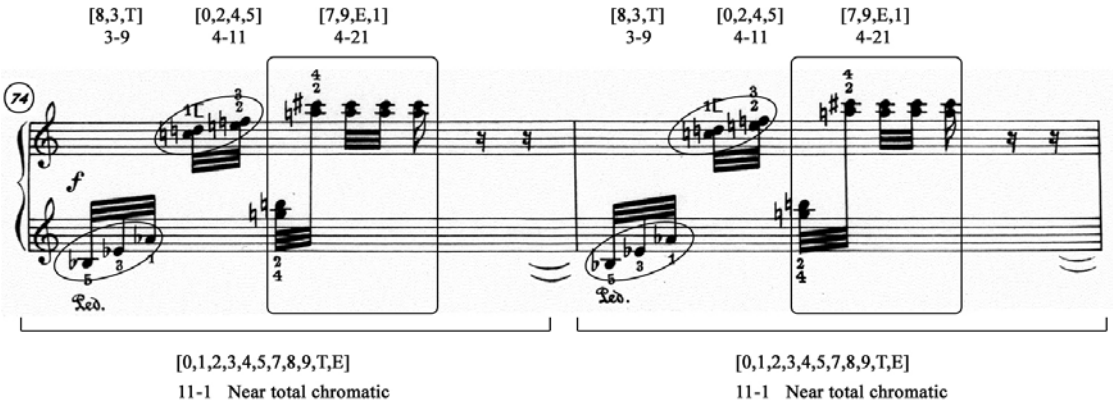

Modéré (♪ = 80)
63
ff
mf
Ped.
*
[0,1,2,3,4,6,7,8] 8-5 TC-9A
[0,2,3,4,5,7,8,9] 8-14 TC-9C
[0,1,2,3,4,6,7,8] 8-5 TC-9A
[0,2,3,4,5,7,8,9] 8-14 TC-9C
[0,1,2,3,4,6,7,8] 8-5 TC-9A
[0,2,3,4,5,7,8,9] 8-14 TC-9C

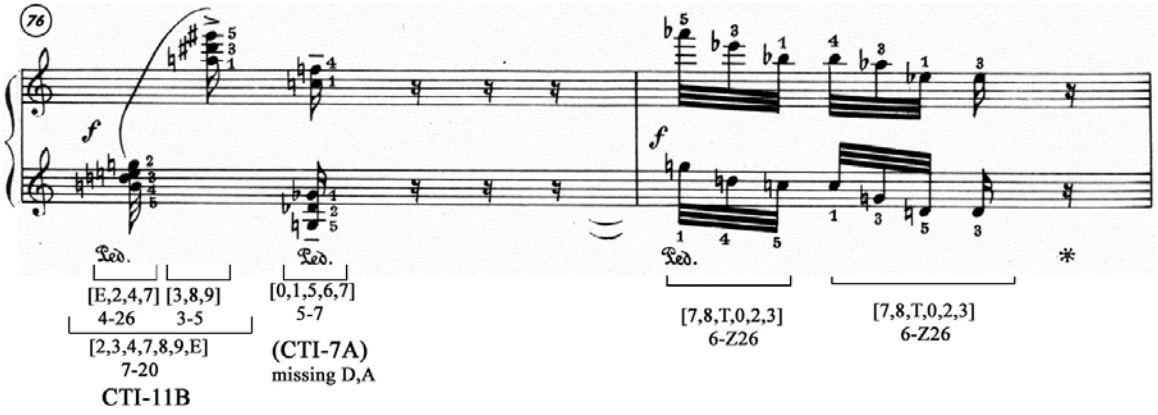

[9,T,3] 3-5
[3,4,5,9,T,E] 6-7
Un peu vif (♪ = 112)
64
f
Ped.
*
[E,4,5] 3-5
[8,9,T,1,2,3,5] 7-20 CTI-5B
[0,1,3,4,5,9] 6-15 M3MC-10
[4,5,6,7] 4-1
[8,9,T,1,2,3,5] 7-20 CTI-5B
[0,1,3,4,5,9] 6-15 M3MC-10
[4,5,6,7] 4-1


[8,9,T,E,3] 5-5
[5,6,7,8,9,0,1,2] 8-8
67
f
Ped.
*
[8,9,T,1,2,3,5] 7-20 CTI-5B
[0,1,3,4,5,9] 6-15 M3MC-10
[4,5,6,7] 4-1
[2,4,7,8] 4-Z15
[7,9,T,1,3] 5-28
[0,2,5,6] 4-Z15
[0,1,2,3,5,6,7,9,T] 9-11 TC-11 with added note A

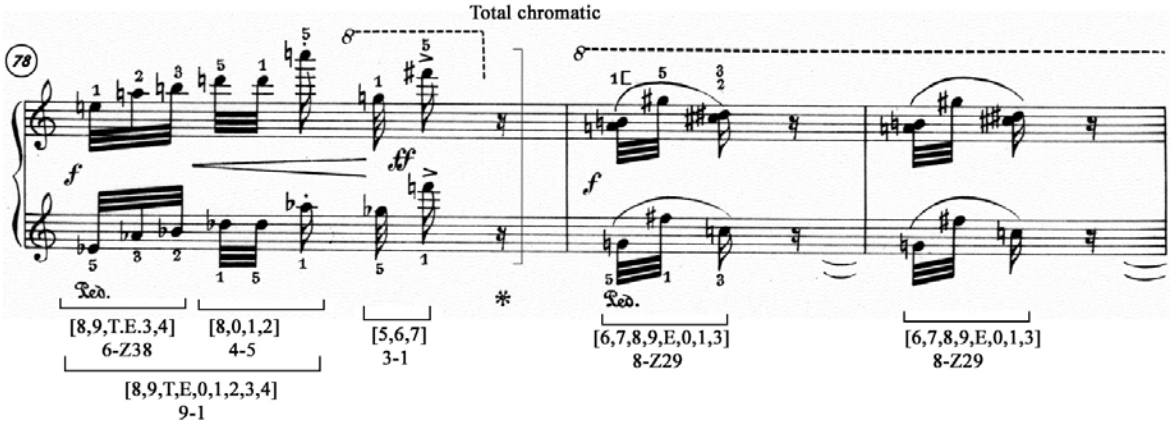

69
f
più f
Ped.
[9,T,E,1,2,5]
6-15
Inv. M3MC-8
[3,4,5,8,9,T,0]
7-20
CTI-3C
[1,2,59,T,E,]
6-15
Inv. M3MC-8
[3,4,5,8,9,T,0]
7-20
CTI-3C
[5,T,E]
3-5
[7,8,T,2]
4-Z29
[6,9,1]
3-11
[6,7,8,9,T,1,2]
7-6
(TC-3A) missing C

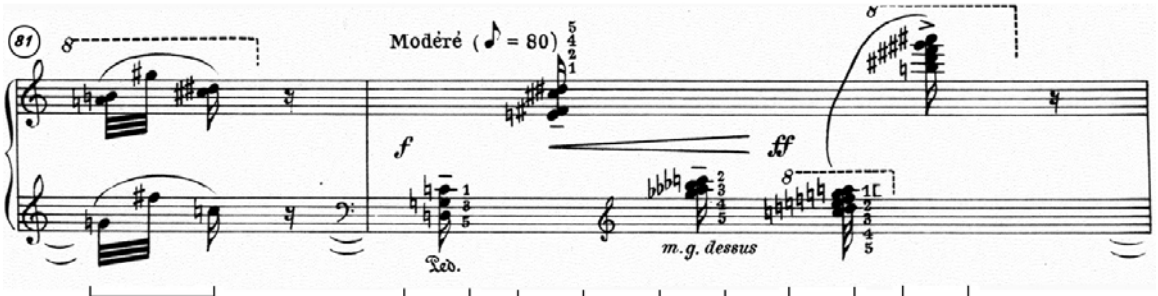

72
f
ff
Ped.
*
[5,T,E]
3-5
[7,8,T,2]
4-Z29
[6,9,1]
3-11
[6,7,8,9,T,1,2]
7-6
(TC-3A) missing C
[T,E,0,2,4,5]
6-Z12
[6,7,8,9]
4-1

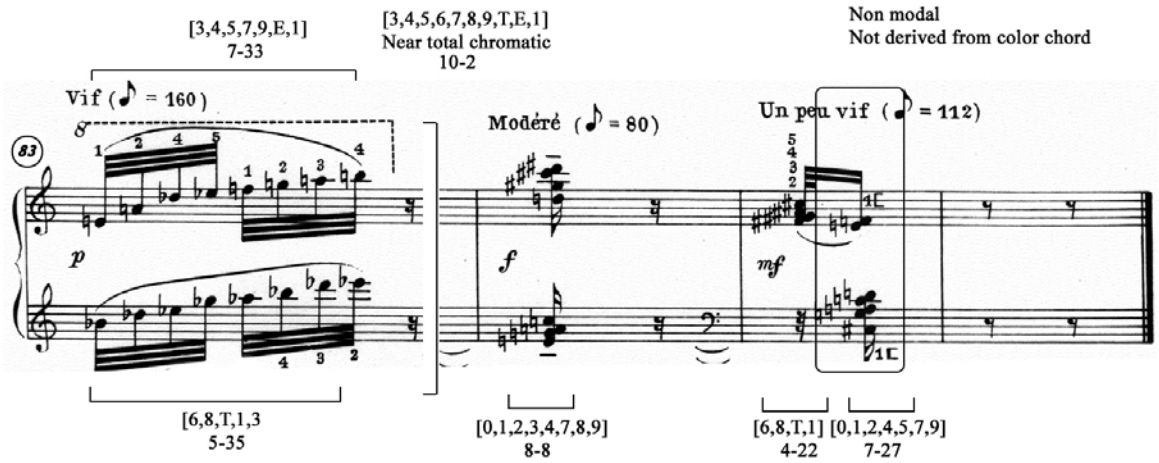

74
f
Ped.
[8,3,T]
3-9
[0,2,4,5]
4-11
[7,9,E,1]
4-21
[0,1,2,3,4,5,7,8,9,T,E]
11-1 Near total chromatic
[8,3,T]
3-9
[0,2,4,5]
4-11
[7,9,E,1]
4-21
[0,1,2,3,4,5,7,8,9,T,E]
11-1 Near total chromatic



[1,2,3,4,5,6,7,8,9,T,E]
Total chromatic

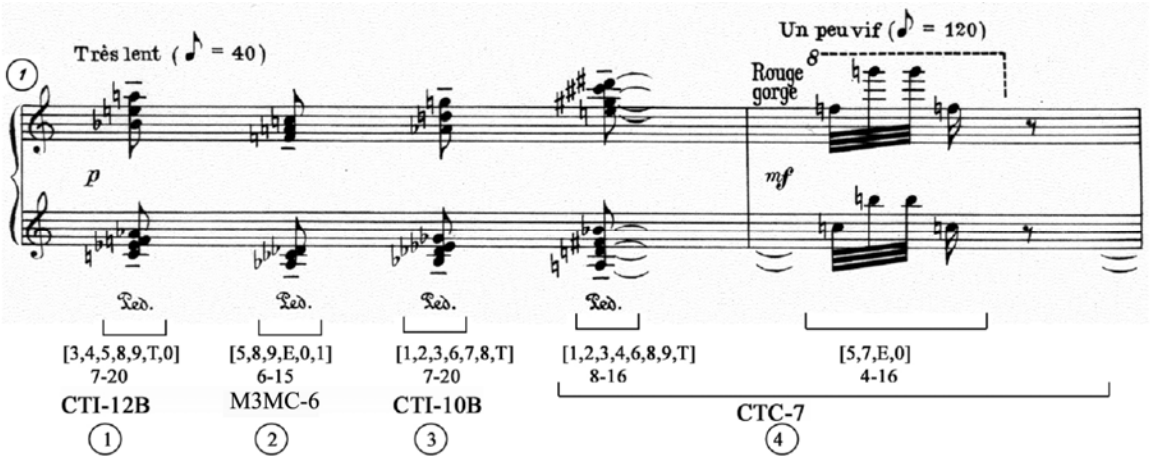


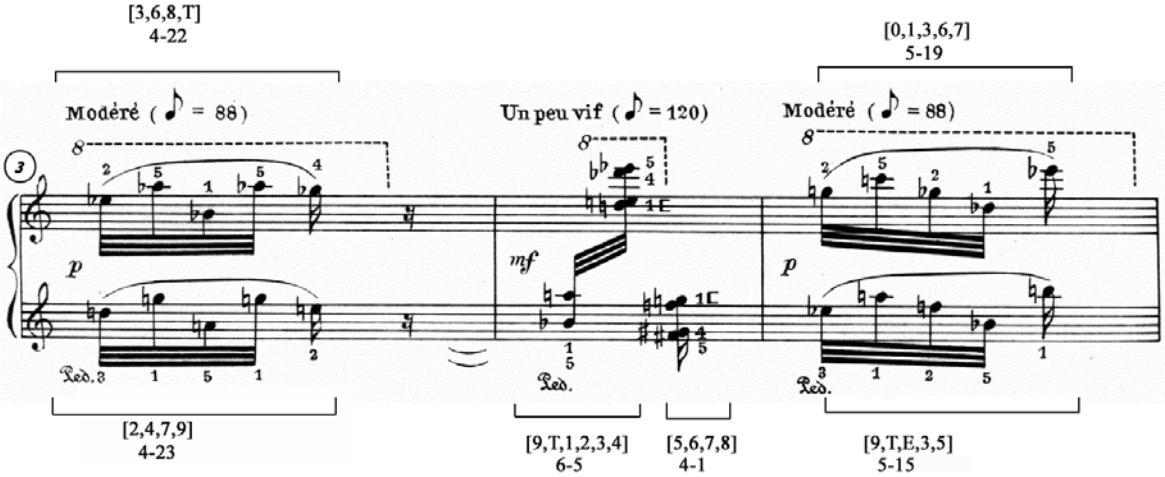


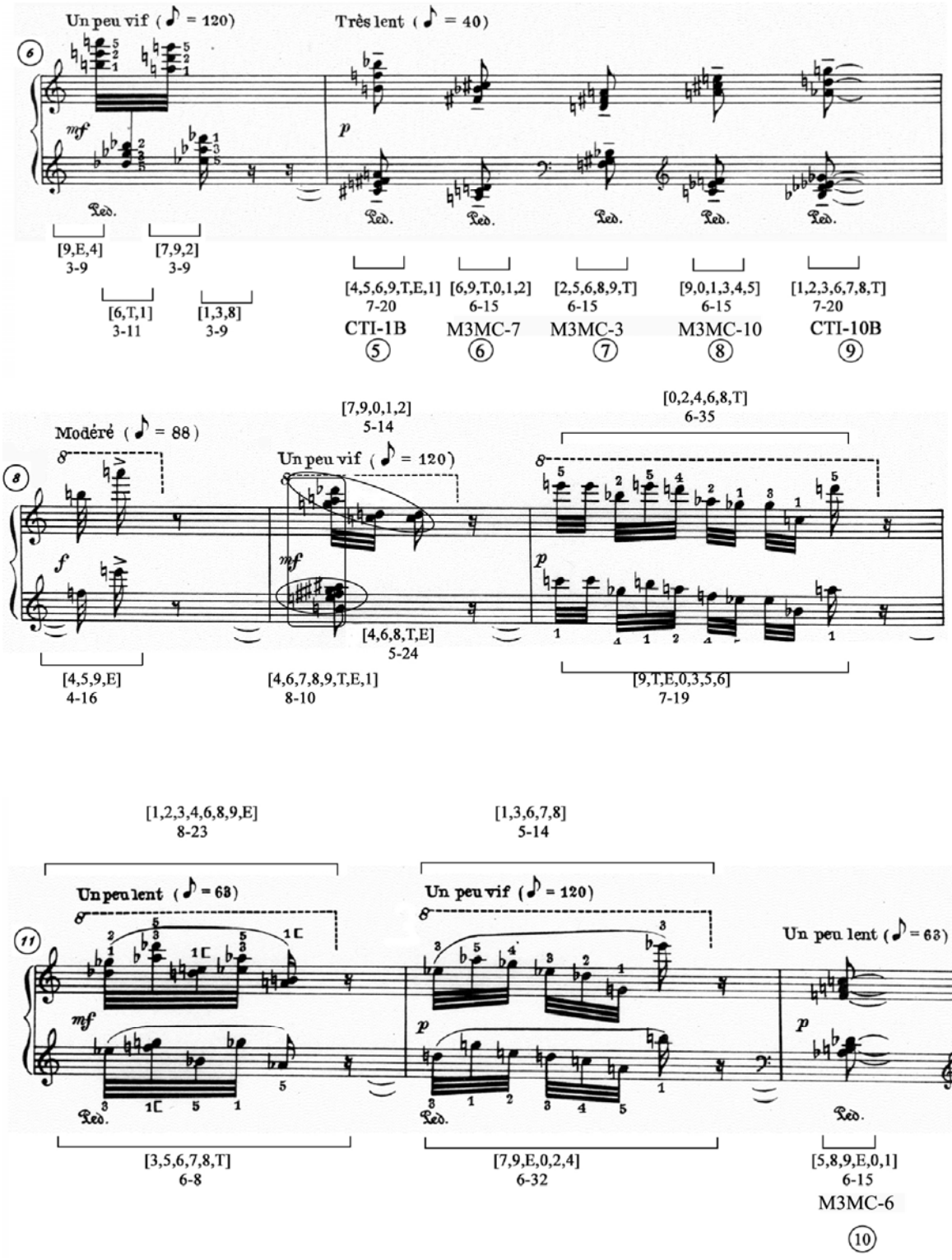


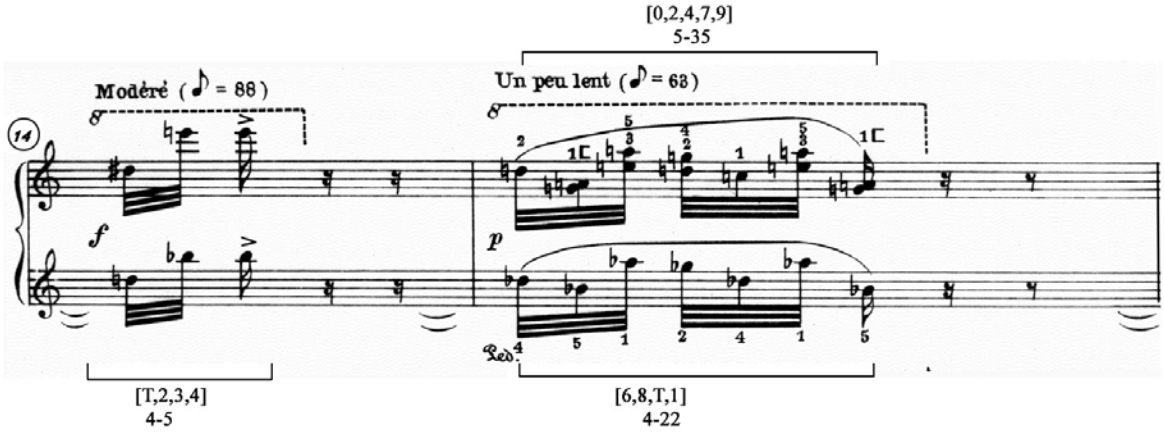
(CTI-4B) with added note E^{b}

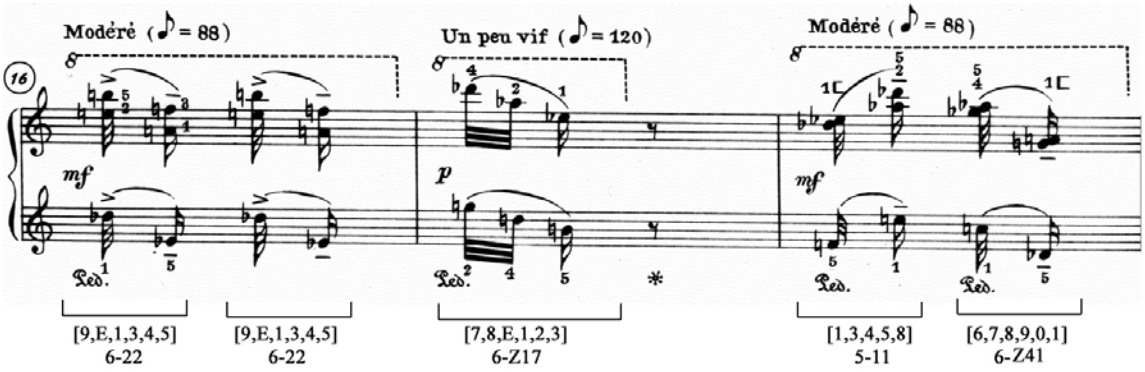
V. LE ROUGE GORGE

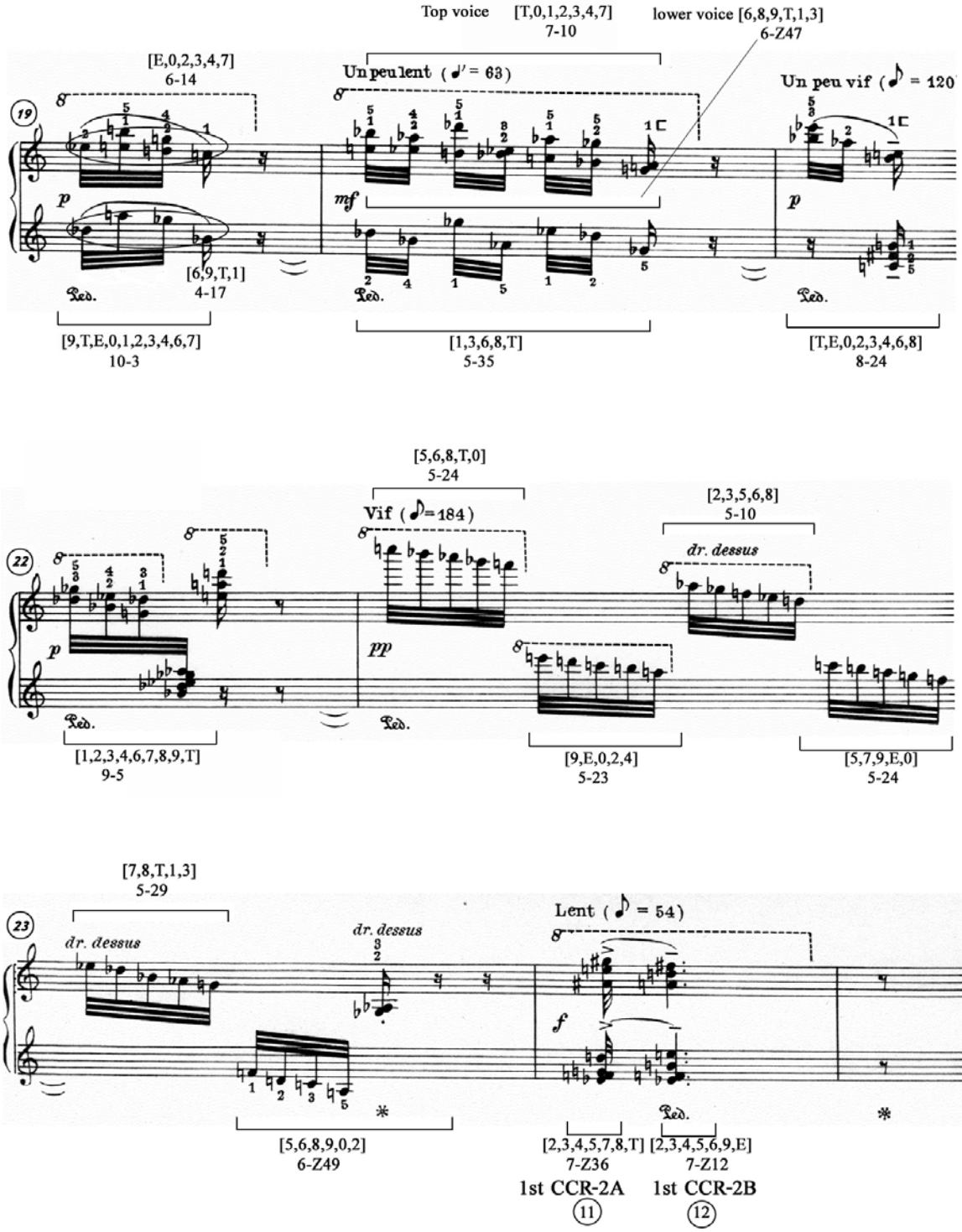


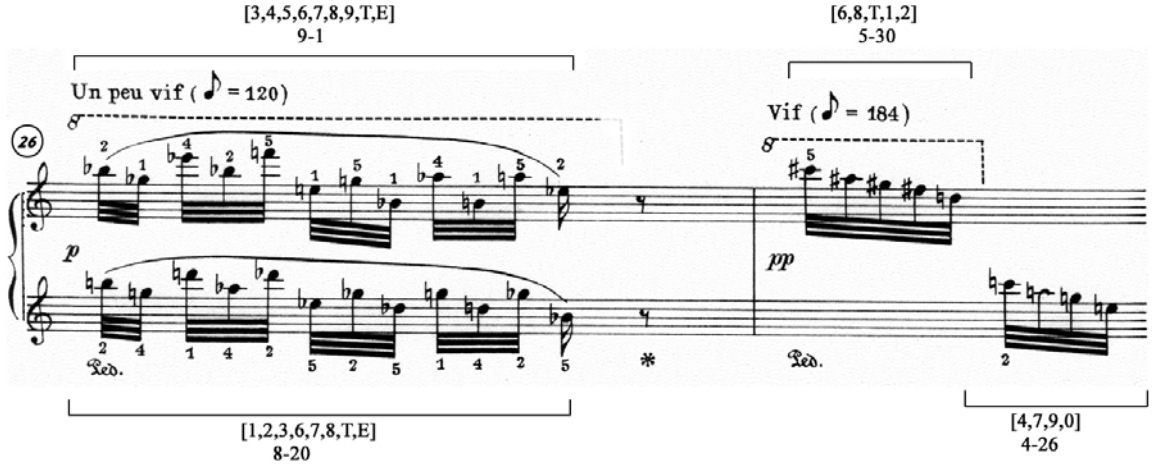


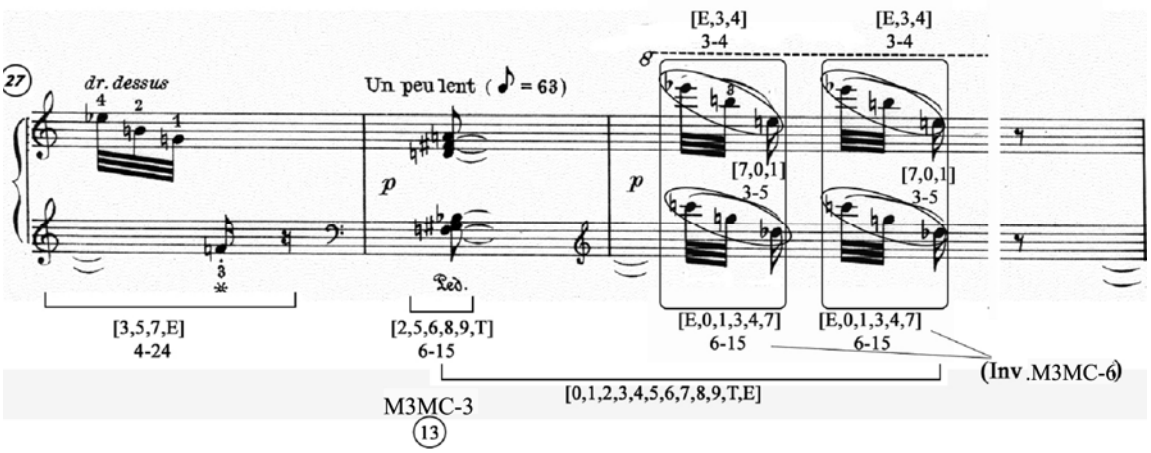

Un peu vif (= 120)
Très lent (= 40)
6
mf
p
Ped.
[9,E,4]
3-9
[7,9,2]
3-9
[6,T,1]
3-11
[1,3,8]
3-9
[4,5,6,9,T,E,1]
7-20
CTI-1B
5
[6,9,T,0,1,2]
6-15
M3MC-7
6
[2,5,6,8,9,T]
6-15
M3MC-3
7
[9,0,1,3,4,5]
6-15
M3MC-10
8
[1,2,3,6,7,8,T]
7-20
CTI-10B
9
Modéré (= 88)
8
f
[7,9,0,1,2]
5-14
Un peu vif (= 120)
mf
[4,6,8,T,E]
5-24
[0,2,4,6,8,T]
6-35
p
[4,5,9,E]
4-16
[4,6,7,8,9,T,E,1]
8-10
[9,T,E,0,3,5,6]
7-19
[1,2,3,4,6,8,9,E]
8-23
[1,3,6,7,8]
5-14
Un peu lent (= 63)
11
Un peu vif (= 120)
Un peu lent (= 63)
mf
p
Ped.
[3,5,6,7,8,T]
6-8
[7,9,E,0,2,4]
6-32
[5,8,9,E,0,1]
6-15
M3MC-6
10

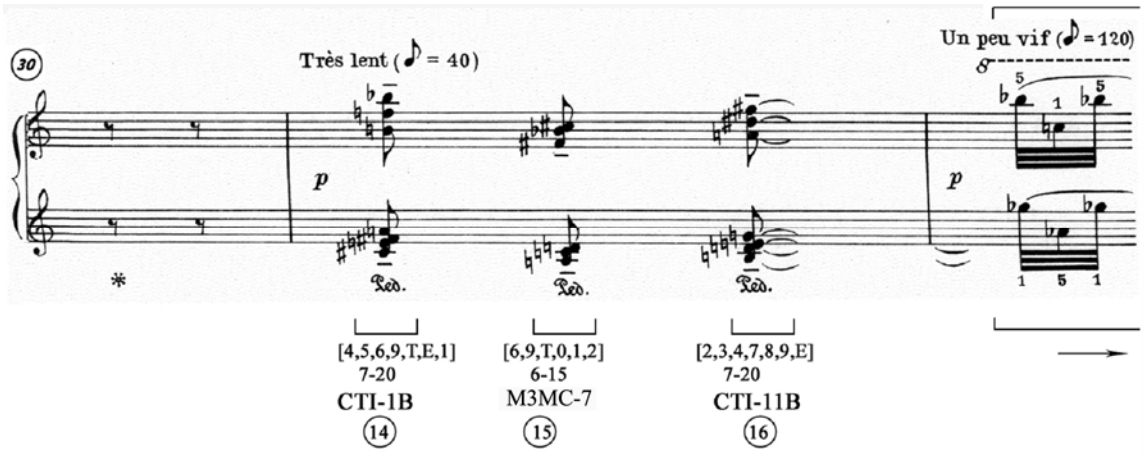

[0,2,4,7,9]
5-35
Modéré (♪ = 88)
Un peu lent (♪ = 63)
14
f
p
Ped.
[T,2,3,4]
4-5
[6,8,T,1]
4-22

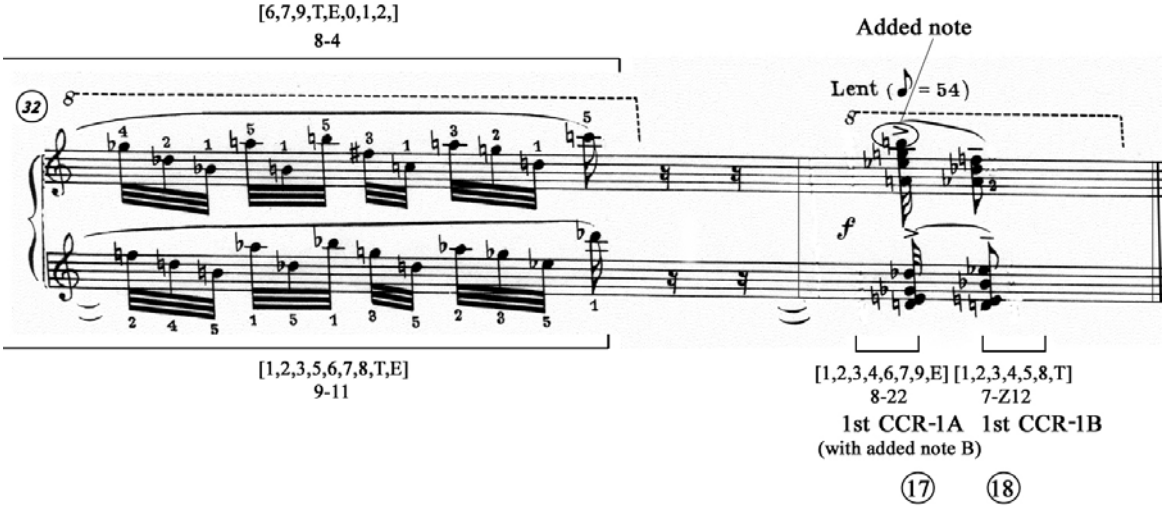

Modéré (♪ = 88)
Un peu vif (♪ = 120)
Modéré (♪ = 88)
16
mf
p
mf
Ped.
[9,E,1,3,4,5]
6-22
[9,E,1,3,4,5]
6-22
[7,8,E,1,2,3]
6-Z17
[1,3,4,5,8]
5-11
[6,7,8,9,0,1]
6-Z41

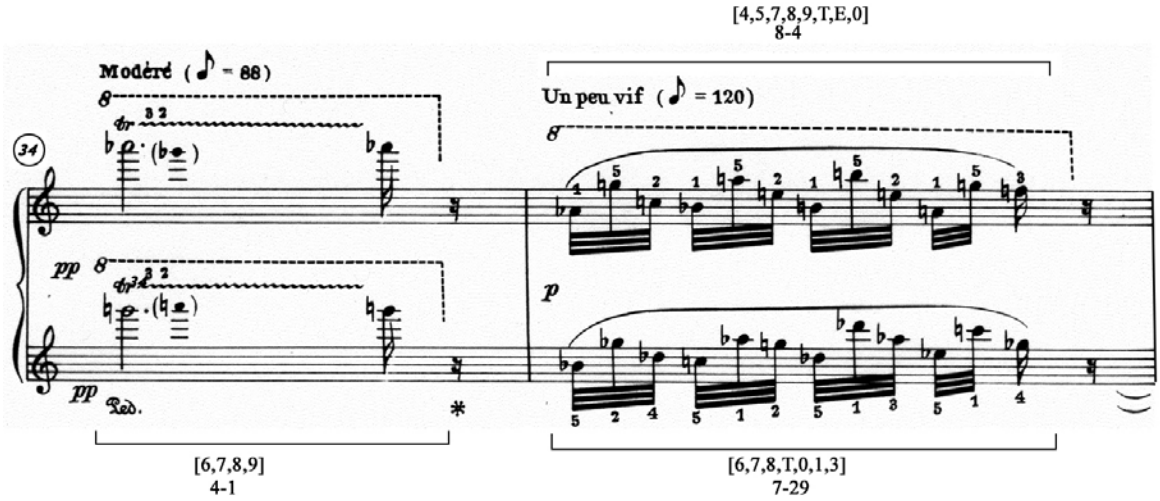

Top voice [T,0,1,2,3,4,7]
7-10
lower voice [6,8,9,T,1,3]
6-Z47
[E,0,2,3,4,7]
6-14
Un peu lent (♩ = 63)
Un peu vif (♪ = 120
19
p
mf
p
Ped.
[6,9,T,1]
4-17
[9,T,E,0,1,2,3,4,6,7]
10-3
[1,3,6,8,T]
5-35
[T,E,0,2,3,4,6,8]
8-24
[5,6,8,T,0]
5-24
Vif (♪ = 184)
[2,3,5,6,8]
5-10
22
dr. dessus
p
pp
[1,2,3,4,6,7,8,9,T]
9-5
[9,E,0,2,4]
5-23
[5,7,9,E,0]
5-24
[7,8,T,1,3]
5-29
23
dr. dessus
dr. dessus
Lent (♪ = 54)
f
[5,6,8,9,0,2]
6-Z49
[2,3,4,5,7,8,T]
7-Z36
[2,3,4,5,6,9,E]
7-Z12
1st CCR-2A
11
1st CCR-2B
12

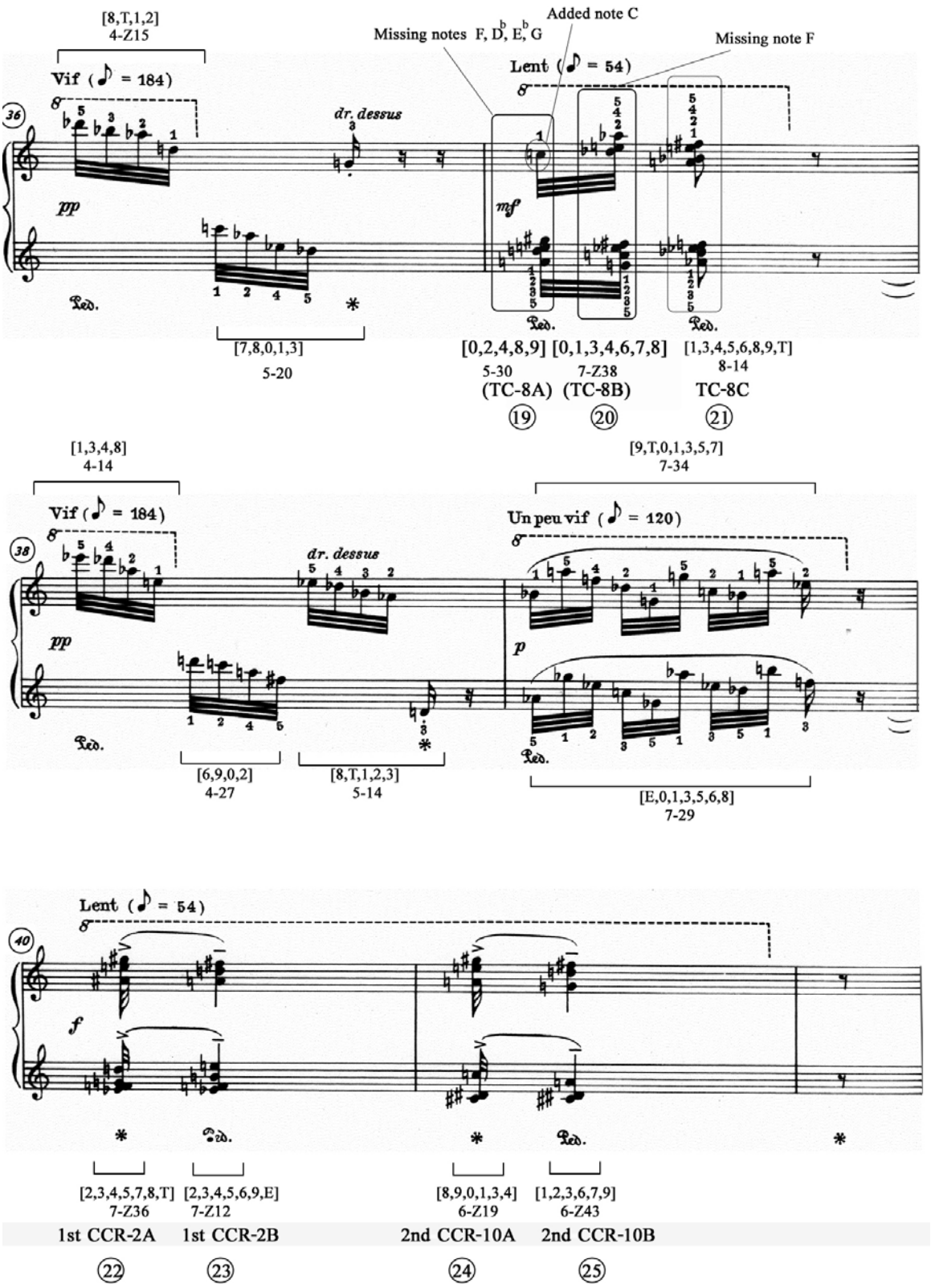

[3,4,5,6,7,8,9,T,E]
9-1
[6,8,T,1,2]
5-30
Un peu vif (= 120)
Vif (= 184)
26
p
pp
Ped.
Ped.
*
[1,2,3,6,7,8,T,E]
8-20
[4,7,9,0]
4-26

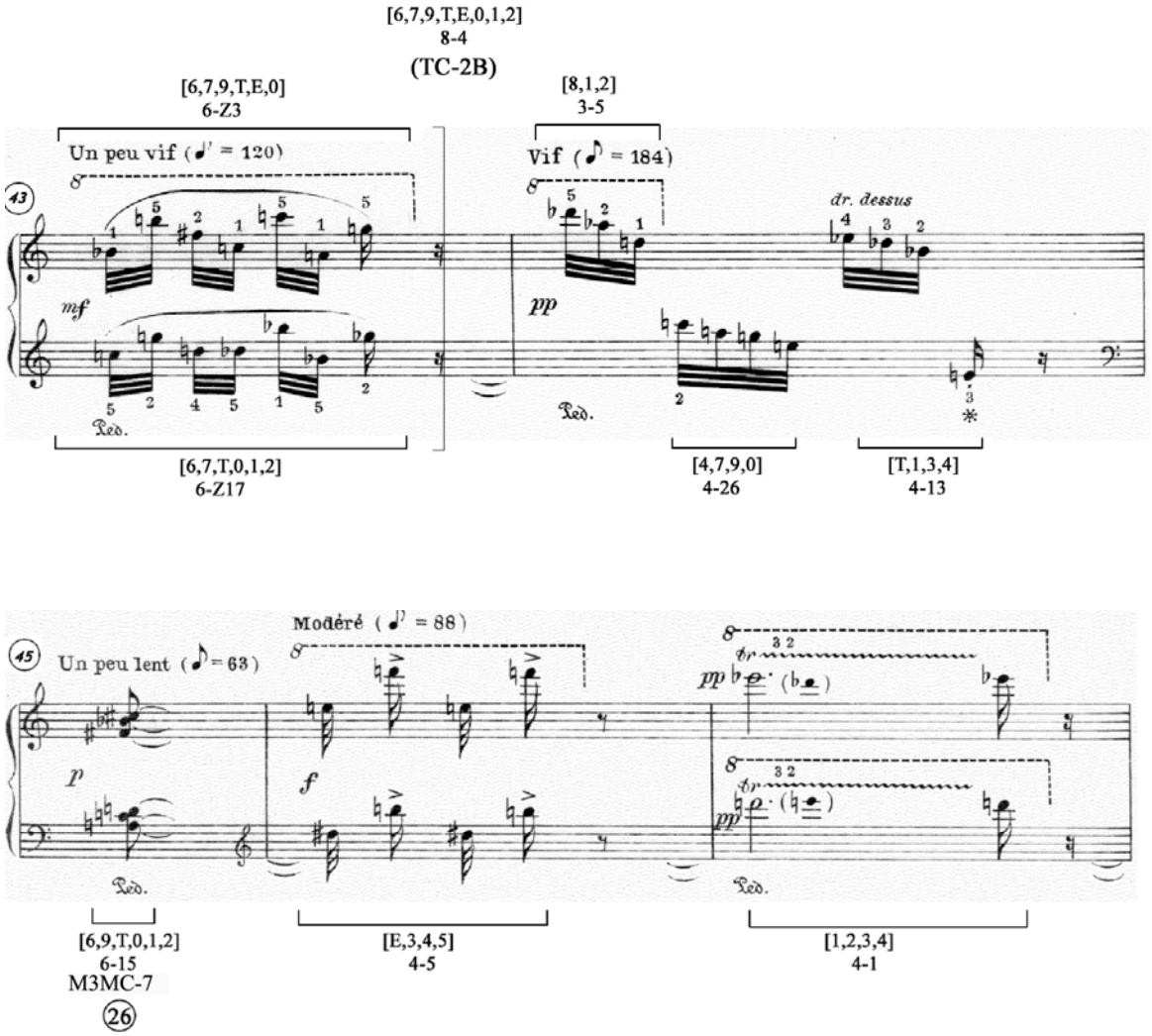

[E,3,4]
3-4
[E,3,4]
3-4
27
dr. dessus
Un peu lent (= 63)
p
p
[7,0,1]
3-5
[7,0,1]
3-5
Ped.
[3,5,7,E]
4-24
[2,5,6,8,9,T]
6-15
[E,0,1,3,4,7]
6-15
[E,0,1,3,4,7]
6-15
(Inv.M3MC-6)
[0,1,2,3,4,5,6,7,8,9,T,E]
M3MC-3
13

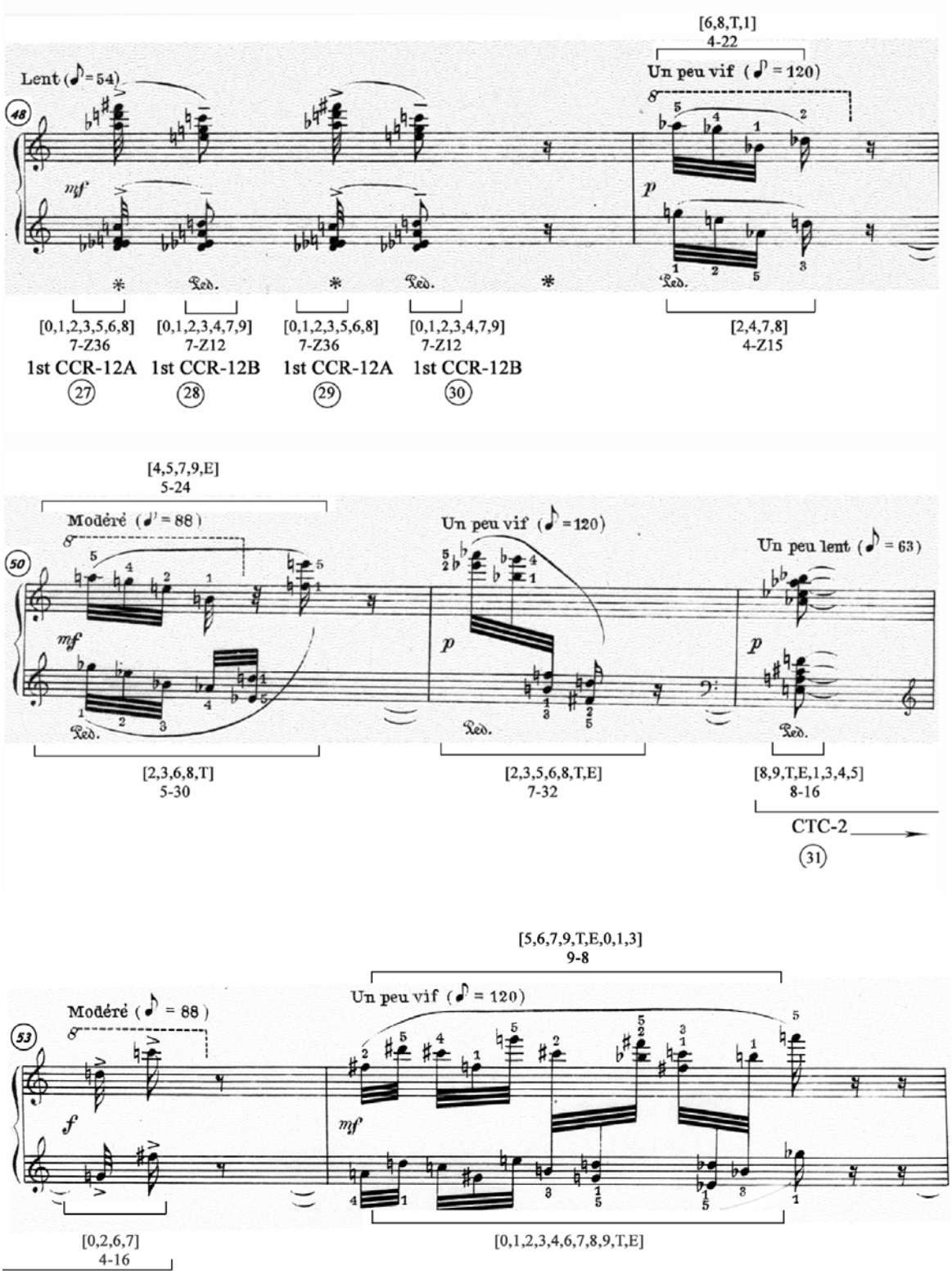

30
Très lent (♪ = 40)
Un peu vif (♪ = 120)
p
p
Ped.
Ped.
Ped.
[4,5,6,9,T,E,1]
7-20
CTI-1B
14
[6,9,T,0,1,2]
6-15
M3MC-7
15
[2,3,4,7,8,9,E]
7-20
CTI-11B
16

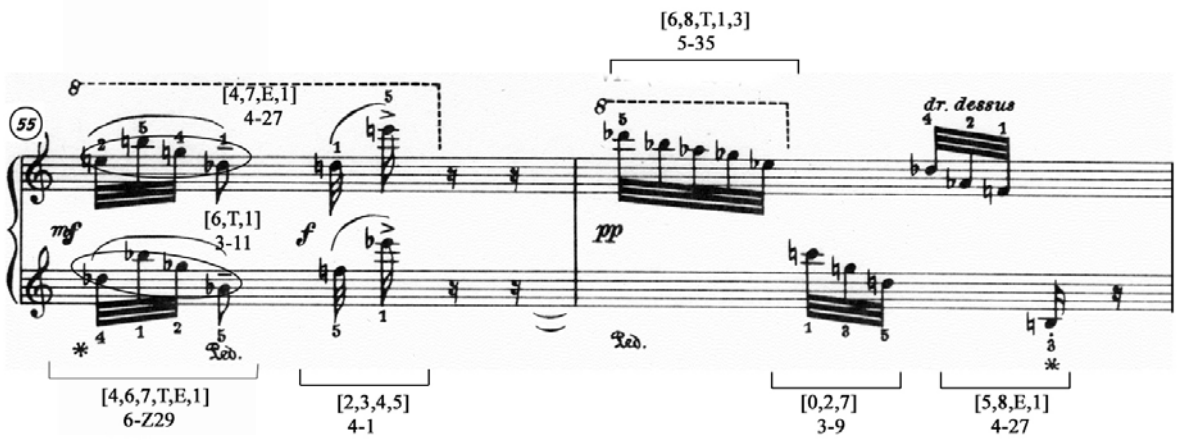

[6,7,9,T,E,0,1,2,]
8-4
Added note
32
Lent (♪ = 54)
f
[1,2,3,5,6,7,8,T,E]
9-11
[1,2,3,4,6,7,9,E]
8-22
[1,2,3,4,5,8,T]
7-Z12
1st CCR-1A
(with added note B)
1st CCR-1B
17
18

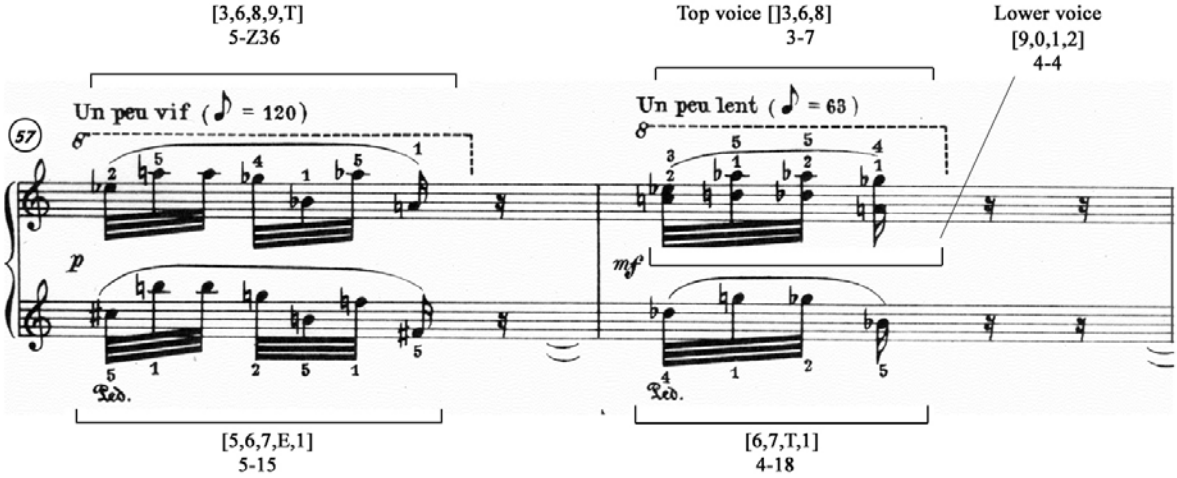

[4,5,7,8,9,T,E,0]
8-4
Modéré (♪ = 88)
Un peu vif (♪ = 120)
34
pp
pp
p
Ped.
[6,7,8,9]
4-1
[6,7,8,T,0,1,3]
7-29

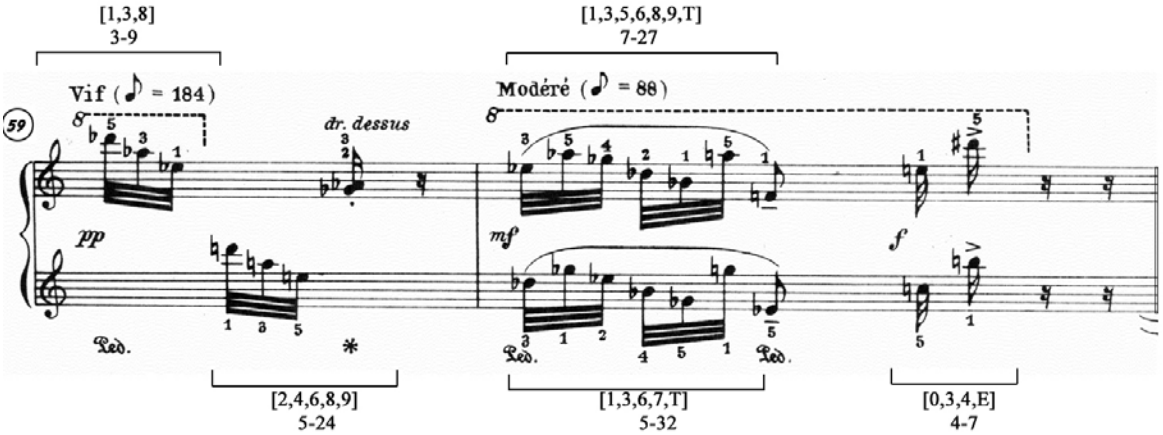

[8,T,1,2]
4-Z15
Vif (♪ = 184)
36
dr. dessus
pp
Ped.
[7,8,0,1,3]
5-20
Missing notes F, D♭, E♭, G
Added note C
Missing note F
Lent (♪ = 54)
mf
Ped.
Ped.
[0,2,4,8,9]
5-30
(TC-8A)
19
[0,1,3,4,6,7,8]
7-Z38
(TC-8B)
20
[1,3,4,5,6,8,9,T]
8-14
TC-8C
21
[1,3,4,8]
4-14
Vif (♪ = 184)
38
dr. dessus
pp
Ped.
[6,9,0,2]
4-27
[8,T,1,2,3]
5-14
[9,T,0,1,3,5,7]
7-34
Un peu vif (♪ = 120)
p
Ped.
[E,0,1,3,5,6,8]
7-29
Lent (♪ = 54)
40
f
Ped.
Ped.
[2,3,4,5,7,8,T]
7-Z36
1st CCR-2A
22
[2,3,4,5,6,9,E]
7-Z12
1st CCR-2B
23
[8,9,0,1,3,4]
6-Z19
2nd CCR-10A
24
[1,2,3,6,7,9]
6-Z43
2nd CCR-10B
25

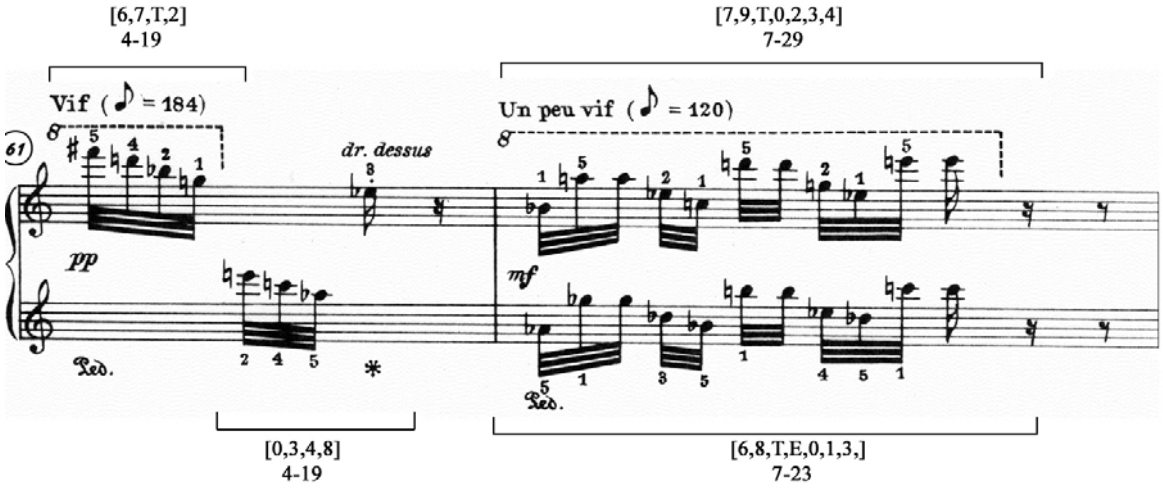

[6,7,9,T,E,0,1,2]
8-4
(TC-2B)
[6,7,9,T,E,0]
6-Z3
[8,1,2]
3-5
Un peu vif (♩. = 120)
Vif (♪ = 184)
43
mf
pp
dr. dessus
Ped.
[6,7,T,0,1,2]
6-Z17
[4,7,9,0]
4-26
[T,1,3,4]
4-13
Modéré (♩. = 88)
45
Un peu lent (♪ = 63)
p
f
pp
tr
Ped.
[6,9,T,0,1,2]
6-15
M3MC-7
[E,3,4,5]
4-5
[1,2,3,4]
4-1
26

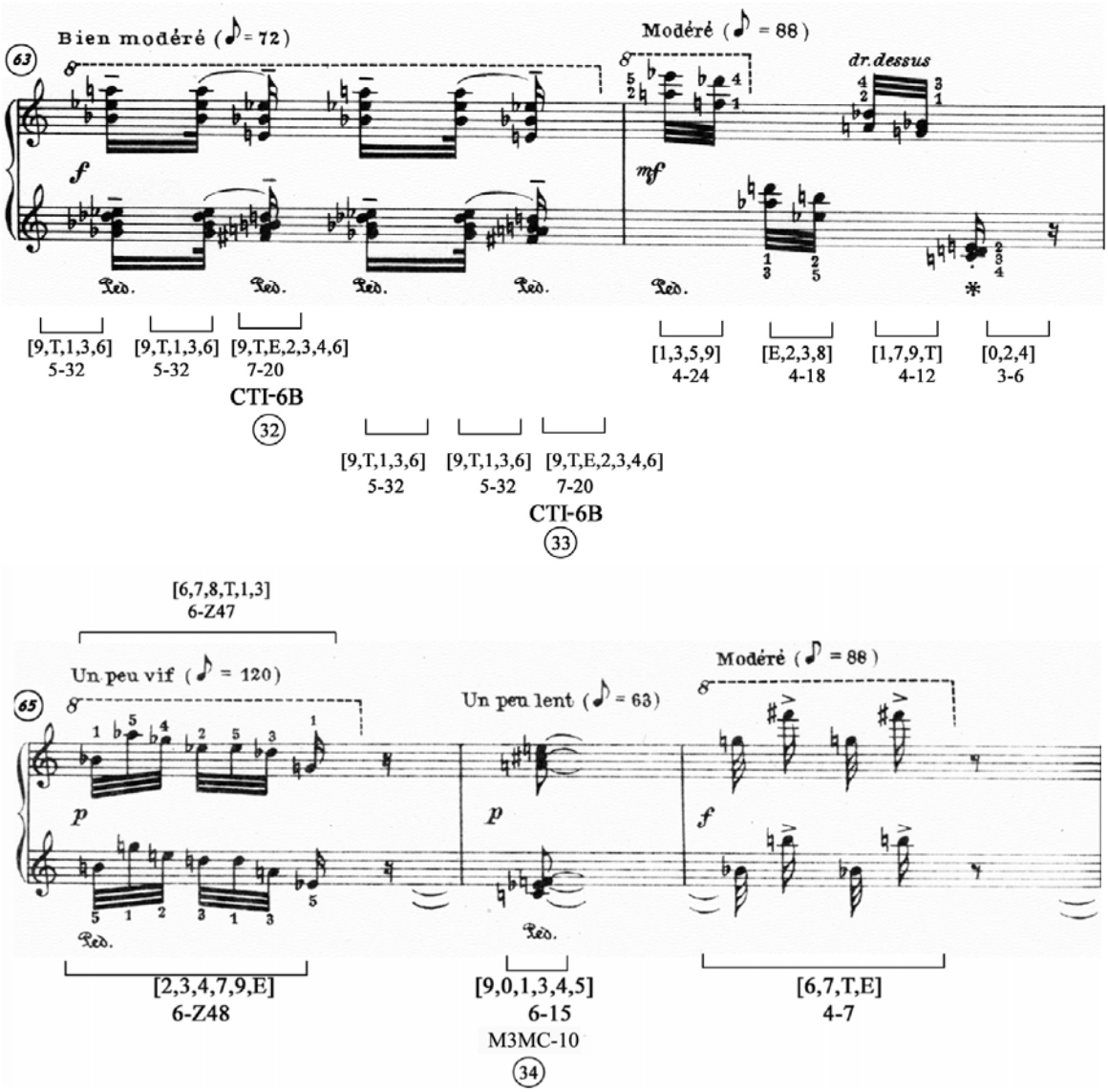

[6,8,T,1]
4-22
Lent (♪ = 54)
Un peu vif (♪ = 120)
48
mf
p
Ped.
[0,1,2,3,5,6,8]
7-Z36
1st CCR-12A
27
[0,1,2,3,4,7,9]
7-Z12
1st CCR-12B
28
[0,1,2,3,5,6,8]
7-Z36
1st CCR-12A
29
[0,1,2,3,4,7,9]
7-Z12
1st CCR-12B
30
[2,4,7,8]
4-Z15
[4,5,7,9,E]
5-24
Modéré (♪ = 88)
Un peu vif (♪ = 120)
Un peu lent (♪ = 63)
50
mf
p
p
Ped.
Ped.
Ped.
[2,3,6,8,T]
5-30
[2,3,5,6,8,T,E]
7-32
[8,9,T,E,1,3,4,5]
8-16
CTC-2
31
[5,6,7,9,T,E,0,1,3]
9-8
Modéré (♪ = 88)
Un peu vif (♪ = 120)
53
f
mf
[0,2,6,7]
4-16
[0,1,2,3,4,6,7,8,9,T,E]

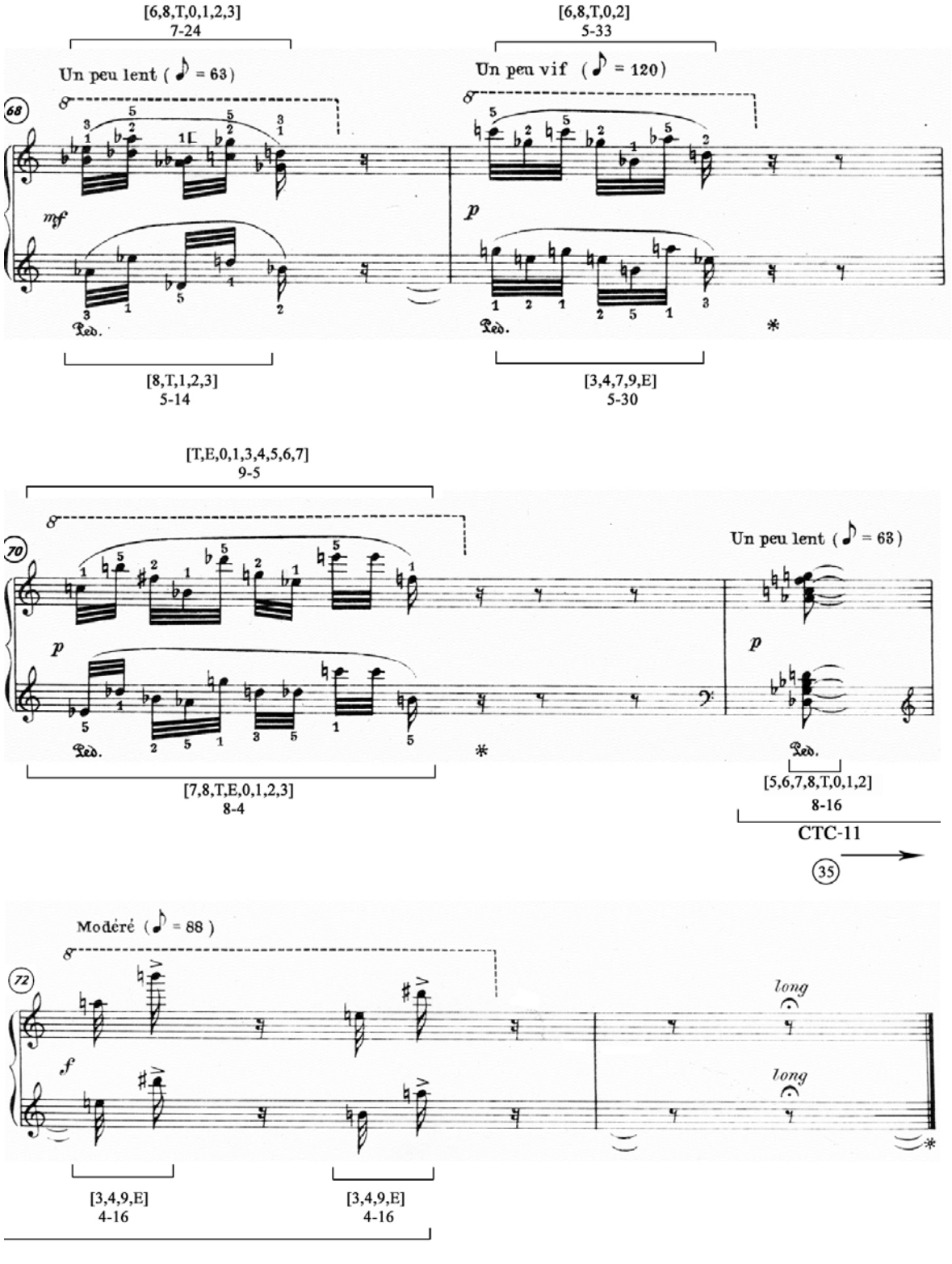

[6,8,T,1,3]
5-35
[4,7,E,1]
4-27
55
dr. dessus
mf
[6,T,1]
3-11
f
pp
Ped.
[4,6,7,T,E,1]
6-Z29
[2,3,4,5]
4-1
[0,2,7]
3-9
[5,8,E,1]
4-27


[3,6,8,9,T]
5-Z36
Top voice []3,6,8]
3-7
Lower voice
[9,0,1,2]
4-4
Un peu vif (♪ = 120)
Un peu lent (♪ = 63)
57
p
mf
Ped.
[5,6,7,E,1]
5-15
[6,7,T,1]
4-18

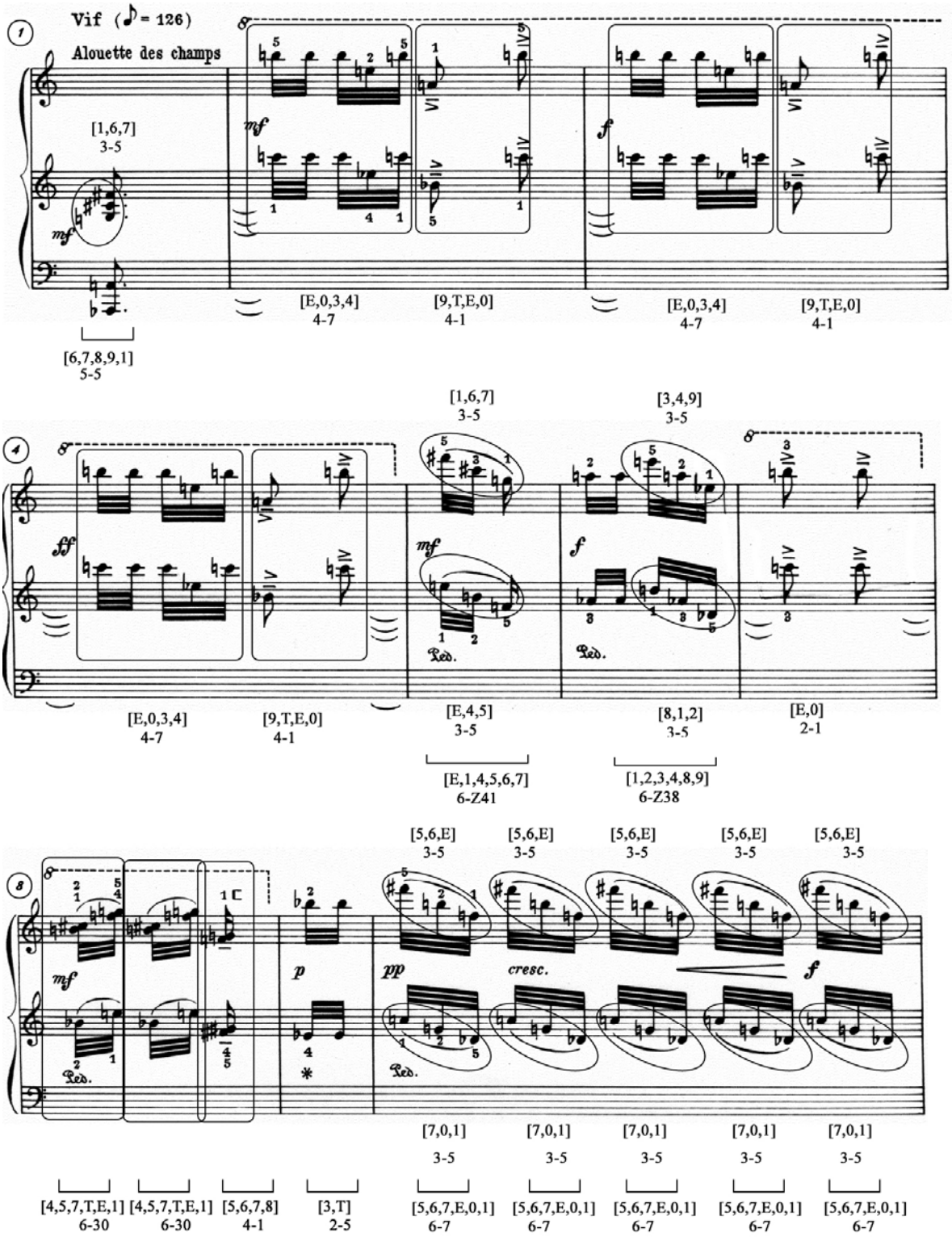

[1,3,8]
3-9
[1,3,5,6,8,9,T]
7-27
Vif (♪ = 184)
Modéré (♪ = 88)
59
dr. dessus
pp
mf
f
Ped.
[2,4,6,8,9]
5-24
[1,3,6,7,T]
5-32
[0,3,4,E]
4-7

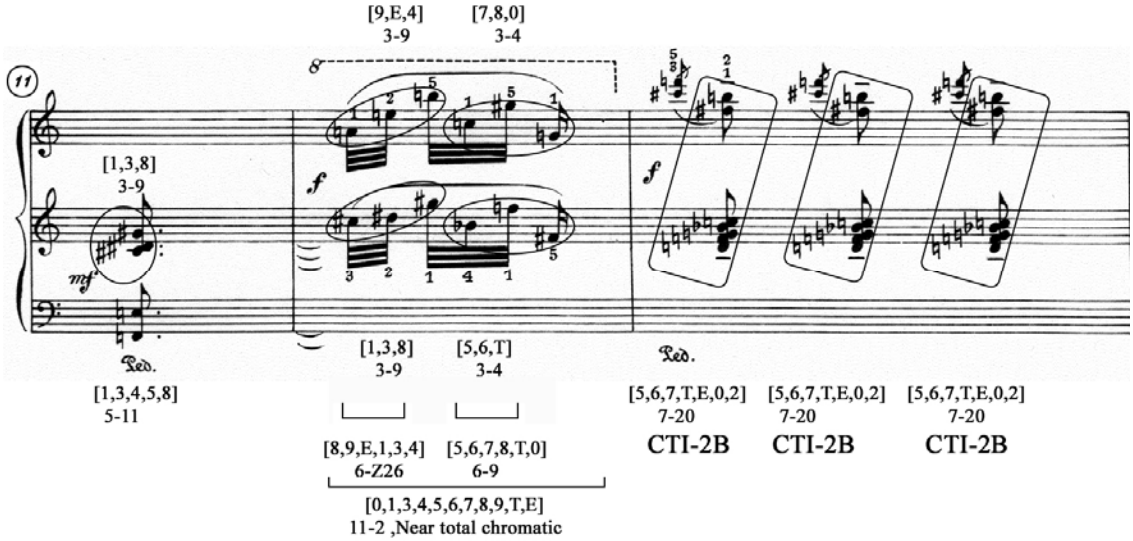

[6,7,T,2]
4-19
[7,9,T,0,2,3,4]
7-29
Vif (♪ = 184)
Un peu vif (♪ = 120)
61
dr. dessus
pp
mf
Ped.
Ped.
[0,3,4,8]
4-19
[6,8,T,E,0,1,3,]
7-23

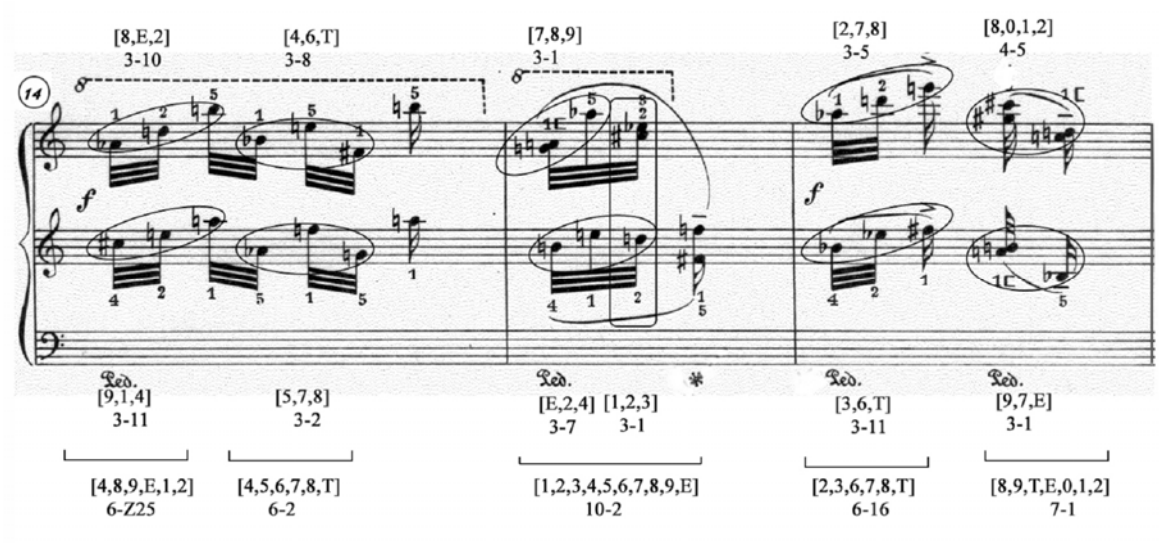

Bien modéré (♪ = 72)
63
Modéré (♪ = 88)
dr. dessus
f
mf
Ped.
[9,T,1,3,6] 5-32
[9,T,1,3,6] 5-32
[9,T,E,2,3,4,6] 7-20
CTI-6B
32
[1,3,5,9] 4-24
[E,2,3,8] 4-18
[1,7,9,T] 4-12
[0,2,4] 3-6
[9,T,1,3,6] 5-32
[9,T,1,3,6] 5-32
[9,T,E,2,3,4,6] 7-20
CTI-6B
33
[6,7,8,T,1,3] 6-Z47
Un peu vif (♪ = 120)
65
Un peu lent (♪ = 63)
Modéré (♪ = 88)
p
f
[2,3,4,7,9,E] 6-Z48
[9,0,1,3,4,5] 6-15 M3MC-10
[6,7,T,E] 4-7
34

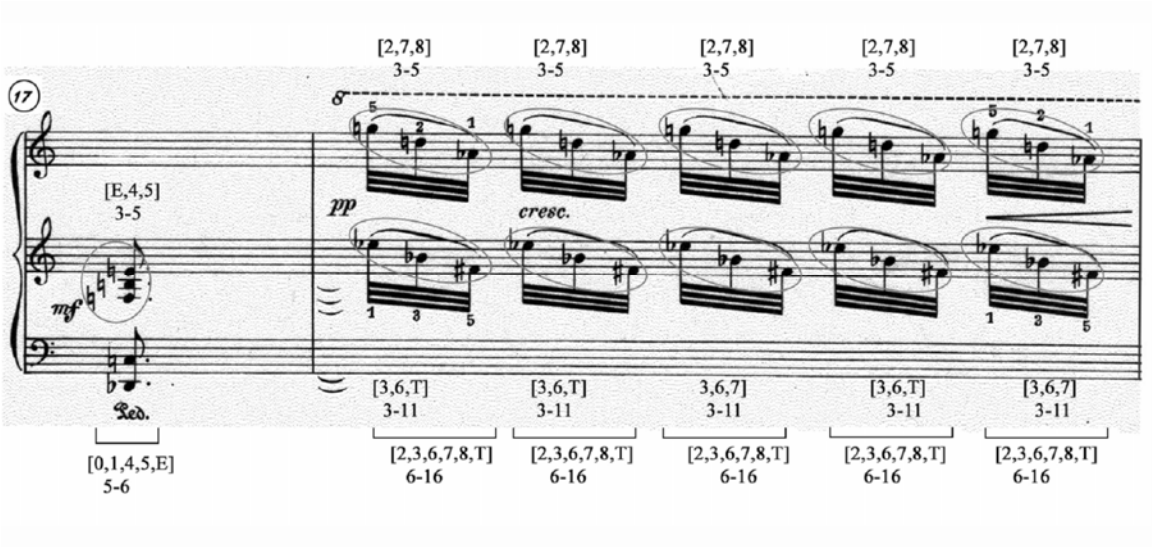

[6,8,T,0,1,2,3]
7-24
[6,8,T,0,2]
5-33
Un peu lent (= 63)
Un peu vif (= 120)
68
mf
p
Ped.
Ped.
*
[8,T,1,2,3]
5-14
[3,4,7,9,E]
5-30
[T,E,0,1,3,4,5,6,7]
9-5
70
Un peu lent (= 63)
p
p
Ped.
Ped.
*
[7,8,T,E,0,1,2,3]
8-4
[5,6,7,8,T,0,1,2]
8-16
CTC-11
35
Modéré (= 88)
72
long
long
f
*
[3,4,9,E]
4-16
[3,4,9,E]
4-16

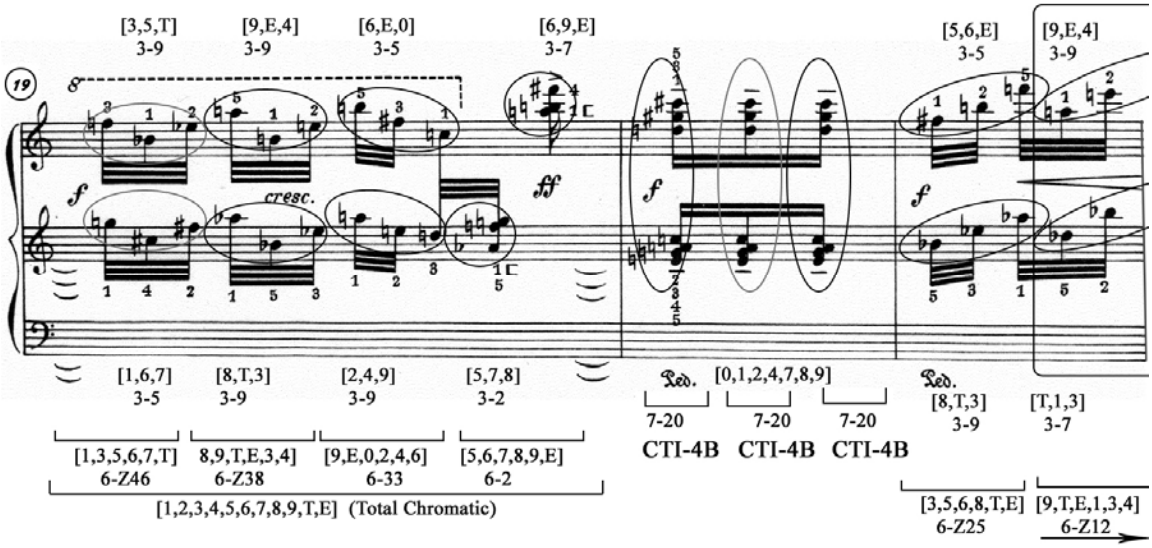
VI. L'ALOUETTE DES CHAMPS

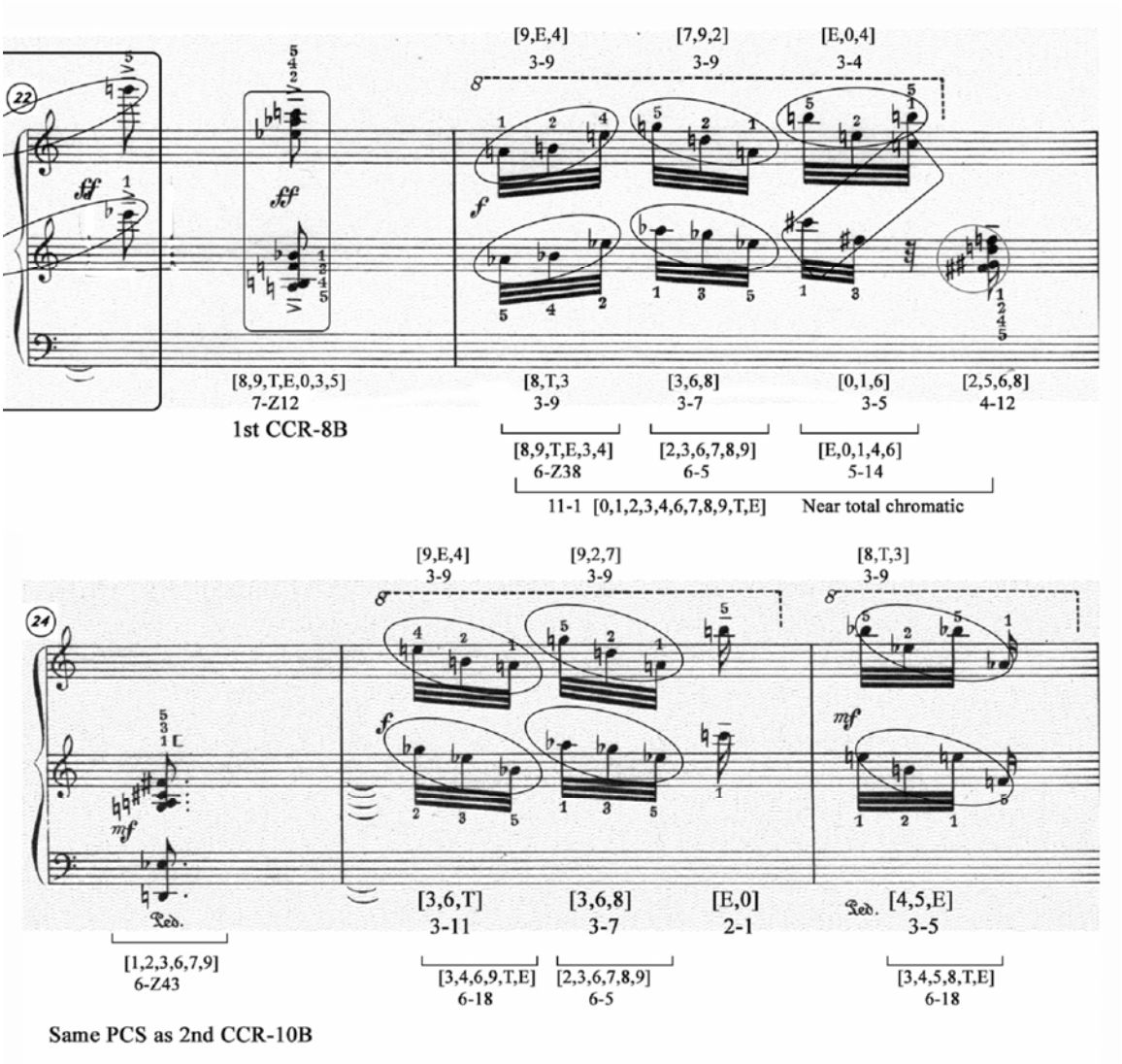


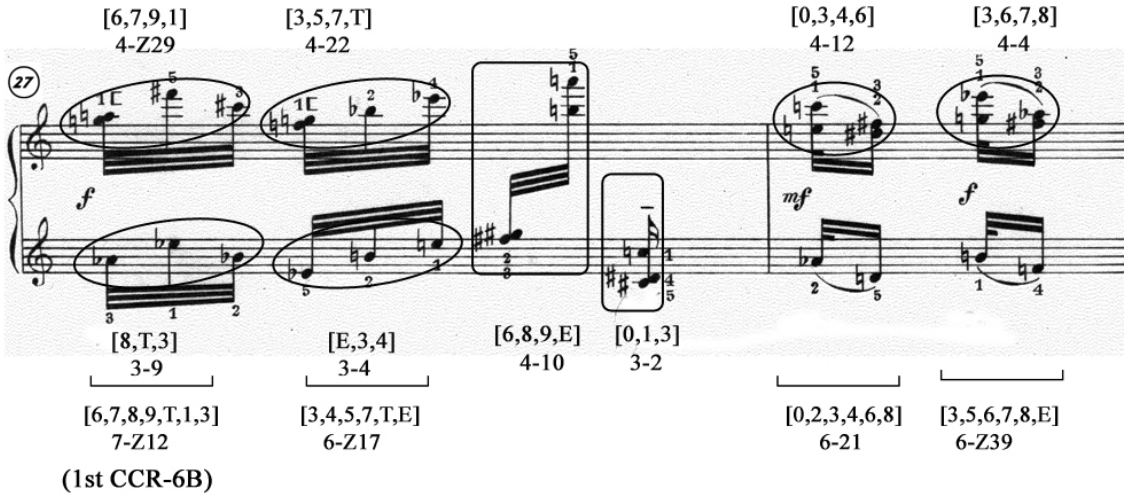

[9,E,4]
3-9
[7,8,0]
3-4
11
[1,3,8]
3-9
mf
f
f
Ped.
[1,3,8]
3-9
[5,6,T]
3-4
Ped.
[1,3,4,5,8]
5-11
[5,6,7,T,E,0,2]
7-20
[5,6,7,T,E,0,2]
7-20
[5,6,7,T,E,0,2]
7-20
CTI-2B
CTI-2B
CTI-2B
[8,9,E,1,3,4]
6-Z26
[5,6,7,8,T,0]
6-9
[0,1,3,4,5,6,7,8,9,T,E]
11-2 ,Near total chromatic


[8,E,2]
3-10
[4,6,T]
3-8
[7,8,9]
3-1
[2,7,8]
3-5
[8,0,1,2]
4-5
14
f
f
f
Ped.
Ped.
Ped.
Ped.
[9,1,4]
3-11
[5,7,8]
3-2
[E,2,4]
3-7
[1,2,3]
3-1
[3,6,T]
3-11
[9,7,E]
3-1
[4,8,9,E,1,2]
6-Z25
[4,5,6,7,8,T]
6-2
[1,2,3,4,5,6,7,8,9,E]
10-2
[2,3,6,7,8,T]
6-16
[8,9,T,E,0,1,2]
7-1

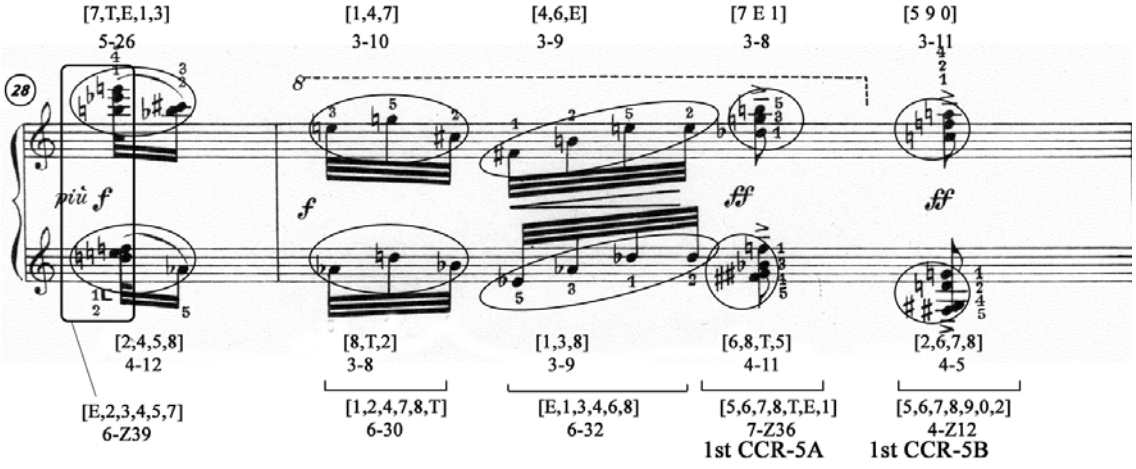

17
[E,4,5]
3-5
[0,1,4,5,E]
5-6
[2,7,8]
3-5
[3,6,T]
3-11
[2,3,6,7,8,T]
6-16
3,6,7]
3-11
[3,6,7]
3-11
pp
cresc.
mf
Red.


19
[3,5,T]
3-9
[9,E,4]
3-9
[6,E,0]
3-5
[6,9,E]
3-7
[5,6,E]
3-5
[9,E,4]
3-9
[1,6,7]
3-5
[8,T,3]
3-9
[2,4,9]
3-9
[5,7,8]
3-2
[1,3,5,6,7,T]
6-Z46
8,9,T,E,3,4]
6-Z38
[9,E,0,2,4,6]
6-33
[5,6,7,8,9,E]
6-2
[1,2,3,4,5,6,7,8,9,T,E] (Total Chromatic)
Red.
[0,1,2,4,7,8,9]
7-20
7-20
7-20
CTI-4B
CTI-4B
CTI-4B
Red.
[8,T,3]
3-9
[T,1,3]
3-7
[3,5,6,8,T,E]
6-Z25
[9,T,E,1,3,4]
6-Z12
cresc.
f
ff

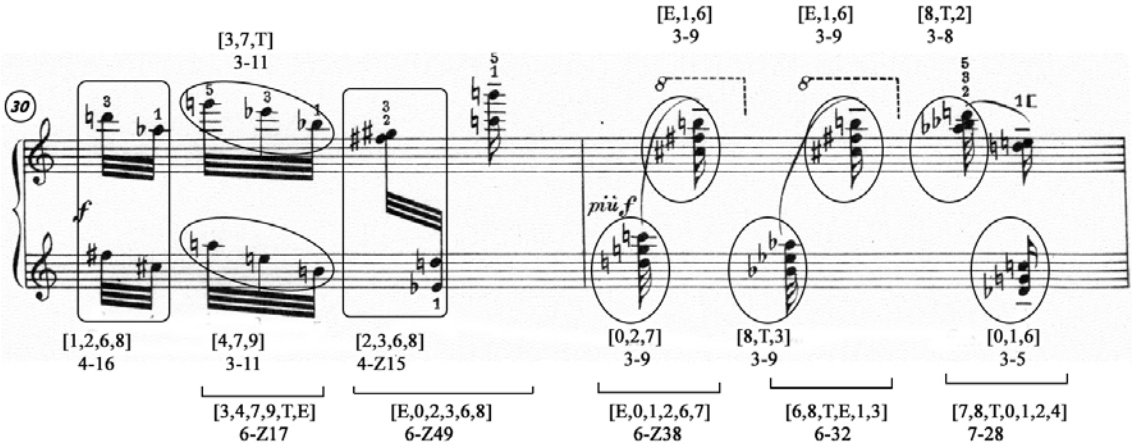

[9,E,4]
3-9
[7,9,2]
3-9
[E,0,4]
3-4
[8,9,T,E,0,3,5]
7-Z12
1st CCR-8B
[8,T,3
3-9
[3,6,8]
3-7
[0,1,6]
3-5
[2,5,6,8]
4-12
[8,9,T,E,3,4]
6-Z38
[2,3,6,7,8,9]
6-5
[E,0,1,4,6]
5-14
11-1 [0,1,2,3,4,6,7,8,9,T,E] Near total chromatic
[9,E,4]
3-9
[9,2,7]
3-9
[8,T,3]
3-9
[3,6,T]
3-11
[3,6,8]
3-7
[E,0]
2-1
[4,5,E]
3-5
[1,2,3,6,7,9]
6-Z43
[3,4,6,9,T,E]
6-18
[2,3,6,7,8,9]
6-5
[3,4,5,8,T,E]
6-18
Same PCS as 2nd CCR-10B

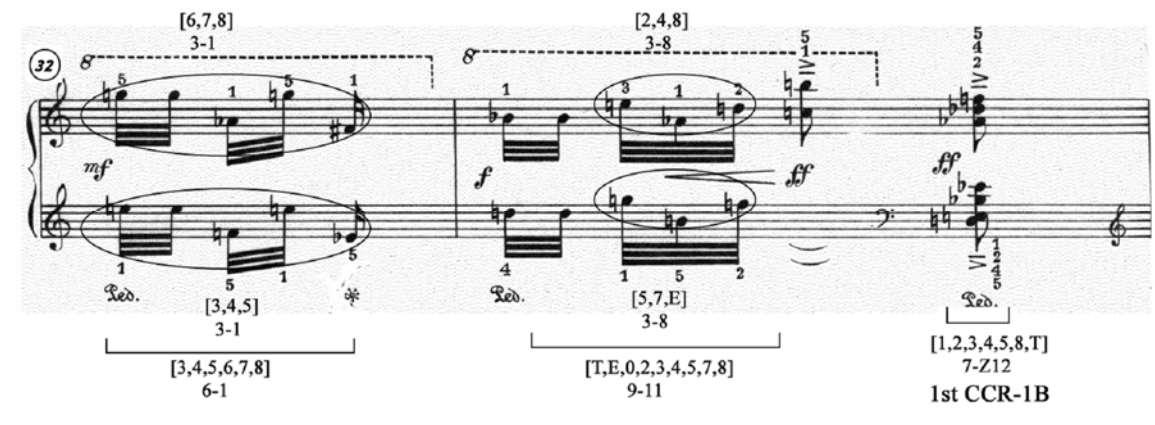


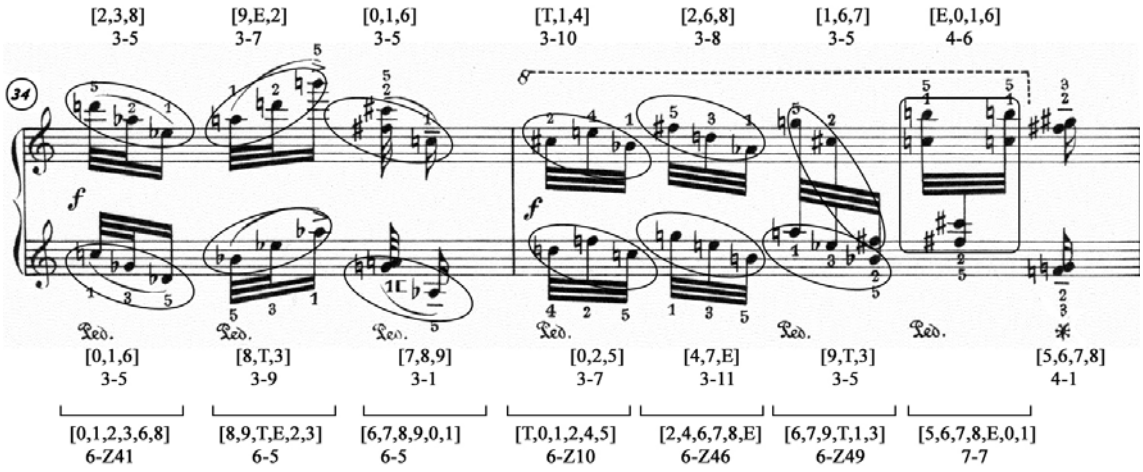
(1st CCR-6B)

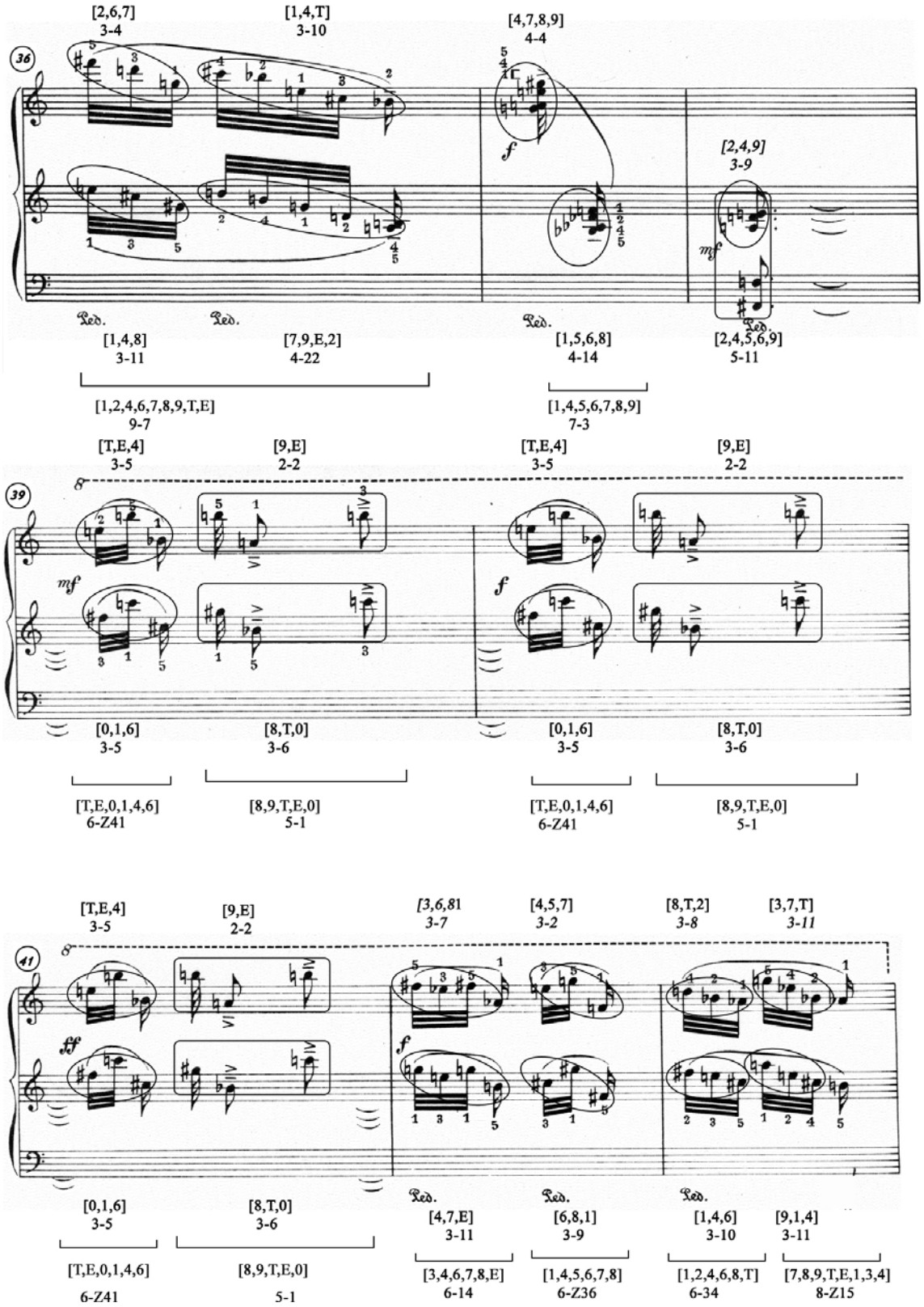


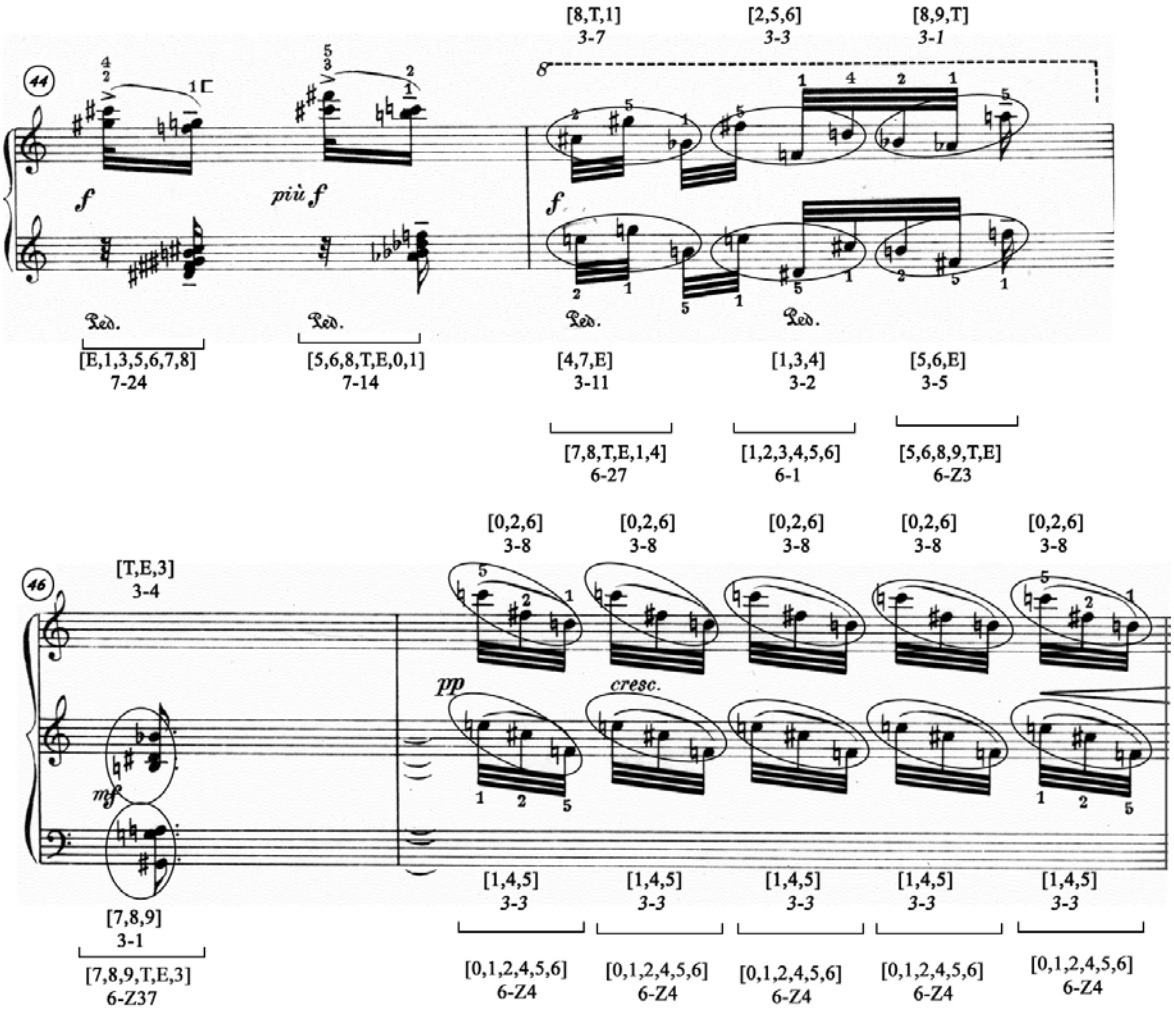
1st CCR-5A 1st CCR-5B

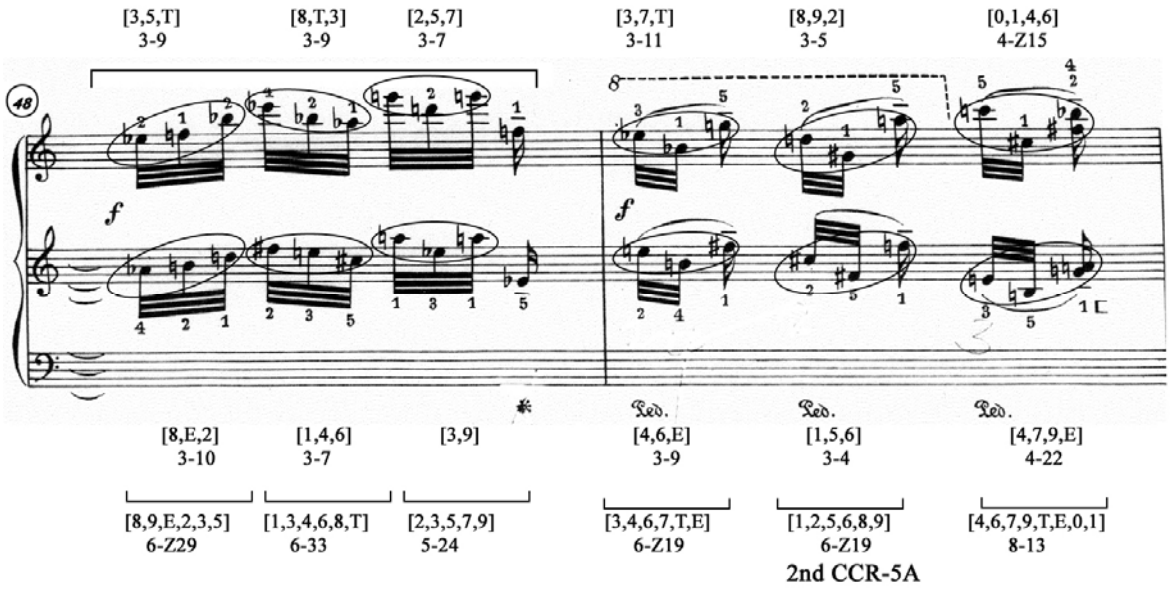


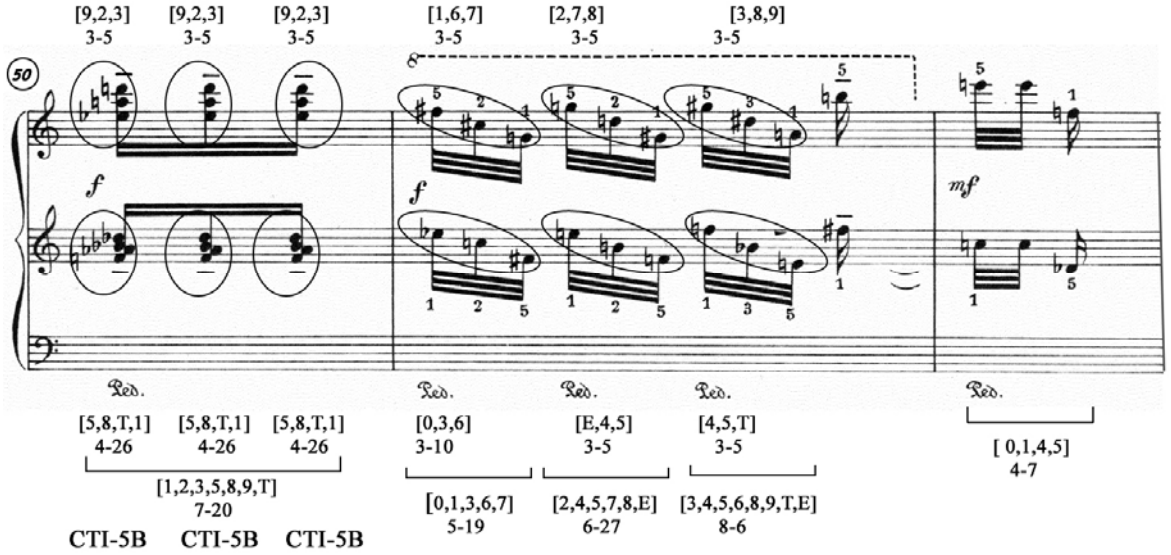

[6,7,8]
3-1
[2,4,8]
3-8
32
mf
f
ff
ff
Ped.
[3,4,5]
3-1
[5,7,E]
3-8
[1,2,3,4,5,8,T]
7-Z12
[3,4,5,6,7,8]
6-1
[T,E,0,2,3,4,5,7,8]
9-11
1st CCR-1B

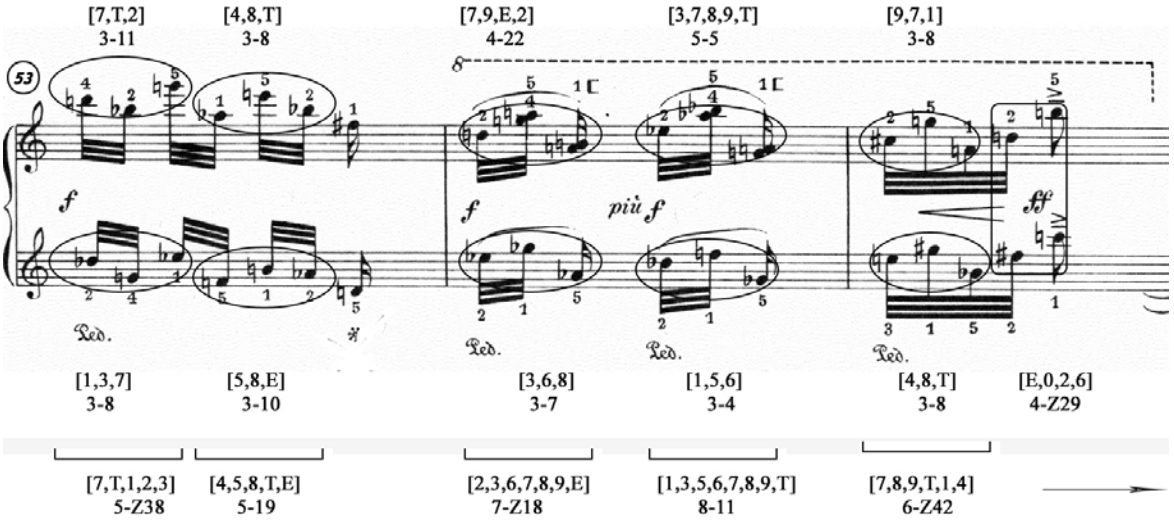

[2,3,8]
3-5
[9,E,2]
3-7
[0,1,6]
3-5
[T,1,4]
3-10
[2,6,8]
3-8
[1,6,7]
3-5
[E,0,1,6]
4-6
34
f
f
Ped.
[0,1,6]
3-5
[8,T,3]
3-9
[7,8,9]
3-1
[0,2,5]
3-7
[4,7,E]
3-11
[9,T,3]
3-5
[5,6,7,8]
4-1
[0,1,2,3,6,8]
6-Z41
[8,9,T,E,2,3]
6-5
[6,7,8,9,0,1]
6-5
[T,0,1,2,4,5]
6-Z10
[2,4,6,7,8,E]
6-Z46
[6,7,9,T,1,3]
6-Z49
[5,6,7,8,E,0,1]
7-7

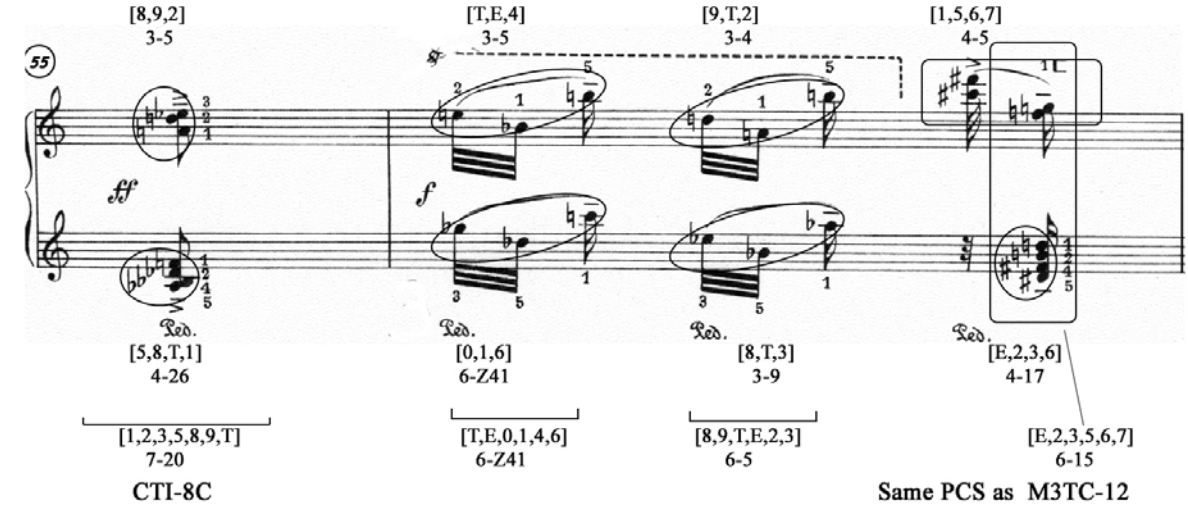

36
[2,6,7]
3-4
[1,4,T]
3-10
[4,7,8,9]
4-4
f
[2,4,9]
3-9
mf
Ped.
Ped.
Ped.
Ped.
[1,4,8]
3-11
[7,9,E,2]
4-22
[1,5,6,8]
4-14
[2,4,5,6,9]
5-11
[1,2,4,6,7,8,9,T,E]
9-7
[1,4,5,6,7,8,9]
7-3
[T,E,4]
3-5
[9,E]
2-2
[T,E,4]
3-5
[9,E]
2-2
39
8
mf
f
[0,1,6]
3-5
[8,T,0]
3-6
[0,1,6]
3-5
[8,T,0]
3-6
[T,E,0,1,4,6]
6-Z41
[8,9,T,E,0]
5-1
[T,E,0,1,4,6]
6-Z41
[8,9,T,E,0]
5-1
[T,E,4]
3-5
[9,E]
2-2
[3,6,8]
3-7
[4,5,7]
3-2
[8,T,2]
3-8
[3,7,T]
3-11
41
8
ff
f
Ped.
Ped.
Ped.
[0,1,6]
3-5
[8,T,0]
3-6
[4,7,E]
3-11
[6,8,1]
3-9
[1,4,6]
3-10
[9,1,4]
3-11
[T,E,0,1,4,6]
6-Z41
[8,9,T,E,0]
5-1
[3,4,6,7,8,E]
6-14
[1,4,5,6,7,8]
6-Z36
[1,2,4,6,8,T]
6-34
[7,8,9,T,E,1,3,4]
8-Z15

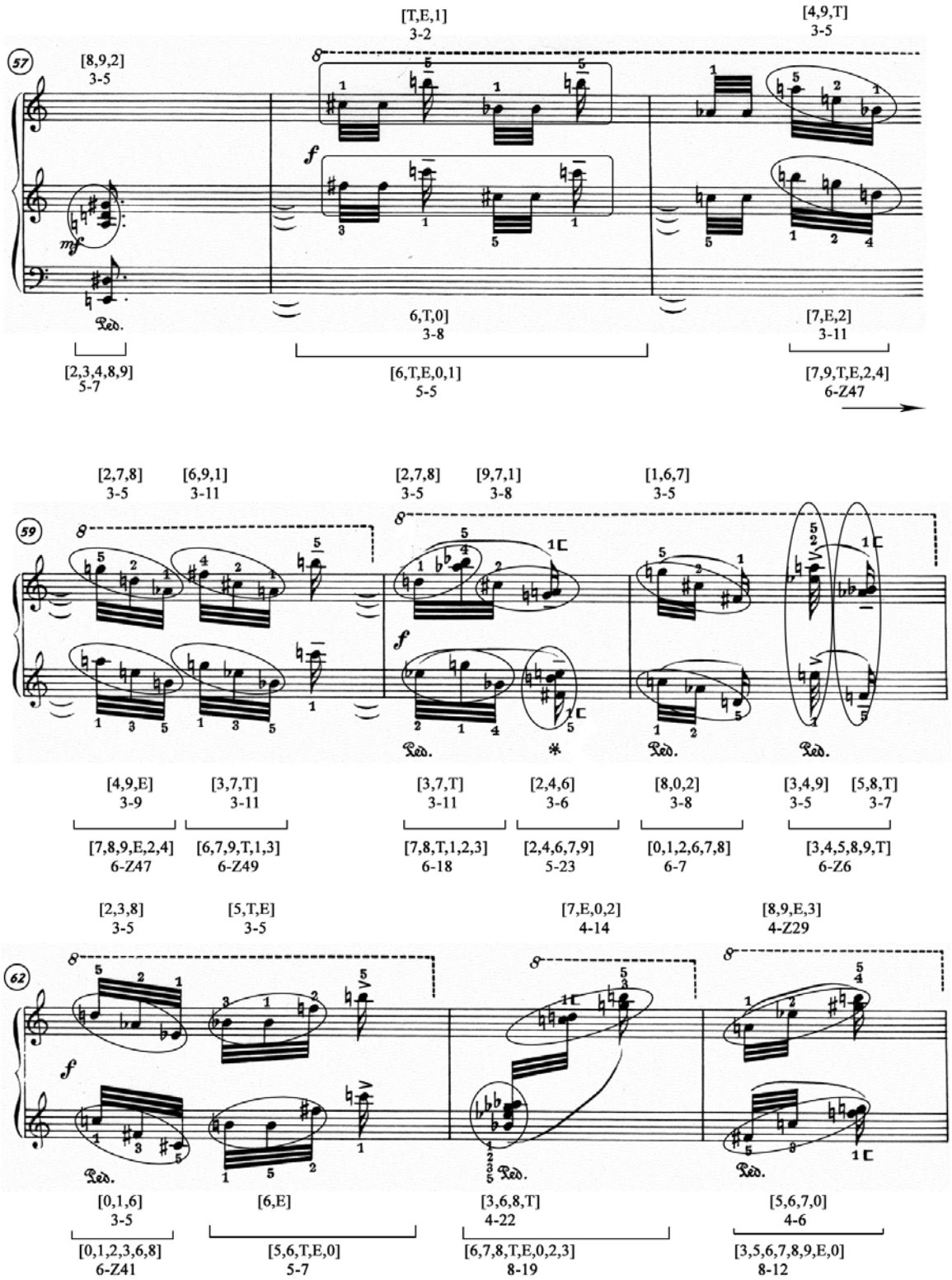

[8,T,1]
3-7
[2,5,6]
3-3
[8,9,T]
3-1
44
f
più f
f
Ped.
Ped.
Ped.
Ped.
[E,1,3,5,6,7,8]
7-24
[5,6,8,T,E,0,1]
7-14
[4,7,E]
3-11
[1,3,4]
3-2
[5,6,E]
3-5
[7,8,T,E,1,4]
6-27
[1,2,3,4,5,6]
6-1
[5,6,8,9,T,E]
6-Z3
46
[T,E,3]
3-4
[0,2,6]
3-8
[0,2,6]
3-8
[0,2,6]
3-8
[0,2,6]
3-8
[0,2,6]
3-8
pp
cresc.
mf
[7,8,9]
3-1
[7,8,9,T,E,3]
6-Z37
[1,4,5]
3-3
[1,4,5]
3-3
[1,4,5]
3-3
[1,4,5]
3-3
[1,4,5]
3-3
[0,1,2,4,5,6]
6-Z4
[0,1,2,4,5,6]
6-Z4
[0,1,2,4,5,6]
6-Z4
[0,1,2,4,5,6]
6-Z4
[0,1,2,4,5,6]
6-Z4

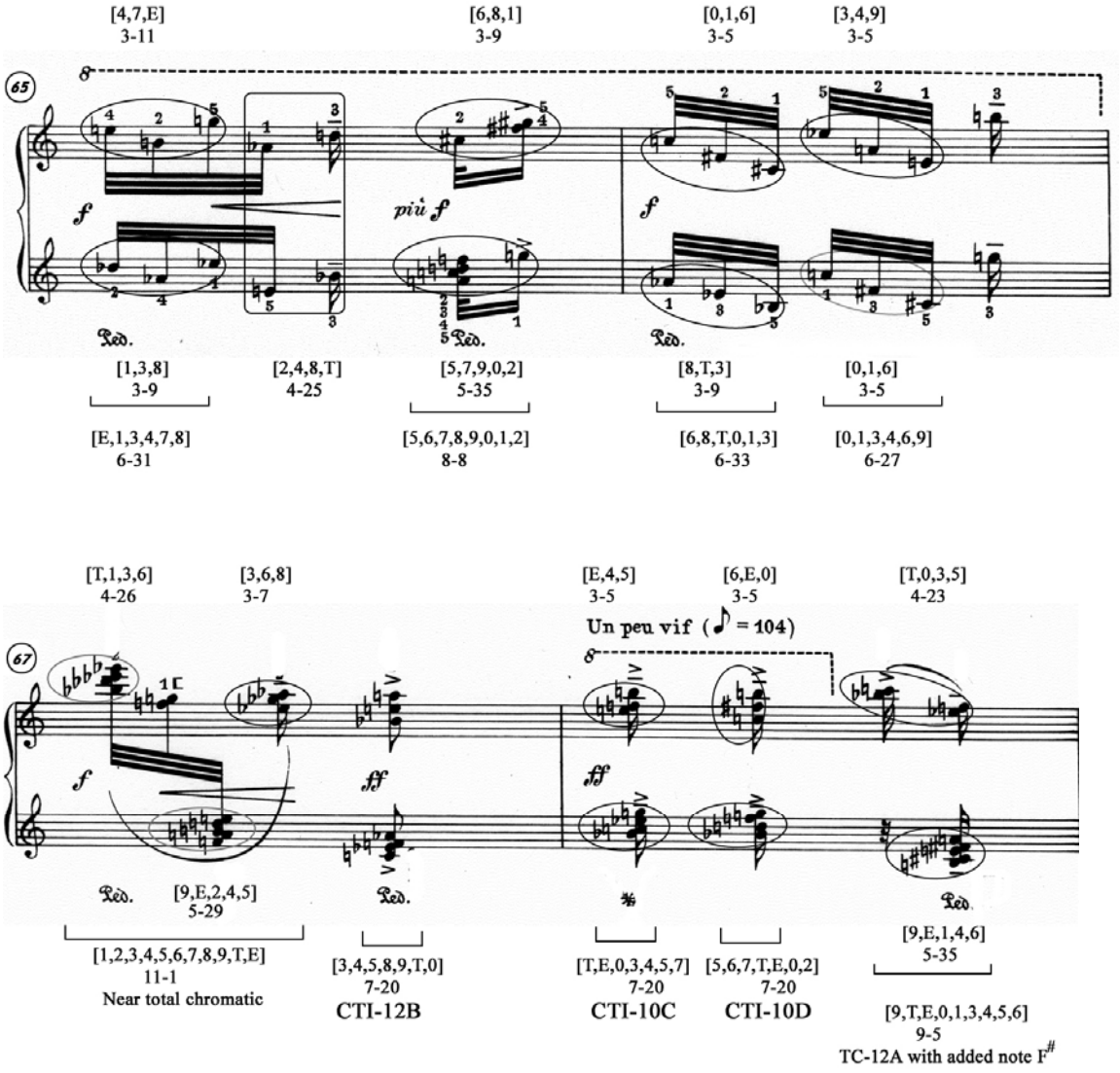

[3,5,T]
3-9
[8,T,3]
3-9
[2,5,7]
3-7
[3,7,T]
3-11
[8,9,2]
3-5
[0,1,4,6]
4-Z15
48
f
f
Ped.
Ped.
Ped.
[8,E,2]
3-10
[1,4,6]
3-7
[3,9]
[4,6,E]
3-9
[1,5,6]
3-4
[4,7,9,E]
4-22
[8,9,E,2,3,5]
6-Z29
[1,3,4,6,8,T]
6-33
[2,3,5,7,9]
5-24
[3,4,6,7,T,E]
6-Z19
[1,2,5,6,8,9]
6-Z19
2nd CCR-5A
[4,6,7,9,T,E,0,1]
8-13

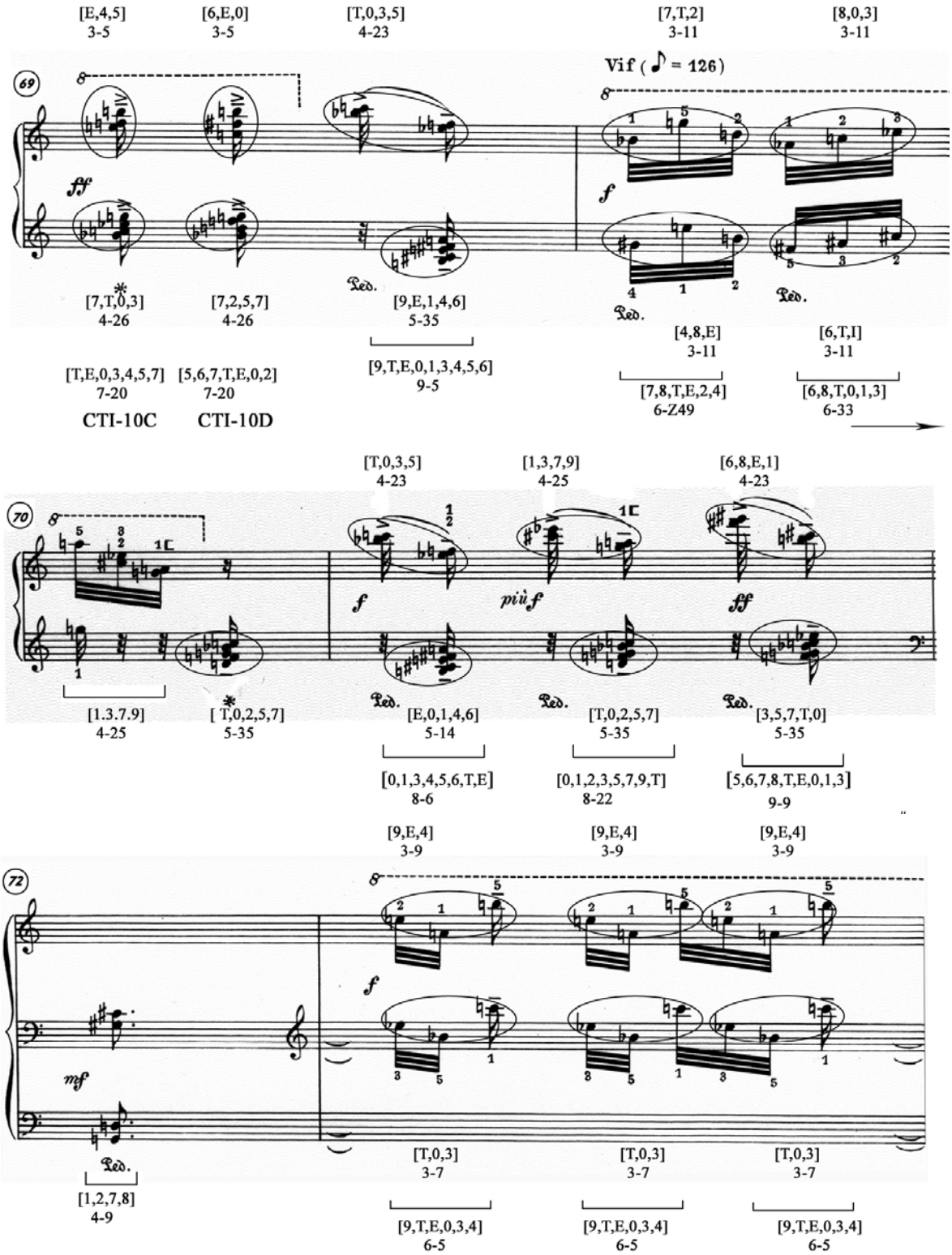

[9,2,3]
3-5
[9,2,3]
3-5
[9,2,3]
3-5
[1,6,7]
3-5
[2,7,8]
3-5
[3,8,9]
3-5
50
f
f
mf
Ped.
Ped.
Ped.
Ped.
Ped.
[5,8,T,1]
4-26
[5,8,T,1]
4-26
[5,8,T,1]
4-26
[1,2,3,5,8,9,T]
7-20
CTI-5B
CTI-5B
CTI-5B
[0,3,6]
3-10
[0,1,3,6,7]
5-19
[E,4,5]
3-5
[2,4,5,7,8,E]
6-27
[4,5,T]
3-5
[3,4,5,6,8,9,T,E]
8-6
[0,1,4,5]
4-7

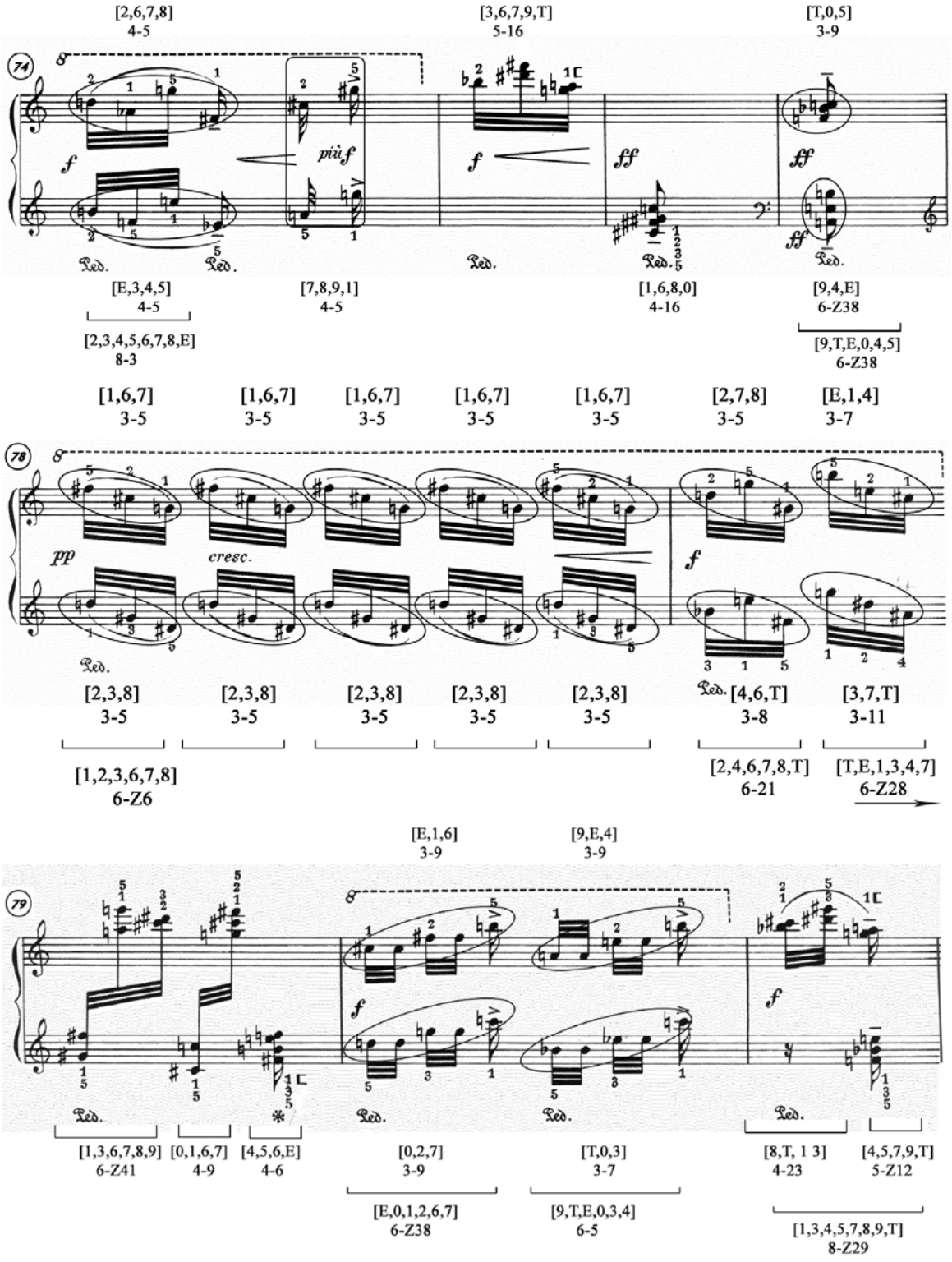

[7,T,2]
3-11
[4,8,T]
3-8
[7,9,E,2]
4-22
[3,7,8,9,T]
5-5
[9,7,1]
3-8
53
f
f
più f
ff
Ped.
[1,3,7]
3-8
[5,8,E]
3-10
[3,6,8]
3-7
[1,5,6]
3-4
[4,8,T]
3-8
[E,0,2,6]
4-Z29
[7,T,1,2,3]
5-Z38
[4,5,8,T,E]
5-19
[2,3,6,7,8,9,E]
7-Z18
[1,3,5,6,7,8,9,T]
8-11
[7,8,9,T,1,4]
6-Z42

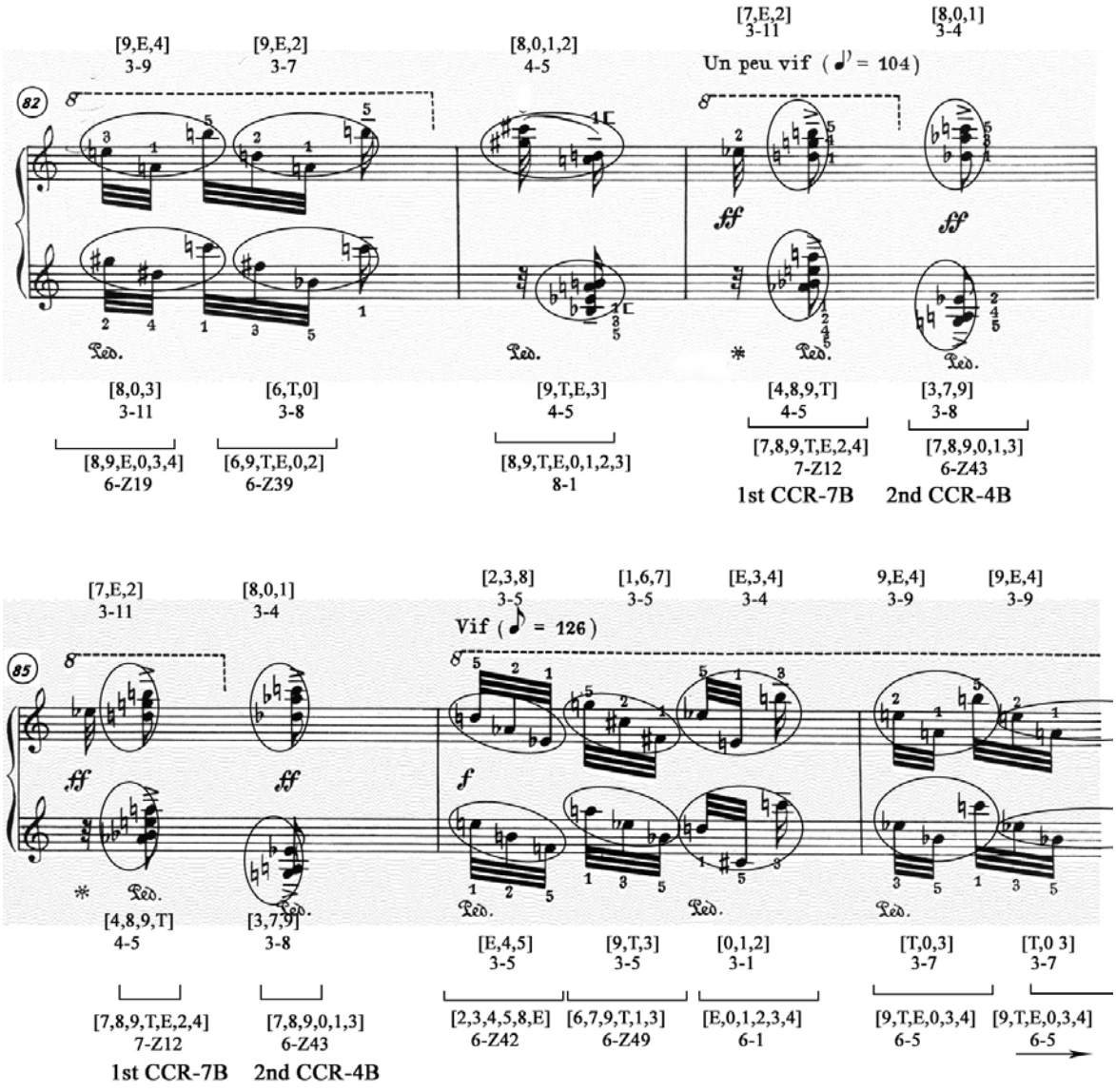

[8,9,2]
3-5
[T,E,4]
3-5
[9,T,2]
3-4
[1,5,6,7]
4-5
55
ff
f
Ped.
[5,8,T,1]
4-26
[0,1,6]
6-Z41
[8,T,3]
3-9
[E,2,3,6]
4-17
[1,2,3,5,8,9,T]
7-20
[T,E,0,1,4,6]
6-Z41
[8,9,T,E,2,3]
6-5
[E,2,3,5,6,7]
6-15
CTI-8C
Same PCS as M3TC-12

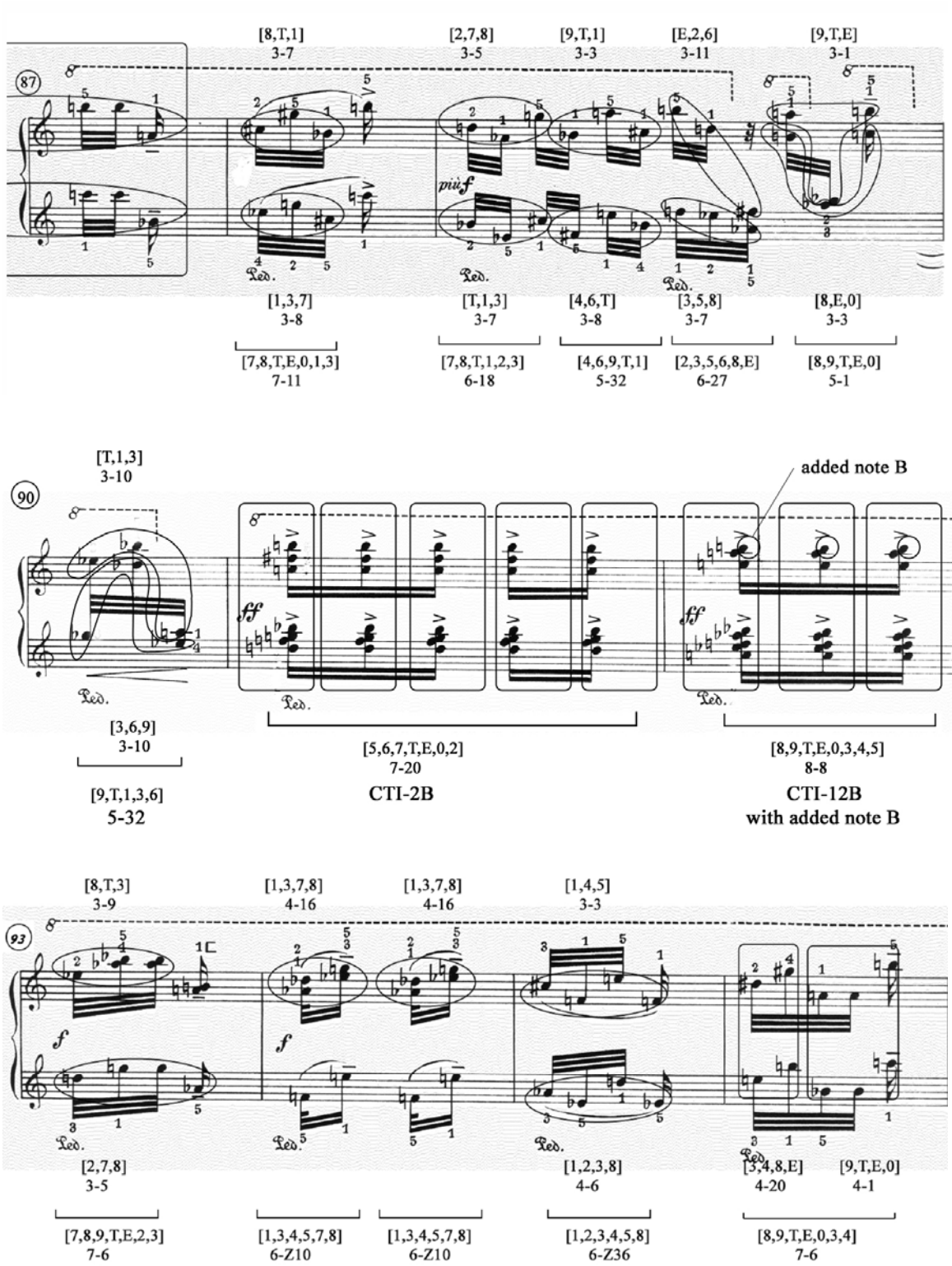

57
[8,9,2]
3-5
[T,E,1]
3-2
[4,9,T]
3-5
mf
f
Ped.
6,T,0]
3-8
[7,E,2]
3-11
[2,3,4,8,9]
5-7
[6,T,E,0,1]
5-5
[7,9,T,E,2,4]
6-Z47
59
[2,7,8]
3-5
[6,9,1]
3-11
[2,7,8]
3-5
[9,7,1]
3-8
[1,6,7]
3-5
f
Ped.
*
Ped.
Ped.
[4,9,E]
3-9
[3,7,T]
3-11
[3,7,T]
3-11
[2,4,6]
3-6
[8,0,2]
3-8
[3,4,9]
3-5
[5,8,T]
3-7
[7,8,9,E,2,4]
6-Z47
[6,7,9,T,1,3]
6-Z49
[7,8,T,1,2,3]
6-18
[2,4,6,7,9]
5-23
[0,1,2,6,7,8]
6-7
[3,4,5,8,9,T]
6-Z6
62
[2,3,8]
3-5
[5,T,E]
3-5
[7,E,0,2]
4-14
[8,9,E,3]
4-Z29
f
Ped.
Ped.
Ped.
[0,1,6]
3-5
[6,E]
[3,6,8,T]
4-22
[5,6,7,0]
4-6
[0,1,2,3,6,8]
6-Z41
[5,6,T,E,0]
5-7
[6,7,8,T,E,0,2,3]
8-19
[3,5,6,7,8,9,E,0]
8-12

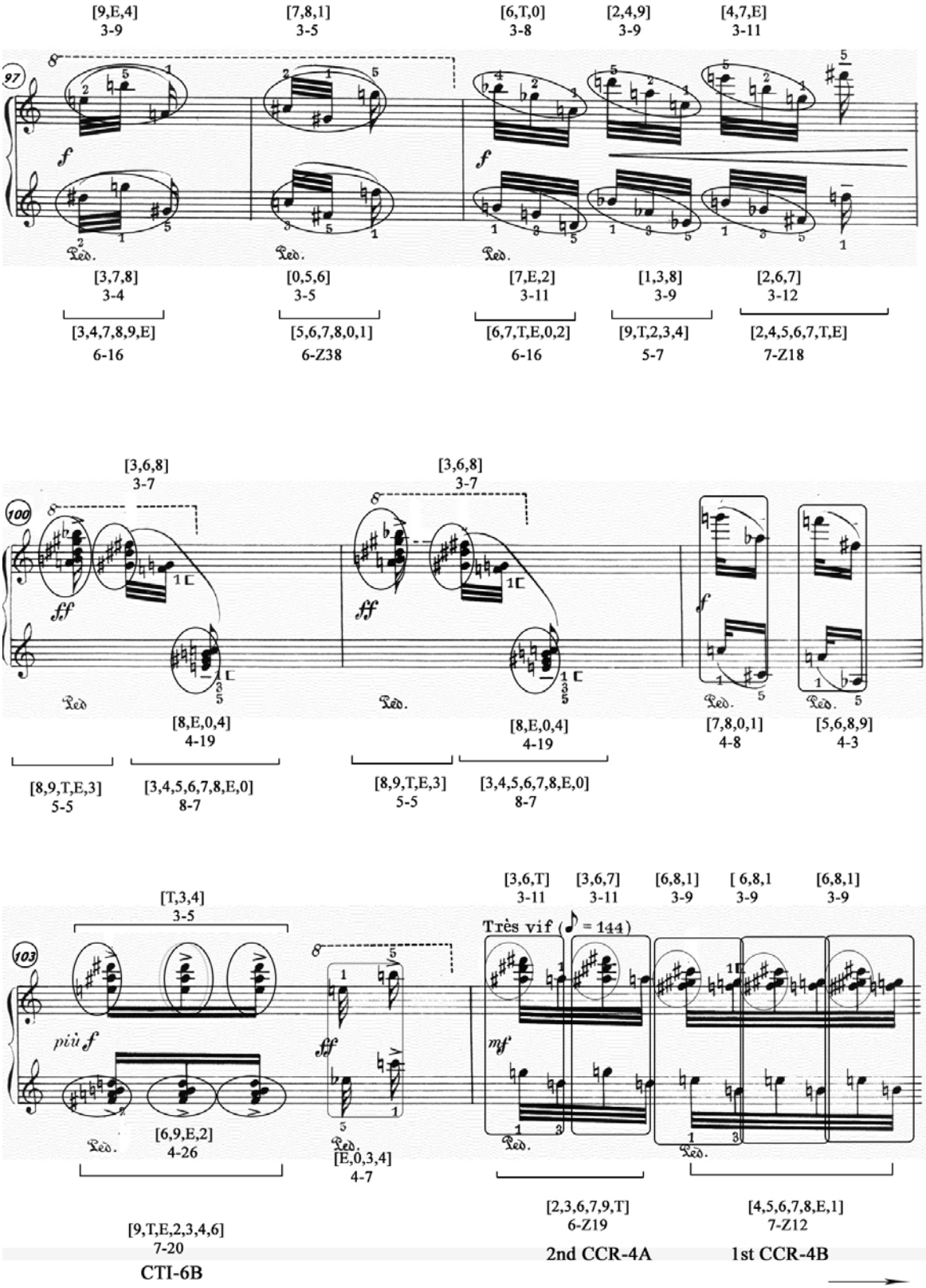

[4,7,E]
3-11
[6,8,1]
3-9
[0,1,6]
3-5
[3,4,9]
3-5
65
f
più f
f
Ped.
Ped.
Ped.
[1,3,8]
3-9
[2,4,8,T]
4-25
[5,7,9,0,2]
5-35
[8,T,3]
3-9
[0,1,6]
3-5
[E,1,3,4,7,8]
6-31
[5,6,7,8,9,0,1,2]
8-8
[6,8,T,0,1,3]
6-33
[0,1,3,4,6,9]
6-27
[T,1,3,6]
4-26
[3,6,8]
3-7
[E,4,5]
3-5
[6,E,0]
3-5
[T,0,3,5]
4-23
Un peu vif (♪ = 104)
67
f
ff
ff
Ped.
[9,E,2,4,5]
5-29
Ped.
Ped.
[1,2,3,4,5,6,7,8,9,T,E]
11-1
Near total chromatic
[3,4,5,8,9,T,0]
7-20
CTI-12B
[T,E,0,3,4,5,7]
7-20
CTI-10C
[5,6,7,T,E,0,2]
7-20
CTI-10D
[9,E,1,4,6]
5-35
[9,T,E,0,1,3,4,5,6]
9-5
TC-12A with added note F#

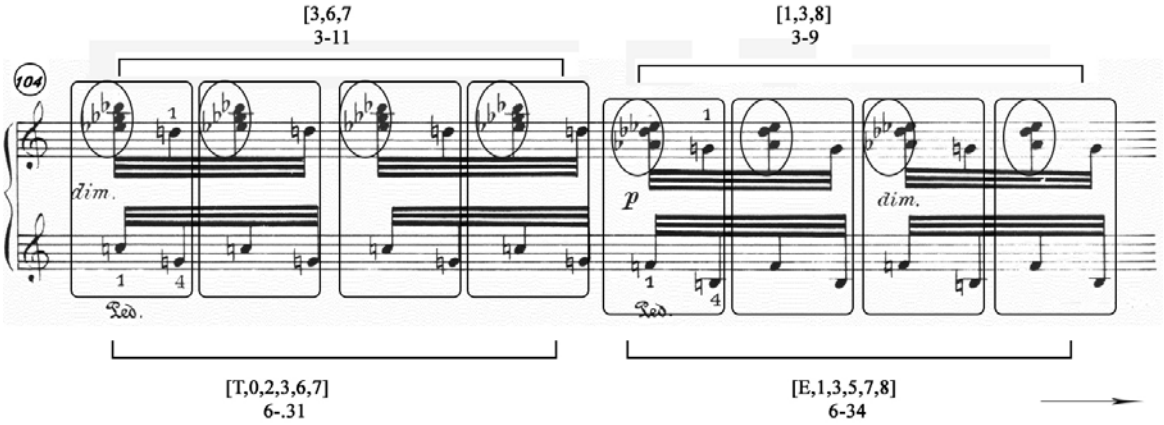

[E,4,5]
3-5
[6,E,0]
3-5
[T,0,3,5]
4-23
[7,T,2]
3-11
[8,0,3]
3-11
69
Vif (♪ = 126)
ff
f
[7,T,0,3]
4-26
[7,2,5,7]
4-26
[9,E,1,4,6]
5-35
[4,8,E]
3-11
[6,T,I]
3-11
[T,E,0,3,4,5,7]
7-20
[5,6,7,T,E,0,2]
7-20
[9,T,E,0,1,3,4,5,6]
9-5
[7,8,T,E,2,4]
6-Z49
[6,8,T,0,1,3]
6-33
CTI-10C
CTI-10D
[T,0,3,5]
4-23
[1,3,7,9]
4-25
[6,8,E,1]
4-23
70
f
più f
ff
[1.3.7.9]
4-25
[T,0,2,5,7]
5-35
[E,0,1,4,6]
5-14
[T,0,2,5,7]
5-35
[3,5,7,T,0]
5-35
[0,1,3,4,5,6,T,E]
8-6
[0,1,2,3,5,7,9,T]
8-22
[5,6,7,8,T,E,0,1,3]
9-9
[9,E,4]
3-9
[9,E,4]
3-9
[9,E,4]
3-9
72
mf
f
[1,2,7,8]
4-9
[T,0,3]
3-7
[T,0,3]
3-7
[T,0,3]
3-7
[9,T,E,0,3,4]
6-5
[9,T,E,0,3,4]
6-5
[9,T,E,0,3,4]
6-5

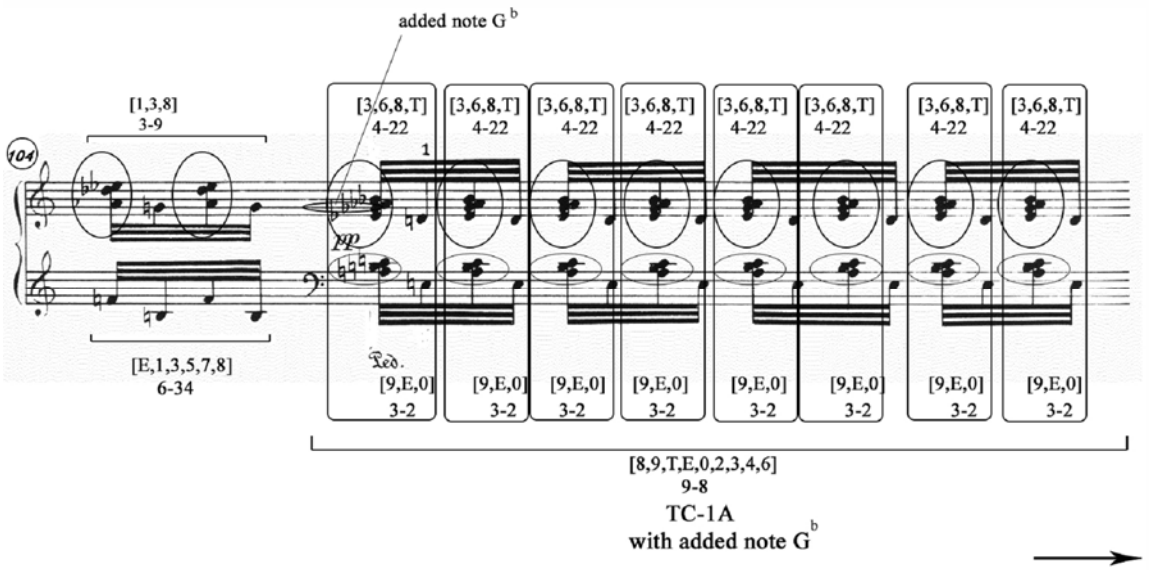

[2,6,7,8]
4-5
[3,6,7,9,T]
5-16
[T,0,5]
3-9
74
f
più f
f
ff
ff
ff
Ped.
[E,3,4,5]
4-5
[7,8,9,1]
4-5
[1,6,8,0]
4-16
[9,4,E]
6-Z38
[2,3,4,5,6,7,8,E]
8-3
[9,T,E,0,4,5]
6-Z38
[1,6,7] 3-5
[1,6,7] 3-5
[1,6,7] 3-5
[1,6,7] 3-5
[1,6,7] 3-5
[2,7,8] 3-5
[E,1,4] 3-7
78
pp
cresc.
f
Ped.
[2,3,8] 3-5
[2,3,8] 3-5
[2,3,8] 3-5
[2,3,8] 3-5
[2,3,8] 3-5
[4,6,T] 3-8
[3,7,T] 3-11
[1,2,3,6,7,8]
6-Z6
[2,4,6,7,8,T]
6-21
[T,E,1,3,4,7]
6-Z28
[E,1,6]
3-9
[9,E,4]
3-9
79
f
f
Ped.
[1,3,6,7,8,9]
6-Z41
[0,1,6,7]
4-9
[4,5,6,E]
4-6
[0,2,7]
3-9
[T,0,3]
3-7
[8,T, 1 3]
4-23
[4,5,7,9,T]
5-Z12
[E,0,1,2,6,7]
6-Z38
[9,T,E,0,3,4]
6-5
[1,3,4,5,7,8,9,T]
8-Z29

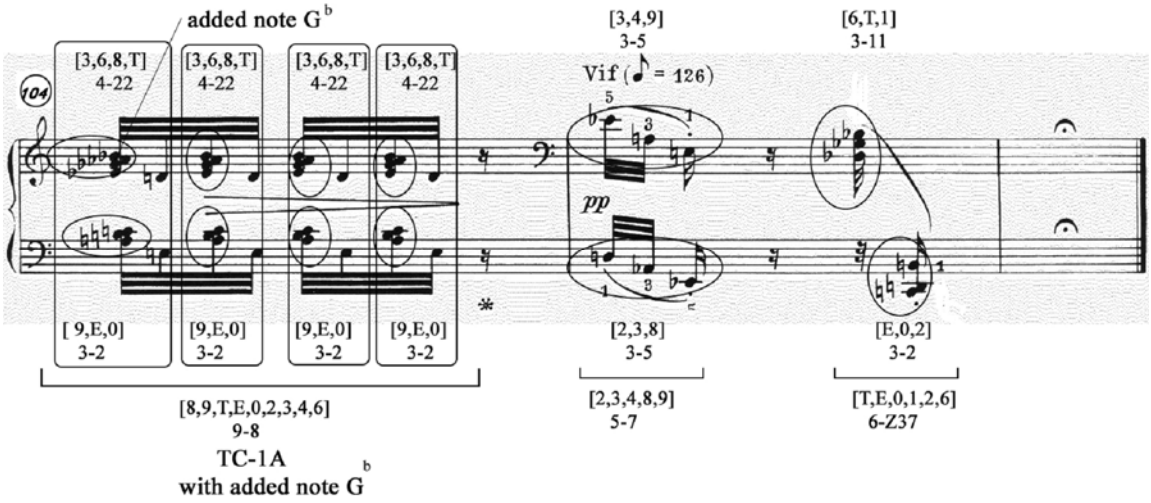

[9,E,4]
3-9
[9,E,2]
3-7
[8,0,1,2]
4-5
[7,E,2]
3-11
[8,0,1]
3-4
Un peu vif (♩. = 104)
82
ff
ff
Ped.
[8,0,3]
3-11
[6,T,0]
3-8
[9,T,E,3]
4-5
[4,8,9,T]
4-5
[3,7,9]
3-8
[8,9,E,0,3,4]
6-Z19
[6,9,T,E,0,2]
6-Z39
[8,9,T,E,0,1,2,3]
8-1
[7,8,9,T,E,2,4]
7-Z12
[7,8,9,0,1,3]
6-Z43
1st CCR-7B
2nd CCR-4B
[7,E,2]
3-11
[8,0,1]
3-4
[2,3,8]
3-5
[1,6,7]
3-5
[E,3,4]
3-4
9,E,4]
3-9
[9,E,4]
3-9
Vif (♩. = 126)
85
ff
ff
f
Ped.
[4,8,9,T]
4-5
[3,7,9]
3-8
[E,4,5]
3-5
[9,T,3]
3-5
[0,1,2]
3-1
[T,0,3]
3-7
[T,0 3]
3-7
[7,8,9,T,E,2,4]
7-Z12
[7,8,9,0,1,3]
6-Z43
[2,3,4,5,8,E]
6-Z42
[6,7,9,T,1,3]
6-Z49
[E,0,1,2,3,4]
6-1
[9,T,E,0,3,4]
6-5
[9,T,E,0,3,4]
6-5
1st CCR-7B
2nd CCR-4B


[8,T,1]
3-7
[2,7,8]
3-5
[9,T,1]
3-3
[E,2,6]
3-11
[9,T,E]
3-1
87
più f
Ped.
[1,3,7]
3-8
[T,1,3]
3-7
[4,6,T]
3-8
[3,5,8]
3-7
[8,E,0]
3-3
[7,8,T,E,0,1,3]
7-11
[7,8,T,1,2,3]
6-18
[4,6,9,T,1]
5-32
[2,3,5,6,8,E]
6-27
[8,9,T,E,0]
5-1
[T,1,3]
3-10
added note B
90
ff
Ped.
[3,6,9]
3-10
[5,6,7,T,E,0,2]
7-20
[8,9,T,E,0,3,4,5]
8-8
[9,T,1,3,6]
5-32
CTI-2B
CTI-12B
with added note B
[8,T,3]
3-9
[1,3,7,8]
4-16
[1,3,7,8]
4-16
[1,4,5]
3-3
93
f
Ped.
[2,7,8]
3-5
[1,2,3,8]
4-6
[5,4,8,E]
4-20
[9,T,E,0]
4-1
[7,8,9,T,E,2,3]
7-6
[1,3,4,5,7,8]
6-Z10
[1,3,4,5,7,8]
6-Z10
[1,2,3,4,5,8]
6-Z36
[8,9,T,E,0,3,4]
7-6


[9,E,4]
3-9
[7,8,1]
3-5
[6,T,0]
3-8
[2,4,9]
3-9
[4,7,E]
3-11
97
f
f
Ped.
Ped.
Ped.
[3,7,8]
3-4
[0,5,6]
3-5
[7,E,2]
3-11
[1,3,8]
3-9
[2,6,7]
3-12
[3,4,7,8,9,E]
6-16
[5,6,7,8,0,1]
6-Z38
[6,7,T,E,0,2]
6-16
[9,T,2,3,4]
5-7
[2,4,5,6,7,T,E]
7-Z18
[3,6,8]
3-7
[3,6,8]
3-7
100
ff
ff
f
Ped
Ped.
Ped.
Ped.
[8,E,0,4]
4-19
[8,E,0,4]
4-19
[7,8,0,1]
4-8
[5,6,8,9]
4-3
[8,9,T,E,3]
5-5
[3,4,5,6,7,8,E,0]
8-7
[8,9,T,E,3]
5-5
[3,4,5,6,7,8,E,0]
8-7
[T,3,4]
3-5
[3,6,T]
3-11
[3,6,7]
3-11
[6,8,1]
3-9
[6,8,1
3-9
[6,8,1]
3-9
Très vif (♪ = 144)
103
più f
ff
mf
Ped.
[6,9,E,2]
4-26
Ped.
[E,0,3,4]
4-7
Ped.
Ped.
[9,T,E,2,3,4,6]
7-20
CTI-6B
[2,3,6,7,9,T]
6-Z19
2nd CCR-4A
[4,5,6,7,8,E,1]
7-Z12
1st CCR-4B


[3,6,7
3-11
[1,3,8]
3-9
104
dim.
p
dim.
Ped.
Ped.
[T,0,2,3,6,7]
6-.31
[E,1,3,5,7,8]
6-34


added note G b
[1,3,8]
3-9
104
[3,6,8,T]
4-22
pp
Ped.
[E,1,3,5,7,8]
6-34
[9,E,0]
3-2
[8,9,T,E,0,2,3,4,6]
9-8
TC-1A
with added note G b


added note G♭
[3,6,8,T]
4-22
[3,6,8,T]
4-22
[3,6,8,T]
4-22
[3,6,8,T]
4-22
104
[3,4,9]
3-5
[6,T,1]
3-11
Vif (♪ = 126)
pp
[9,E,0]
3-2
[9,E,0]
3-2
[9,E,0]
3-2
[9,E,0]
3-2
[2,3,8]
3-5
[E,0,2]
3-2
[8,9,T,E,0,2,3,4,6]
9-8
[2,3,4,8,9]
5-7
[T,E,0,1,2,6]
6-Z37
TC-1A
with added note G♭

APPENDIX III

Translation of Messiaen's Own Analysis of the Third Movement "Le Rouge-gorge"

Première mesure : thème de décor. Trois harmonies se succèdent. 1er accord : " accord à renversements transposes " n° 1, accord B: bleu violet clair. 2e accord: il appartient au mode 3^3, couleur: bleu et vert, un peu diamanté. 3e accord: " accord à renversements transposés " n° 11, accord B : jaune citron, avec des taches rouges.

Measure 1: theme of scenery. Three harmonies appear in succession. 1st chord: "chord of transposed inversions" no. 1, chord B: clear blue purple. 2nd chord: it belongs to mode 3^3, color: blue and green, shining a little bit like diamond. 3rd chord: "chord of transposed inversions" no. 11, chord B: lemon yellow, with red stains.

Mesures 2, 3, 4 : chant du Rouge-gorge. Les deux mains jouent la même ligne mélodique, mais la doublure est constamment inexacte, c'est-à-dire que les intervalles entre les mains ne sont jamais les mêmes. *Deuxième mesure* : 2 iambes, puis un climacus resupinus. *Troisième mesure* : le trait descendant se termine par un porrectus flexus. *Quatrième mesure*: arpège descendant. La 5e mesure est une conclusion typique des phrases du Rouge-gorge. C'est

Measures 2, 3, and 4: song of the robin. The two hands play the same melodic line, but the doubling is constantly inexact, that is, the intervals between the two hands are never the same. *Measure 2*: 2 iambes, then a climacus resupinus. *Measure 3*: the descending line finishes by a porrectus flexus. *Measure 4*: descending arpeggio. *Measure 5* is a conclusion typical of the robin's phrases.
It's an iambic clivis, forming a brief

une clivis iambique, formant appoggiature brève, puis une longue prolongée par la résonance. La nuance en est généralement “ forte ”. Ici, il s'agit du 1er “ accord à résonance contractée ” n° 2, accords A et B. Accord A, de haut en bas : violet pourpre clair, jaune clair, orangé. Accord B, de haut en bas : vert clair, gris clair, un peu de rouge très clair.

Sixième mesure : petit silence. *Septième mesure* : thème de décor. Il est un peu plus long: six accords (au lieu de trois).

Les trois premiers accords sont les mêmes. 1er accord : “ accord à renversements transposes ” n°1, accord B : bleu violet clair. 2e accord : il appartient au mode 3^3, couleur : bleu et vert, un peu diamanté. 3e accord : “ accord à renversements transposés ” n°11, accord B : jaune citron, avec des taches rouges. 4e accord : il appartient au mode 3^3, couleur : vert et bleu, avec un peu d'orangé. 5e accord: mode 3^2, gris cendré, mauve, et blanc à reflets mauves. 6e accord : “ accord à

appoggiatura, then a long prolonged by the resonance. The hue is in general “strong”. Here is the first “chord of the contracted resonance” no. 2, chords A and B.
Chord A, from the top to the bottom: clear purplish crimson, clear yellow, orange.
Chord B, from the top to the bottom: clear green, clear grey, a little of very clear red.

Measure 6: Small silence. *Measure 7*: theme of scenery. It is a little longer: six chords (instead of three). The three first chords are the same. 1st chord: “chord of transposed inversions” no. 1, chord B: clear bluish violet. 2nd chord: it belongs to mode 3^3, color: blue and green, a little like diamond. 3rd chord: “chord of transposed inversions” no. 11, chord B: lemon yellow, with red stains. 4th chord: it belongs to mode 3^3, color: green and blue, with a little orange. 5th chord: mode 3^2, ash gray, mauve, and white with mauve reflections. 6th chord: “chord of transposed inversions”

renversements transposés ” n°7, accord B : bandes penchées blanches et rouges, sur un fond rosé à dessins noirs - c'est le rouge qui domine.

no. 7, chord B: white and red tilted strips, on a pinkish background with black drawing, it’s the red that dominates.

Huitième mesure : suite du chant du Rouge-gorge. La pédale du piano tient l'accord précédent, sur lequel vient se greffer la strophe de l'oiseau, dont les batteries disjointes ajoutent à l'accord 4 sons qui lui manquaient. *Neuvième mesure* : notes répétées dans l'aigu, en accords de 4 sons.

Measure 8: continuation of the robin’s song. The piano pedal holds the previous chord, to which is attached the strophe of the birds; its disjointed attacks add to the chord 4 pitches that were lacking. *Measure 9*: high-pitched repeated notes, in chords of 4 pitches.

Dixième mesuree : un groupe anacrouse avec petite note amène un accent et une muette, tous deux“louré”. Dans la *11^{e} mesure* : tempo un peu vif- un torculus resupinus - un appui plus grave sur des secondes superposées - et un rythme Bacchius (u - -), qui termine sur un “accord à renversements transposés” n° 2, accord D, couleur, de haut en bas : violet très clair, sur vert clair. Dans la *12^{e} mesure* : le tempo “ un peu lent ” et le caractère “ amical ”

Measure 10: an anacrusis group with little note brings about an accent and a mute, both “louré”. In the *measure 11*: a little faster tempo – a torculus resupinus - a heavier push on the superimposed seconds - and a Bacchius rhythm (u - -), which ends on a “chord of transposed inversions” no. 2, chord D, color, from the top to bottom: very clear purple, on clear green. In the measure 12: the tempo “a little slow” and the “amicable” character contrast with the

contrastent avec la vivacité et la brillance précédentes. Il s'agit de 2 torculus imbriqués avec sauts d'octave descendante, harmonisés dans une atmosphère de sol bémol majeur.

preceding vivacity and brilliance. There are two torculus overlapped with descending octave leaps, harmonized in an atmosphere of G-flat major.

13e mesure : mouvement vif. Le trait est doublé de façon inexacte, les intervalles entre les deux mains étant toujours différents. *14e mesure* : contraste. Tempo un peu lent, et conclusion amicale et tendre dans l'atmosphère de sol bémol majeur. Ces oppositions entre le vif et le lent sont très typiques du Rouge-gorge. *15e mesure* : silence. *16e mesure* : nouvelle strophe. Elle démarre " un peu vif" sur un torculus mal doublé (intervalles entre les deux mains : 9e mineure, double quarte, 9e mineure). 17e mesure : un peu lent, rythme iambique, 2e " accord à résonance contractée " n° 7. Les 2 accords enchaînés donnent un rouge écarlate clair et brillant, avec un peu de bleu pâle et de gris d'acier.

Measure 13: fast movement. The line is doubled in an inexact fashion, the intervals between the two hands being always different. *Measure 14*: contrast. Tempo a little slow, amicable and tender conclusion in the atmosphere of G-flat major. These oppositions between fast and slow are very typical of the robin. *Measure 15*: silence. *Measure 16*: new strophe. It starts "a little fast" on the torculus inexactly doubled (intervals between the two hands: minor 9th, double fourth, minor 9th). *Measure 17*: a little slow, iambic rhythm, 2nd "chord of contracted resonance" no. 7. The 2 linked chords give a clear and brilliant scarlet red, with a little pale blue and steel gray.

Mesure 18 : double trille en mouvement

Measure 18: double trills in contrary

contraire, sur touches blanches et noires, la main droite au dessus de la main gauche, donnant un susurrement suraigu prolongé, très fin, comme un roulement de triangle pianissimo, typique du Rouge-gorge. Mesure 19 : trait descendant, très rapide, presque un glissando : un des thèmes favoris du Rouge-gorge. Il alterne touches noires et touches blanches, et termine sur un petit cluster (pianissimo, comme l'ensemble du trait).

Mesures 20 et 21: " accord du total chromatique " n° 4. Dans la *mesure 20*, l'accord proprement dit, qui superpose deux zones de couleur : en dessous : brun cuir rougeâtre - en dessus : gris pierreux, taché de rose et de violet. Dans la *mesure 21* : l'oiseau fait un porrectus et un distropha imbriqués. Ce mouvement mélodique donne les 4 notes supplémentaires du total chromatique qui s'ajoutent à l'accord précédent tenu par la pédale, et font une mince bande bleu vert très pâle, tout en haut

motion, on white and black keys, the right hand is on top of the left, giving a prolonged, high-pitched murmur, very fine, like a roll of the triangle pianissimo, typical of the robin. *Measure 19*: descending line, very fast, almost like a glissando: one of the favorite themes of the robin. It alternates between white and black keys, and ends on a little cluster (pianissimo, like the whole gesture).

Measures 20 and 21: "chord of total chromatic" no. 4. In *measure 20*, the chord as such superimposes 2 zones of colors: underneath: reddish leather brown– on top: stone gray, with stains of rose and violet. In *measure 21*: the bird makes a porrectus and an overlapping distropha. This melodic movement gives the four supplementary notes of total chromatic that add into the preceding chord held by the pedal, and make a very pale thin blue-green band, all the way on top of the two zones of color.

des deux zones de couleur.

Mesure 22 : un accord de 4 sons en petite note, et un accord de 4 sons d'une double croche accentuée : tout cela, pris dans la pédale du piano, donne un accord de 8 sons.

Mesures 23 et 24 : deux anapestes (u u -). Ils sont harmonisés par le 1er "accord à résonance contractée" n° 5, accords A et B. Accord A, de haut en bas : jaune, brun verdâtre clair. Accord B, de haut en bas: vert clair, jaune, brun clair.

Measure 22: a chord of 4 pitches in small notes, and a chord of 4 pitches of accented sixteenth notes: All those, taken in the pedal of the piano, give a chord of 8 pitches. *Measure 23 and 24*: two anaspestes (u u -). They are harmonized by the first "chord of contracted resonance" no. 5, chords A and B. Chord A, from top to bottom: yellow, clear brownish green. Chord B, from top to bottom: clear green, yellow, and clear brown.

Mesure 25: l'oiseau termine sa strophe par podatus et climacus resupinus. Le mouvement mélodique est mal doublé, pour rendre le timbre. Intervalles entre les deux main : 9^{e} minor, 3^{e} minor, 3^{e} major, 3^{e} minor, 9^{e} minor, 9^{e} minor.

Mesure 26 : silence.

Measure 25: the bird finishes its strophe by podatus and climacus resupinus. The melodic movement is inexactly doubled, to give the right timbre. Intervals between the two hands: minor 9th, minor 3rd, major 3rd, minor 3rd, minor 9th, and minor 9th.

Measure 26: silence.

Mesure 27 : thème de décor, quatre harmonies. 1er accord : " accord à

Measure 27: theme of scenery, four harmonies. 1st chord: "chord of transposed

renversements transposes ” n° 1, accord B : bleu violet clair. 2e accord : il appartient au mode 3^3, couleur : bleu et vert, un peu diamanté. 3e accord : il appartient au mode 3^2, couleur, de haut en bas : bleu, sur mauve et gris. 4e accord : “ accord du total chromatique ” n° 9. L'accord proprement dit comporte deux zones de couleur superposées : en bas, une grande zone rouge rubis, en haut, une zone rouge carmin clair plus petite.

inversions” no. 1, chord B: clear blue violet. 2nd chord: it is a part of mode 3^3, color: blue and green, a little glistening like diamond. 3rd chord: it belongs to mode 3^2, color, from top to bottom: blue, on mauve and gray. 4th chord: “chord of the total chromatic” no. 9. The proper chord includes two zones of superimposed colors: at the bottom, a large zone of ruby red, and on top, and a smaller zone of clear red crimson.

Dans la *mesure 28*, le chant du Rouge-gorge (joli mouvement mélodique disjoint, avec sixte majeure descendante naïvement répétée) donne les 4 notes supplémentaires de l'accord précédent gardé par la pédale, qui ajoutent tout autour un cercle bleu gris, clair et brillant, avec un soupçon de jaune pâle.

In *measure 28*, the song of the robin (pretty and disjointed melodic movement, with descending major sixths naively repeated) gives the 4 supplementary notes of the preceding chord held by the pedal, which add all around a circle of blue gray, clear and brilliant, with a hint of pale yellow.

Mesure 29 : autre mouvement mélodique du Rouge-gorge, dans un tempo plus vif. Porrectus et torculus enchaînés, avec

Measure 29: another melodic movement of the robin, in a faster tempo. Porrectus and torculus linked together, with inexact

doublure inexacte à la main gauche. Mesure 30 : c'est de nouveau le thème typique du trait descendant très rapide, perlé, pianissimo, presque un glissando.

Mesure 31 : nouveau motif mélodique, d'abord mal doublé pour rendre le timbre - les trois derniers sons harmonisés par des doubles notes aux deux mains, et pris dans la pédale avec la 9e min. précédente (mi bémol, mi bécarre). *Mesure 32* : cet accord appartient au mode 3^3, il est bleu et vert un peu argenté, avec une pointe de rouge.

Mesure 33 : fin de strophe, tempo un peu lent. Le mouvement mélodique, doublé inexactement, pourrait être en sol bémol majeur, mais l'accord précédent, tenu par la pédale, lui impose sa couleur. C'est un climacus resupinus flexus, mezzo forte, "amical", presque tendre, très Rouge-gorge avec sa chute en quarte augmentée descendante.

Mesure 34 : deux fois accent muette, en

doubling in the left hand. *Measure 30*: it's again the typical theme of the very fast descending, pearl-like, pianissimo, almost like a glissando.

Measure 31: new melodic motive, at first inexactly doubled to give the timbre - the three last sounds harmonized by double notes in the two hands, and taken in the pedal with the preceding minor 9^{th} (E flat, E natural).

Measure 32: this chord belongs to mode 3^3, it is blue and green, a little silvery, with a red dot.

Measure 33: end of strophe, tempo a little slow. The melodic movement, inexactly doubled, could be in the key of G flat major, but the preceding chord, held by the pedal, imposes its color on it. It is a climacus resupinus flexus, mezzo forte, "amicable", almost tender, and very characteristic of the "robin" (motive) with its fall of the augmented fourth.

Measure 34: two silent accents, in four

quatre accords. Deux premiers accords : “ 1er accord à résonance contractée ” n° 9, accords A et B. Accord A, de haut en bas : violet clair, blanc rosé, avec un peu de rouge orange - accord B, de haut en bas : bleu violacé, café très clair dégradé vers le blanc, vert et argent, un peu de brun rougeâtre. Accords 3 et 4: “ 2e accord à résonance contractée ” n° 3, accords A et B: couleur ambre (jaune et marron clair), veinée de violet et de brun chocolat, avec quelques taches de bleu pâle.

chords. First two chords: “1st chord of contracted resonance” no. 9, chords A and B. Chord A, from top to bottom: clear violet, rosy white, with a little of reddish orange – chord B, from top to bottom: blue violet, very clear coffee fading into white, green and silver, a little of reddish brown. Chord 3 and 4: “2nd chord of contracted resonance” no. 3, chords A and B: amber color (yellow and clear chestnut), veined with purple and chocolate brown, with some stains of light blue.

Mesure 35 : porrectus, précédé d'une petite note, donnant trois 9es mineures différemment harmonisées. *Mesure 36* : fin de strophe. Appoggiature et note longue, “ forte ”, finale typique du Rouge-gorge. “ 1er accord à résonance contractée ” n° 2, accords A et B. Accord A, de haut en bas: violet pourpre très clair, jaune clair, rouge orangé. Accord B, de haut en bas : vert pâle, gris clair, un peu de rouge. Après un

Measure 35: porrectus, preceded by a little note, giving three minor 9th intervals differently harmonized. *Measure 36*: end of strophe. Appoggiatura and long note, “loud”, end typical of the robin. “1st chord of contracted resonance” no. 2, chords A and B. Chord A: from top to bottom: very clear violet purple, clear yellow, orange red. Chord B, from top to bottom: pale green, clear gray, a little of red. After a

silence, mesure 38, nous attaquons une nouvelle strophe par un trait descendant en quartes justes et augmentées. *Mesure 39* : torculus et porrectus, à la suite, mal doublés pour rendre le timbre. *Mesure 40* : un accord de quarte et sixte de ré bémol majeur avec 4e augmentée ajoutée, précédé d'un autre accord appoggiature, en saut de 4e augmentée descendante.

silence, *measure 38*, we attack a new strophe by a descending line in perfect and augmented fourths. *Measure 39*: torculus and porrectus, in order, inexactly doubled to give the timber. *Measure 40*: a chord of fourth and sixth in D-flat major with added augmented fourths, preceded by another appoggiatura chord, in a leap of a descending augmented fourth.

Mesure 41 : encore torculus et porrectus à la suite - le porrectus est flexus. La mélodie est toujours mal doublée, pour rendre le timbre. *Mesure 42* : iambe, en saut de 9^{e}. *Mesure 43* : deux petits anapestes rapides (u u -). *Mesure 44* : cascade descendante perlée de sons rapides, quasi glissando, thème typique du Rouge-gorge.

Measure 41: again torculus and porrectus, in order–the porrectus is flexus. The melody is always inexactly doubled, to give the timbre. *Measure 42*: iambic, in a leap of a 9th. *Measure 43*: two small fast anapests (u u -). *Measure 44*: pearly descending cascade of rapid sounds, quasi glissando, typical theme of the robin.

Mesure 45 : podatus et deux porrectus, mal doublés. *Mesure 46* : climacus resupinus flexus. Cet assemblage neumatique, un peu lent, de caractère amical, est familier au

Measure 45: podatus and two porrectus, inexactly doubled. *Measure 46*: climacus resupinus flexus. This neumatic assembly, a little slow, of amicable character, is

Rouge-gorge. La mesure suivante change de tempo (un peu vif), et donne encore, après deux clivis, un climacus resupinus flexus.

Mesure 48 : fin de strophe. Appoggiature et note longue, “ forte ”, finale typique du Rouge-gorge. Ce sont ici les accords A et B du “1er accord à résonance contractée“ n° 12. Accord A, de haut en bas: violet très clair hachuré de vert pâle, bleu pâle, gris argenté et noir. Accord B, de haut en bas: or jaune éclatant, blanc, or et noir. Après une mesure de silence, nous commençons la strophe suivante.

Mesures 50 et 5 1 : “ accord du total chromatique ” n° 12. L'accord de la *mesure 50* est jaune et rosé en dessous - le dessus est bleu de prusse très clair. À la *mesure 51*, les iambes de l'oiseau (u-u -) donnent les 4 notes supplémentaires, qui ajoutent tout en haut une mince bande de quartz enfumé gris verdâtre clair. *Mesure 52* : cet accord

familiar to the robin. The following measure changes in tempo (a little fast), and gives also, after two clivis, a climacus resupinus flexus.

Measure 48: end of strophe. Appoggiatura and long note, “loud”, ending typical of the “robin”. Here there are the chords A and B of “the first chord of contracted resonance”. no. 12. Chord A, from top to bottom: very clear purple hatched with light green, pale blue, silver-gray, and black. Chord B, from top to bottom: brilliant gold-yellow, white, gold and black. After a measure of silence, we start the following strophe.

Measure 50 and 51: “chord of the total chromatic” no. 12. The chord of *measure 50* is yellow and rose underneath – on top is Prussian blue very clear. In the *measure 51*, the iambes of the birds (u-u -) give the 4 supplementary notes, which add on top a thin band of smoky quartz, clear greenish gray. *Measure 52*: this chord belongs to

appartient au mode 3^2, il est blanc et vert pâle en dessus, mauve en dessous, plutôt gris et blanc dans l'ensemble. Le iambe de l'oiseau (*mesure 53*) lui ajoute 4 notes qui augmentent l'effet blanc et gris.

Mesure 54 : " accord à renversements transposes " n° 9, accord B: vert bleuté, avec un peu de jaune et de violet. *Mesure 55* : le porrectus flexus de l'oiseau ajoute à l'accord précédent les 5 sons manquants pour faire le total chromatique. Tout cela (*mesures 54 et 55*) résonne dans la *mesure 56*. *Mesure 57* : torculus et climacus resupinus imbriqués, toujours mal doublés, un peu vif.

Mesure 58 : tristropha modéré. *Mesure 59* : vif. Grande descente perlée, très rapide, presque un glissando, pianissimo. Nous avons déjà rencontré plusieurs fois ce thème favori du Rouge-gorge. *Mesure 60* : un peu vif. Torculus, et un saut de 7e descendante.

mode 3^2, it is white and pale green on the top, mauve on the bottom, mostly gray and white on the whole. The iambe of the bird (*measure 53*) adds to it 4 notes that augment the white and gray effect.

Measure 54: "chord of transposed inversions" no. 9, chord B: bluish green, with a little of yellow and violet. *Measure 55*: the porrectus flexus of the bird adds to the preceding chord the 5 missing pitches to make the total chromatic. All of that (*measures 54 and 55*) resounds in *measure 56*. *Measure 57*: torculus and climacus resupinus overlapping, always inexactly doubled, a little fast.

Measure 58: moderate tristropha. *Measure 59*: fast. Large pearly descent, very fast, almost a glissando, pianissimo. We have already encountered many times this favorite theme of the robin. *Measure 60*: a little fast. Torculus, and a leap of a

descending 7th.

M*esure 61* : modéré. Un porrectus flexus, précédé d'une petite note. L'accord final de cette mesure est gardé par la pédale pendant la mesure suivante, où l'on entend un autre porrectus flexus, un peu vif, et mal doublé (2 sauts de 9e mineure à la main droite, 2 sauts de 6e mineure à la main gauche).

Measure 61: moderate. A porrectus flexus, preceded by a little note. The final chord of this measure is held by the pedal during the following measure, where one hears another porrectus flexus, a little fast, and inexactly doubled (2 leaps of minor 9th in the right hand, 2 leaps of minor 6th in the left hand).

Mesure 63, un peu lent. " 2e accord à résonance contractée " n° 8 - l'ensemble de la mesure donne un tout petit coin de gris et de rouge puis une grande zone mauve avec des taches gris argenté. *Mesure 64*, un iambe (u -), tempo modéré.

Measure 63, a little slow. "2nd chord of contracted resonance" no. 8 – the measure as a whole gives a small corner of gray and red, then a large mauve zone with little stains of silver-gray. *Measure 64*, an iamb (u-), moderate tempo.

Mesure 65 : remarquer le contour mélodique disjoint et gracieux, avec sa finale en notes répétées et sa chute en quarte augmentée. Comme toutes les notes sont bémolisées (sauf le la bécarre), et que la pédale tient tout, on a un léger parfum de tons bémols : mi bémol mineur sur

Measure 65: notice the disjunctive and graceful melodic shape, with its final in repeated notes and its fall in an augmented fourth. Since all of the notes are flatted (except the A natural), and the pedal holds through, one has a light perfume of the flat sounds: E-Flat minor on the dominant of D-

dominante de ré bémol majeur. Mesure 66 : nous retrouvons le thème de la descente très rapide et perlée, pianissimo, quasi glissando.

Flat major. *Measure 66*: we find again the theme of very rapid and pearly descent, pianissimo, quasi glissando.

Mesure 67 : bien modéré. Trois sons louré, descendants, en quarte augmentée et quinte diminuée. Trois accords : le 1er accord appartient au mode 3^3, il est bleu pâle et vert pâle, un peu diamanté- le 2^e accord est un " accord à renversements transposes " n° 10, accord B: il est couleur d'or, brillant, à reflets rouges - le 3e accord est le même que le ler, une octave plus bas, dans le médium, ce qui donne des couleurs moins claires et plus fortes : bleu et vert, un peu argenté. Deux dernières mesures, tempo lent, fin de strophe. Appoggiature et note longue, " forte ", finale typique du Rouge-gorge. " 2^e accord à résonance contractée " n° 10, mauve et gris clair, avec un peu de jaune. Dans toute cette 3^e pièce des " Petites esquisses d'oiseaux " pour piano, le tempo a changé presque à chaque mesure. Ces

Measure 67: very moderate. Three slurred notes, descending, in an augmented fourth and a diminished 5^{th}. Three chords: the 1st chord is part of mode 3^3, it is pale blue and pale green, shining a little like diamond – the 2^{nd} chord is a "chord of transposed inversions" no. 10, chord B: its color is gold, brilliant, with red reflections– the 3^{rd} chord is the same as the 1^{st}, an octave lower, in the medium register, giving less clear and stronger colors: blue and green, a little silvery. Two last measures, slow tempo, end of strophe. Appoggiatura and long note, "loud", end typical of the robin. "2^{nd} chord of contracted resonance" no. 10, mauve and clear gray, with a little yellow. In this entire 3^{rd} piece of the "Petites Esquisses d'oiseaux" for piano, the tempo changes almost in every measure. These

continuels changements de tempo sont aussi une des caractéristiques du Rouge-gorge.	continuous tempo changes are also one of the characteristics of the robin.

BIBLIOGRAPHY

Adams, Beverly Decker. "The Organ Compositions of Olivier Messiaen." Ph.D. dissertation, University of Utah, 1969.

Anderson, Julian. "Olivier Messiaen (1908-1992)." *The Musical Times* 133 (1992): 449-51

Anderson, Shame Dewayne. "*Vingt regards sur l'enfant-Jésus* by Olivier Messiaen: An Analysis of its Content, Spiritual Significance and Performance Practice." D.M.A. dissertation, University of Texas at Austin, 1999.

Armfelt, Nicholas. "Emotion in the Music of Messiaen." *The Musical Times* 106 (1965): 856-858.

Arnault, Pascal. *Messiaen: Les sons impalpables du rêve.* 2nd ed., Lillebonne: Millénaire III, 1999.

Avery, James. "Olivier Messiaen: An Introduction to his Piano Music." *Contemporary Keyboard* 5 (August 1979): 36-40, 42.

Baggech, Melody Ann. "An English Translation of Olivier Messiaen's *Traité de rythme, de couleur, et d'ornithologie*." D.M.A. dissertation, University of Oklahoma, 1998.

Barash, Amari Pepper. "Cadential Gestures in Post-tonal Music: The Constitution of Cadences in Messiaen's *Ile de feu I* and Boulez' *Première Sonate*, First Movement." D.M.A. dissertation, City University of New York, 2002.

Barber, Charles Frederick. "Messiaen and his *Turangalîla-symphonie*." D.M.A. dissertation, Stanford University, 1991.

Beechey, Gwilyrn. "Christian Symbolism in Messiaen's Music." *Musical Opinion* 104 (April 1981): 261-262.

Bell, Carla Huston. "A Structural and Stylistic Analysis of Representative Works by Olivier Messiaen." D.M.E. dissertation, Teachers College, Columbia University, 1977.

_____. *Olivier Messiaen*. Boston: Twayne Publisher, 1984.

Benitez, Vincent Perez. "Pitch Organization and Dramatic Design in *Saint François d'Assise* of Olivier Messiaen." Ph.D. dissertation, Indiana University, 2001.

_____. "A Creative Legacy: Messiaen as Teacher of Analysis." *College Music Symposium* 40 (2000): 117-39.

Bernard, Jonathan W. "Messiaen's Synesthesia: The Correspondence between Color and Sound Structure in his Music." *Music Perception* 4 (Fall 1986): 41-68.

Bernstein, David Stephen. "Messiaen's *Quatuor pour la fin du temps*: An Analysis Based upon Messiaen's Theory of Rhythm and his Use of Modes of Limited Transposition." D.M.A. dissertation, Indiana University, 1974.

Bessière, Marie. "Oiseaux exotiques d'Olivier Messiaen: De la nature à l'œuvre musicale." *Analyse musicale* 7 (April 1987): 62-67.

Boivin, Jean. *La classe de Messiaen*. Paris: Christian Bourgois, 1995.

Borum, Paul and Erik Christensen. *Messiaen: En handbop.* Copenhagen: Egtved, 1977.

Boswell, Lilise. "Olivier Messiaen's Religious War-Time Works and their Controversial Reception in France (1941-46)." Ph.D. dissertation, New York University, 2001.

Boulez, Pierre. *Notes of an Apprenticeship*. Trans. Herbert Weinstock. New York: Alfred A. Knopf, 1968.

Boulez, Pierre et al. "Hommage à Messiaen." *Melos* 25 (1958): 386. Period

Bowlby, Christopher S. "*Vingt Regards sur l'enfant-Jésus*: Messiaen's Means of Conveying Extra-musical Subtext." D.M.A. dissertation, University of Washington, 2005.

Bruhn, Siglind, ed. *Messiaen's Language of Mystical love*. New York and London: Garland Publishing, 1998.

Buchler, Michael Howard. "Relative Saturation of Subsets and Interval Cycles as a Means for Determining Set-Class Similarity." Ph.D. dissertation, University of Rochester, 1997.

Case, Del Williams. "A Study and Performance of Three Organ Works by Langlais, Dupré and Messiaen." D.M.A. dissertation, University of Southern California, 1973.

Chen, Jo-Yu. "A Curricular Prototype to Enhance Compositional Skills Through Improvisation Based on Messiaen's *Quatuor pour la fin du temps*." D.Educ. dissertation, Teachers College, Columbia University, 2005.

Chew, Elaine. “Regards on two Regards by Messiaen: Post-tonal Music Segmentation using Pitch Context Distances in the Spiral Array.” *Journal of New Music Research* 34 (2005): 341-354.

Clifton, Thomas. *Music as Heard: A Study in Applied Phenomenology*. New Haven: Yale University Press, 1983.

Cohn, Richard Lawrence. “Transpositional Composition in Twentieth-Century Music.” Ph.D. dissertation, New York: University of Rochester, 1986.

Corvisier, Fernando. “The Ten Piano Sonatas of Almeida Prado: The Development of his Compositional Style.” D.M.A. dissertation, University of Houston, 2000.

Couvignou, Lionel. “*Saint François d’Assise*.” In *Portrait(s) d'Olivier Messiaen*, ed. Catherine Massip, 161-169. Paris: Bibliothèque nationale de France, 1996.

Covington, Katherine Russell. “A Study of Textural Stratification in Twentieth-Century Composition.” Ph.D. dissertation, Indiana University, 1982.

_____. “A Study of Textural Denseness in Selected Keyboard Works of Messiaen.” M.M. thesis, Indiana University, 1971.

Crane, David. “The piano Preludes of Oliver Messiaen: Style, Technique, Performance.” M.F.A. thesis, UCLA, 1983.

Crawford, Heather. “Joan Tower’s Violin Concerto: An Organic Approach to Composition.” D.M.A. dissertation, University of Texas at Austin, 2002.

Davidson, Audrey Jean Ekdahl. “Olivier Messiaen's Tristan Trilogy: Time and Transcendence.” Ph.D. dissertation, University of Minnesota, 1975.

Delaere, Mark. “Olivier Messiaen’s Analysis Seminar and the Development of Post-War Serial Music.” *Music Analysis* 21 (2002): 35-51.

Demuth, Norman. “Messiaen and his Organ Music.” *The Musical Times* 96 (April 1955): 203-206.

_____. “Messiaen's Early Birds.” *The Musical Times* 101 (October 1960): 627-629.

Derfler, Barbara Joan. “Claude Debussy’s Influence on Olivier Messiaen: An Analysis and Comparison of two Preludes.” M.M. thesis, University of Alberta, 1999.

Dingle, Christopher. “Understated Charm: Style and Technique in the Last Works of Oliver Messiaen.” Ph.D. dissertation, University of Sheffield, 2000.

_____. *Messiaen's Final Works: Developments in Style and Technique.* Burlington, VT: Ashgate Publishing Ltd, forthcoming.

_____. "Charm and Simplicity: Messiaen's Final Works." *Tempo* 192 (April 1995): 2-7.

Dukes, Leslie Dianne. "An Exploration of Olivier Messiaen's Piano Style and Application of Color in *le Baiser de l'enfant-Jésus* et *le Courlis cendré.*" D.M.A. dissertation, University of Arizona, 1998.

Ennis, Paula. "A Study of Coherence and Unity in Messiaen's Cycle *Vingt regards sur l'enfant-Jésus*." D.M.A. dissertation, Indiana University, 1979.

Fallon, Robert Joseph. "Messiaen's Mimesis: The Language and Culture of the Bird Styles." Ph.D. dissertation, University of California in Berkeley, 2005.

Fallon, Robert. "Recent Messiaen Releases." *Tempo* 57 (2003): 44-45.

Fancher, Joseph E. "Pitch Organization in the *Turangalîla-symphonie* of Olivier Messiaen." Ph.D. dissertation, University of Oregon, 2003.

Fischer, Michel. "L'Œuvre d'orgue d'Olivier Messiaen: Rhétorique de la représentation musicale des indices scripturaires au fil de l'intentionnalité déclarative du compositeur." Ph.D. dissertation, Université de Paris IV, 1991.

Fishell, Janette. "Old Symbols—New Language: An Examination of Olivier Messiaen's *Méditations sur le mystère de la Sainte Trinité.*" *The Diapason* 79 (1998): 12-15.

Forte, Allen. "Olivier Messiaen as Serialist." *Music Analysis* 21 (2002): 3-34.

Freeman, Robin. "Courtesy towards the Things of Nature: Interpretations of Messiaen's *Catalogue d'oiseaux*." *Tempo* 192 (April 1995): 9-14.

Fulcher, Jane F. "The Politics of Transcendence: Ideology in the Music of Messiaen in the 1930." *The Musical Quarterly* 86 (2002): 449-471.

Gallatin, James Allen. "An Overview of the Compositional Methods in Representative Works of Olivier Messiaen." Ph.D. dissertation, University of Cincinnati, 1986.

Gardiner, Bennet. "Dialogue with Messiaen." *Musical Events* 22 (October 1967): 6-9.

_____. "Great French Musician Olivier Messiaen." *Musical Events* 22 (April 1967): 12-14.

Gather, John-Philipp. "The Origins of Synthetic Timbre Serialism and the Parisian Confluence, 1949-52." Ph.D. dissertation, University of New York at Buffalo, 2003.

Gavoty, Bernard. "Who are you, Olivier Messiaen?" *Tempo* 58 (Summer 1961): 33-6.

Gilmer, Carl Du Vall III. "Messiaen's Musical Language in *Méditations sur le mystère de la Sainte Trinité*." D.M.A. dissertation, Memphis State University, 1978.

Goléa, Antoine. *Rencontres avec Olivier Messiaen*. Paris: Editions Slatkine, 1984.

Goll-Wilson, Kathleen. John Knight. "Boulez on Boulez." *The Instrumentalist* 53/11 (1999): 12-17.

Griffiths, Paul. "Olivier Messiaen." In *The New Grove: Twentieth-Century French Masters: Fauré, Debussy, Satie, Ravel, Poulenc, Messiaen, Boulez*. 221-248. New York: W. W. Norton, 1986.

_____. *Olivier Messiaen and the Music of Time*. Ithaca, New York: Cornell University Press, 1985.

_____. "Catalogue de Couleurs: Notes on Messiaen's Tone Colours on his 70th Birthday." *The Musical Times* 119 (December 1978): 1035-37.

_____. "Poèmes and Haïkaï: A Note on Messiaen's Development." *The Musical Times* 112 (September 1971): 851-2.

_____. *Modern Music and After: Directions Since 1945*. First published as *Modern Music*: *The Avant Garde Since 1945*. London: J. M. Dent & Sons Ltd., 1981. Oxford and New York: Oxford University Press, 1995.

Guiberteau, Francine. "*Le Saint François d'Assise* d'Olivier Messiaen: Événement et avènement." *Analyse musicale* 1 (1985): 61-83.

Gu-Jang Sung Bok. "An Analysis of Stylistic Features of the Variations for Piano on the Theme Baugoge." D.M.A. dissertation, University of Kentucky, 2006.

Gunden, Heidi Cecilia von. "Timbre as Symbol in Selected Works of Olivier Messiaen." Ph.D. dissertation, University of California in San Diego, 1977.

Halbreich, Harry. *Olivier Messiaen*. Paris: Fayard, 1980.

Handman, Dorel. "Les Portraits d'Oiseaux d'Olivier Messiaen." *Les Nouvelles Littéraires* 23 (April 1959).

Harris, Joseph Edward. “Musique Colorée: Synesthetic Correspondence in the Works of Olivier Messiaen.” Ph.D. dissertation, University of Iowa, 2004.

Healey, Gareth. “Messiaen and the Concept of ‘Personages’.” *Tempo* 58 (2004): 10-19.

Henderson, Karen R. “A Study of the Use of Birdsong in the Compositions of Olivier Messiaen: What is Musical about this Extra-musical Connection?” M.M. thesis, University of Cincinnati,1995.

Hickman, Melinda Lee. “Meaning in Piano Music with a Religious Theme: A Philosophical and Historical Approach.” D.M.A. dissertation, University of Cincinnati, 2001.

Hill, Camille Crunelle. “The Synthesis of Messiaen's Musical Language in his Opera *Saint François d'Assise*.” Ph.D. dissertation, University of Kentucky / University of Louisville, 1996.

Hill, Matthew Richard. “Messiaen’s *Regard du Silence* as an Expression of Catholic Faith.” D.M.A. dissertation, University of Wisconsin-Madison, 1995.

Hill, Peter. “For the Birds.” *The Musical Times* 135 (September 1994): 552-555.

_____. “Messiaen’s *Catalogue d’oiseaux*.” *Clavier* 29/10 (1990): 20-22.

_____. “Problems of Interpretation in Messiaen's *Catalogue d’oiseaux.*” Unpublished Paper presented at Columbia University, December 1990.

_____. “Structure and Performance in Messiaen's *Catalogue d'oiseaux*.” Unpublished Paper presented at Colloquium at the Institute for Advanced Musical Studies, King's College, University of London, 20 January 1993.

_____ and Nigel Simeone. *Messiaen.* London: Yale University Press, 2005.

_____, ed. *The Messiaen Companion*. Portland, Oregon: Amadeus Press, 1995.

Hold, Trevor. “Messiaen's Birds.” *Music & Letters* 52 (April 1971): 113-122.

Holloway, Clyde Barrington. “The Organ Works of Olivier Messiaen and their Importance in his Total Oeuvre.” Ph.D. dissertation, New York Union Theological Seminary, 1974.

Hopkins, Stephen O'Bryan. "A Comparative Analysis of Selected Works of Alexander Scriabin and Olivier Messiaen for Solo Piano." Ph.D. dissertation, Florida State University. 1993.

Hsu, Madeleine. "Bartók: Messiaen's Master of Thought." *Journal of the American Liszt Society* 35 (January-June 1994): 61-86.

_____. "Olivier Messiaen, the Musical Mediator, and his Major Influences Liszt, Debussy, and Bartók." Ph.D. dissertation, New York University, 1984.

_____. *Olivier Messiaen, the Musical Mediator: A Study of the Influence of Liszt, Debussy, and Bartók.* Madison, NJ: Fairleigh Dickinson University Press, 1996.

Hwang, Hyun Jung. "Olivier Messiaen's Orchestral Works 1963-69." Ph.D. dissertation, University of California in Los Angeles, 2006.

Irvine, Catherine Anne. "The interrelations of Formal Structure, Harmony, Register, and Instrumentation in Messiaen's *Un Sourire*." M.M. thesis, University of Western Ontario, 1999.

Isgitt, David Stephen. "An Analysis of Periodic Rhythmic Structures in the Music of Steve Reich and Gyorgy Ligeti." M.M. thesis, University of North Texas, 2002.

Johnson, Robert Sherlaw. *Messiaen.* London: JM Dent & Sons Ltd, 1989.

Jurkowski, Edward Martin. "A Theory of Harmonic Structure and Voice Leading for Atonal Music." Ph.D. dissertation, University of Rochester, 1998.

Katzinn, Allan. "Olivier Messiaen, Composer, Dies at 83." *New York Times* (29 April 1992) B-ll.

Kelley, Robert T. "Tradition, the Avant Garde, and Individuality in the Music of Olivier Messiaen: Musical Influences in *Méditations sur la Mystère de la Sainte-Trinité."* Paper presented at Graduate Seminar in Music Since 1950, Lander University, 19 April 2000.

Kim, Paul Sung-Il. "Olivier Messiaen's *Catalogue d'oiseaux* for Solo Piano: A Phenomenological Analysis and Performance Guide." Ph.D. dissertation, New York University, 1989.

Knox, Roger Martin. "Elegy. A neo-romantic's Tonal World: Pitch Organization in Jacques Hetu's Ballade op. 30." Ph.D. dissertation, University of Rochester, 1998.

Koh, Hwee Been. "East and West: The Aesthetics and Musical Time of Toru Takemitsu." Ph.D. dissertation Boston University, 1998.

Koozin, Timothy. “Spiritual-Temporal Imagery in Music of Olivier Messiaen and Toru Takemitsu.” *Contemporary Music Review* 7 (1993): 185-202.

LaRue, Jan. *Guidelines for Style Analysis*. 2nd ed., Michigan: Harmonie Park Press, 1992.

Laycock, Gary Eng Yeow. “Olivier Messiaen's Studies and Influences at the Paris Conservatoire and their Impact on the Genesis of his Style.” Ph.D. dissertation, Indiana University. In progress.

Le Forestier, Anne. *Olivier Messiaen, L'Ascension (Cahiers d'Analyse et de Formation Musicale)* Paris: Alphonse Leduc, 1984.

Lee, Hyeweon. “Olivier Messiaen’s ‘*Vingt Regards sur l’enfant-Jésus*’: A Study of Sonority, Color, and Symbol.” D.M.A. dissertation, University of Cincinnati, 1992.

Lee, John Madison. “Harmonic Structures in the *Quatre Études rythmiques* of Olivier Messiaen.” Ph.D. dissertation, Florida State University, 1972.

_____. “Harmony in the Solo Piano Works of Olivier Messiaen: The First Twenty Years.” *College Music Symposium* 23 (Spring 1983): 65-80.

Lester, Joel. *Analytic Approaches to Twentieth-Century Music*. New York: W. W. Norton, 1989.

Lierdeman, Philippe. “Pliages for Percussion Sextet.” Ph.D. dissertation, University of California in San Diego, 1997.

Lin, Yi-Ting. “A Comparison of Scriabin’s Last five Piano Sonatas and Messiaen’s *Vingt Regards sur l’enfant-Jésus*: Analyses of Sonata No.7, and Contemplations I, IV, and XX.” D.M.A. dissertation, Texas, Southwestern Baptist Theological Seminary Fort Worth, 1999.

Loriod, Yvonne. “Étude sur l’œuvre pianistique d’Olivier Messiaen.” In *Portrait(s) d'Olivier Messiaen*, ed. Catherine Massip. Paris: Bibliothèque nationale de France, 1996, 75-158.

Louvier, Alain. “Olivier Messiaen, le rythme et la couleur.” In *Portrait(s) d'Olivier Messiaen*, ed. Catherine Massip. Paris: Bibliothèque nationale de France, 1996, 47-60.

Love, Andrew. “Improving their Future: Shamanic Hope in Ives, Schoenberg, Cage, Cardew, Rzewski and Messiaen.” *Tempo* 35 (2006): 24-32.

Luchese, Diane. “Olivier Messiaen's Slow Music: Glimpses of Eternity in Time.” Ph.D. dissertation, Northwestern University, 1998.

Mari, Pierette. *Olivier Messiaen: I'homme et son œuvre*. Paris: Segheres, 1965.

Massin, Brigitte. *Olivier Messiaen: Une poétique du merveilleux*. Aix-en-Provence: Editions Alinéa, 1989.

Massip, Catherine, ed. *Portrait(s) d'Olivier Messiaen*. Paris: Bibliothèque nationale de France, 1996.

McGinnis, Margaret Elizabeth. “Playing the Fields: Messiaen, Music, and the Extramusical.” Ph.D. dissertation, University of North Caroline at Chapel Hill, 2003.

Menk, Nancy Lee. “Andre Jolivet: Epithalame.” D.M.A. Dissertation, University of Cincinnati, 1985.

Messiaen, Olivier. *Conférence de Bruxelles.* Paris: Alphonse Leduc, 1960.

_____. *Messiaen on Messiaen.* Trans. Irenne Feddera. Van Nuys: Alfred Publishing, 1986.

_____. *Musique et Couleur.* Paris: Pierre Belfond, 1986.

_____. “Olivier Messiaen analyse ses œuvres.” In *Hommage à Olivier Messiaen: novembre-décembre 1978.* Paris: La Recherche artistique, 1979.

_____. *Lecture at Notre-Dame (An Address Presented at Notre-Dame Cathedral in Paris, December 4, 1977)*. Trans. Timothy J. Tikker. Paris: Alphonse Leduc, 2001.

_____. *Music and Color: Conversations with Claude Samuel*. Trans. E. Thomas Glasow. Portland: Amadeus Press, 1994.

_____. *Technique de mon langage musical.* Paris: Alphonse Leduc, 1944. *Technique of My Musical Language.* Vol.1, Text. Vol. 2, Musical Examples. Trans. John Satterfield. Paris: Alphonse Leduc, 1956.

_____. *Traité de rythme, de couleur, et d'ornithologie.* 7 vols. Paris: Alphonse Leduc, 1994-2002.

Montgomery, Mary Ann. “Musical and Poetical Structures in Olivier Messiaen’s *Couleurs de la cité céleste* and Ted Hughes’s *Crow*.” Ph.D. dissertation, Ohio University, 1989.

Morris, Betty Ann Walker. “Symbolism and Meaning in *Vingt regards sur l'enfant-Jésus* by Olivier Messiaen.” D.M.A. dissertation, University of North Texas, 1978.

Morris, David. “A Semiotic Investigation of Messiaen’s Abîme des oiseaux.” *Music Analysis* 8 (1989): 125-58.

Muncy, Thomas R. “Messiaen’s Influence on Post-war Serialism.” M.M. thesis, North Texas State University, 1984.

Murray, Michael. “An Interview with Olivier Messiaen.” *The Diapason* 70 (1978): 3-5.

Neidhofer, Christoph. “A Theory of Harmony and Voice Leading for the Music of Olivier Messiaen.” *Music Theory Spectrum* 27 (2005): 1-34.

Nelson, David Lowell. “An Analysis of Olivier Messiaen’s Chant Paraphrases.” Ph.D. dissertation Evanston Northwestern University, 1992.

Ngim, Alan Gerald. “Olivier Messiaen as a Pianist: A Study of Tempo and Rhythm Based on his Recordings of *Visions de l'Amen*.” DM.A. dissertation, University of Miami, 1997.

Nichols, Roger. “Boulez on Messiaen: Pierre Boulez in Conversation with Roger Nichols.” *The Organist’s Review* 71 (1986): 167-170.

_____. “Messiaen's Birds.” *Music & Letters* 53 (April 1972): 233-234.

_____. “Messiaen's *Le Merle noir:* The Case of a Blackbird in a Historical Pie.” *The Musical Times*, 129 (December 1988): 648-650.

_____. *Messiaen*. Oxford Studies of Composers, Vol. 13. London: Oxford University Press, 1975.

Nonken, Marilyn Claire. “An Ecological Approach to Music Perception: Stimulus-Driven Listening and the Complexity Repertoire.” Ph.D. dissertation, Columbia University, 1999.

Oh, Seung-Ah. “Olivier Messiaen's Composition Techniques in *Réveil des oiseaux*. “ Ph.D. dissertation, Massachusetts: Brandeis University, 2005.

Ohia, Chinyerem Maduakolam Nduka. “Messiaen's Rhythmic Techniques and their Structural Application in Sept Haïkaï.” Ph.D. dissertation, University of Pittsburgh, 1989.

Palmer, David. “Olivier Messiaen: A Tribute on his 80th Birthday.” *The Diapason* 79 (1988): 10-11.

Paula, Ennis. “A Study of Coherence and Unity in Messiaen's Cycle *Vingt Regards sur l’enfant-Jésus*.” Ph.D. dissertation, Indiana University, 1979.

Penot, Jacques. “Olivier Messiaen ornithologue.” In *Portrait(s) d'Olivier Messiaen*, ed. Catherine Massip, 61-71. Paris: Bibliothèque nationale de France, 1996.

Périer, Alain. *Messiaen*. Paris: Seuil, 1979.

Peterson, Larry Wayne. “Messiaen and Rhythm: Theory and Practice.” Ph.D. dissertation, University of North Carolina at Chapel Hill, 1973.

Philips, John Douglass. “The Modal Language of Olivier Messiaen: Principles of *Technique de mon langage musical* Reflected in *Catalogue d'oiseaux*.” D.M.A. dissertation, Peabody Conservatory of Music, 1977.

Pople, Anthony. *Messiaen: Quatuor pour la fin du temps.* Cambridge: Cambridge University Press, 1998.

Prost, Christine. “Questions de rythme et d’interprétation: *Le Printemps* de Claude Le Jeune [et] *Cinq Rechants* d’Olivier Messiaen.” *Analyse musicale* 9 (1987): 33-42.

Quenetain, Tanneguy de. “Messiaen, Poet of Nature.” *Music and Musicians* 11:9 (May 1963): 8-12.

Quilling, Howard Lee. “An Analysis of Oliver Messiaen's *Couleurs de la cité céleste*." Ph.D. dissertation, University of California in Santa Barbara, 1984.

Renshaw, Jeffrey H. “Olivier Messiaen’s Et Exspecto: An Interpretive Analysis.” *The Instrumentalist* 46 (1991): 28-30.

Reverdy, Michele. *L'Œuvre pour orchestre d'Olivier Messiaen.* Paris: Alphonse Leduc, 1988.

_____. *L'Œuvre pour Piano d'Olivier Messiaen*. Paris: Alphonse Leduc, 1978.

Rindom, Ditlev. “Illuminating the Beyond: The Life and Work of Olivier Messiaen.” *The Cambridge Quarterly* 35 (2006): 188-191.

Rischin, Rebecca. *For the End of Time: The Story of the Messiaen Quartet*. Ithaca, New York: Cornell University Press, 2003.

Rogers Reeves, Janice Elaine. “Theological Symbolism in Olivier Messiaen’s *Poèmes for Mi.* An Interpretative and Set Theoretic Analysis.” D.M.A. dissertation, University of Missouri in Kansas City, 1997.

Rogosin, David. “Aspects of Structure in Olivier Messiaen’s *Vingt Regards sur l’enfant-Jésus*.” D.M.A. dissertation, University of British Columbia, 1996.

Romig, James. “Twelve-tone Rhythmic Structure and its Application to Form Time Point Nesting and Rotation in Spin.” Ph.D. dissertation, State University of New Jersey, 2000.

Roscigno, John Anthony. “Percy Grainger’s The Warriors-Music to an Imaginary Balley.” D.M.A.dissertation, University of Arizona, 1998.

Ross, Mark Alan. “The Perception of Multitonal Levels in Olivier Messiaen's *Quatuor pour la fin du temps* and Selected Vocal Compositions.” Ph.D. dissertation, University of Cincinnati, 1977.

Rössler, Almut. *Contributions to the Spiritual World of Olivier Messiaen with Original Texts by the Composer.* Trans. Barbara Dagg, Nancy Poland and Timothy Tikker. Duisburg: Gilles & Francke, 1986.

Rostand, Claude. *Olivier Messiaen*. Paris: Ventadour, 1957.

Salzman, Eric. Twentieth-Century Music: An Introduction. 3rd ed., Englewood Cliffs: Prentice Hall, 1988.

Samuel, Claude and Olivier Messiaen. Musique et couleurs: Nouveaux entretiens avec Claude Samuel. Paris: Belfond, 1986. Olivier Messiaen: Music and Color. Trans. E. Thomas Glasow. Portland, Oregon: Amadeus Press, 1994.

_____. Entretiens avec Olivier Messiaen. Paris: Belfond, 1967. Conversations with Messiaen. Trans. Felix Aprahamian. London: Stainer & Bell, 1976.

_____. Permanences d’Olivier Messiaen: Dialogues et commentaires. Arles: Actes Sud, 1999.

Savli, Peter. “Harmonic Density in Messiaen.” D.M.A. dissertation, Cornell University, 1999.

Scarambone, Bernado. “The Piano Works of Marlos Nobre.” D.M.A. dissertation, University of Houston, 2006.

Schlee, Thomas Daniel. “Olivier Messiaen: *Méditation sur le mystère de la Sainte Trinité*.” Ph.D. dissertation, University of Vienna, 1984.

Schouest, Scott J. “Symbolic Composition: Olivier Messiaen and the Music of Myth.” Ph.D. dissertation University of Wisconsin at Madison.

Seifert, Charles Ernest. “Messiaen's *Vingt Regards sur l'enfant-Jésus*: a Historical and Pedagogical Study.” D. Education dissertation, University of Illinois at Urbana-Champaign, 1989.

Shenton, Andrew David James. “The Unspoken Word: Olivier Messiaen's ‘Langage Communicable’.” Ph.D. dissertation, Harvard University, 1998.

Shinew, Krista Ann. “Understanding the Organ Music of Olivier Messiaen: Optical Illusions Versus Aural Realities.” M.M. thesis, Duquesne University, 2004.

Sholl, Robert P. “Olivier Messiaen and the Culture of Modernity**.”** Ph.D. dissertation, King's College, University of London, 2003.

Simeone, Nigel. “Messiaen and the Concerts de la Pléiade: ‘A Kind of Clandestine Revenge against the Occupation’.” *Music and Letters* 81(November 2000): 551-84.

_____. *Olivier Messiaen: A Bibliographical Catalogue of Messiaen’s Works: First Editions and First Performances, with Illustrations of the Title Pages, Programs, and Documents.* Tutzing: H. Schneider, 1998.

_____. “’Chez Messiaen tout est prière’: Messiaen’s appointment at the Trinité.” *The Musical Time* 145 (2004): 36-54.

_____. “Towards 'un Succès Absolument Formidable': the Birth of Messiaen's La Transfiguration.” *The Musical Times* 145 (2004): 5-24.

Simundza, Mirjana. “Messiaen’s Rhythmical Organization and Classical Indian Theory of Rhythm.” *International Review of the Aesthetics and Sociology of Music* 18 (June 1987): 117-144.

Smalley, Roger. "Debussy and Messiaen." *The Musical Times* 109 (February 1968): 128-31.

Snavely, Andrea L. "The Role of Statistical Cues in the Segmentation of Post-Tonal Music." Ph.D. dissertation, University of Wisconsin-Madison, 2004.

Straus, Joseph N. *Introduction to Post-Tonal Theory*. 3rd. ed., Upper Saddle River: Prentice Hall, 2000.

Street, Donald. "The modes of Limited Transposition." *The Musical Times* 117 (October 1976): 819-821, 823.

Stuckenschmith, H.H. "Contemporary Techniques in Music." *The Musical Quarterly* 49 (January 1963): 1-16.

Sun, Shu-Wen. "Birdsong and Pitch-Class Sets in Messiaen's *L'alouette calandrelle*." D.M.A. dissertation, University of Oregon, 1995.

Tolle, Julian Christopher. *Olivier Messiaen: Éclairs sur L'Au-delà: Die Christlich-Eschatologische Dimension Des Opus Ultimum*. Frankfurt, Berlin, New York, Paris: Lang Peter Publishing, 1996.

Toop, Richard. "Messiaen/Goeyvaert, Fano/Stockhausen, Boulez." *Perspectives of New Music* 13 (Fall-Winter 1974): 141-169.

Trawick, Eleanor. "Serialism and Permutation Techniques in Olivier Messiaen's *Livre d'orgue*." *Music Research Forum* (1991): 15-35.

Tremblay, Gilles. "Oiseau-Nature, Messiaen, Musique." *Les Cahiers Canadiennes de Musique* (1970): 15-39.

Troup, Malcolm. "Messiaen and the Modern Mind." Ph.D. dissertation, York University, 1968.

Von Gunden, Heidi Cecilia. "Timbre as Symbol in Selected Works of Olivier Messiaen." Ph.D. dissertation, University of California in San Diego, 1977.

Wai-Ling, Cheong. "Messiaen's triadic Coloration: Modes as Interversion." *Music Analysis* 21 (2002): 53-84.

Walker, Rosemary. "Modes and Pitch-Class Sets in Messiaen: A Brief Discussion of *Première Communion de la Vierge*." *Music Analysis* 8 (1989): 159-168.

Wallendorf, Paulette Sue. "The Role of Textural Design in the Music of Olivier Messiaen: A Study of *Couleurs de la cité céleste*." M.M. thesis, North Texas State University, 1981.

Wardell, Xiaoman Zhang. "An Examination of Selected Contemporary Works Composed by Means of Numbers." D.M.A. dissertation, California, The Claremont Graduate School, 1996.

Watkins, Glenn. *Soundings: Music in the Twentieth Century*. London: Collier Macmillan, 1988.

Watts, Harriet "Canyons, Colours and Birds: An Interview with Oliver Messiaen." *Tempo*, 128 (March 1979): 2-8.

Waumsley, Stuart. *The Organ Music of Olivier Messiaen.* Paris: Alphonse Leduc, 1968.

Welsh Ibáñez, Deborah. "Color, Timbre, and Resonance: Developments in Olivier Messiaen's Use of Percussion Between 1956-1965." D.M.A. dissertation, University of Miami, 2005.

Whitmore, Brooks Blaine. "Rhythmic Techniques in Olivier Messiaen's *Vingt Regards sur l'enfant Jésus*." D.M.A. dissertation, University of Texas at Austin, 2000.

Wiest, Lori Jean. "Olivier Messiaen's *cinq réchants:* The Importance of Rhythm as a Structural Element." D.M.A. dissertation, University of Arizona, 1990.

Williams, Graham. "The Theories of Oliver Messiaen: Their Origins and Relation to his Piano Music." Ph.D. dissertation, University of Adelaide, 1978.

Wingell, Richard J. *An Introduction to Research in Music*. Upper Saddle River: Prentice Hall, 2001.

Wong , Ren-Liang. "Brief Analysis of the Turangalila Movements of Olivier Messiaen's *Turangalîla-symphonie*." Ph.D. dissertation, UCLA, 1992.

Zheng, Zhong. "A Study of Messiaen's Solo Piano Works." Ph.D. dissertation, University of Hong Kong, 2004. (Chinese)

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