

**The Evolution of Messiaen's Birdsong Writings:  
The Case of Blackbird**

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of the Requirements for the Degree of  
Master of Philosophy  
in  
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To my Lord, who gives me this gift;  
To my parents, who cultivate this gift.

“ . . . it is necessary to think one thought and one thought only,  
and to think it through to the end.”<sup>1</sup>

Harold Bloom

“It doesn’t matter whether it’s good or bad – it was I who did it.”<sup>2</sup>

Olivier Messiaen

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<sup>1</sup> Harold Bloom, *The Anxiety of Influence* (2<sup>nd</sup> edition, Oxford: Oxford University Press, 1997), xi.

<sup>2</sup> Almut Rößler, *Contributions to the Spiritual World of Olivier Messiaen* (Duisburg: Gilles und Francke Verlag, 1986), 35.



# The Evolution of Messiaen's Birdsong Writings:

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Submitted by

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### Abstract

Beginning from the early 1960s, studies of Messiaen's birdsong have adopted different perspectives and analytical approaches. However, studies of the interrelationship between his compositional techniques and his writings on the one hand and his birdsong music on the other hand have been largely neglected. Although analyses of Messiaen's birdsong music have appeared in dissertations and journals over the past twenty years, they tend to focus on performance rather than the structure and setting of individual birdsong. In this thesis, I discuss Messiaen's views on birdsong music from three sources: his treatises, speeches and interviews that in various ways mark his extended career. The current literature on Messiaen's birdsong music is also reviewed.

The analyses of blackbird music extracted from *Quatuor pour la fin du Temps*, *Le merle noir*, *Catalogue d'oiseaux*, *Chronochromie*, *Petites esquisses d'oiseaux* and *Feuillets inédits* shed light on the structure of the birdsongs, the technique developed for birdsong setting and also his use of color chords and "les hors tempo" to treat specific birdsongs. Equipped with *Technique de mon langage musical*, *Traité de*

*rythme, de couleur, et d'ornithologie*, set theory and Joseph Straus's newly proposed voice-leading approach, I endeavor to show how Messiaen integrates birdsong as both a musical and an extra-musical resource into his music over the years. Apart from tracing the evolution of his blackbird music, I also comment on Messiaen's compositional techniques as manifested in his birdsong writings and the impact of *Technique* and *Traité* on existing Messiaen scholarship.

## 撮要

從六十年代開始,不少學者採用不同的角度和分析手法去研究梅湘的鳥歌,但是其音樂的作曲技巧,音樂理論和鳥歌三者之間的關係一直被人忽視。雖然在過去的二十年,梅湘鳥歌的音樂分析亦見於學者的博士論文及學術期刊之中,但他們多著重分析音樂的表現手法而少研究鳥歌的結構和佈局。在本論文中,本人透過梅湘的論文,演講及訪問去討論他對鳥歌音樂的看法,而現時有關梅湘鳥歌的音樂文獻之評論亦有所論及。另外,本文亦從 *Quatuor pour la fin du Temps*, *Le merle noir*, *Catalogue d'oiseaux*, *Chronochromie*, *Petites esquisses d'oiseaux* 及 *Feuillets inédits* 中選取了黑鳥的音樂分析去透視鳥歌的結構,鳥歌佈局的技巧和梅湘使用色彩和弦及自由速度去處理個別鳥歌的手法。此外,本文也透過 *Technique de mon langage musical*, *Traité de rythme, de couleur, et d'ornithologie*, 集合理論 (set theory) 和 Joseph Straus 最新建議的領導聲部分分析方法 (voice-leading), 去顯示梅湘如何使鳥歌結合於其音樂當中。除了追溯梅湘黑鳥音樂的演變,本文亦評論梅湘鳥歌的作曲技巧及其 *Technique* 和 *Traité* 對他學術研究之影響。



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Alfred Wong told me,

*“It is your goal, also our goal, we wait for the day.”*

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## Chapter 1

### *Introduction*

“... I would like to head for the open sea, beyond the pollution of civilization, and give him the title of *Bird Prophet*.”<sup>1</sup>

Claude Samuel

“What has had the greatest influence on me, by long way, is the song of birds. Really, I’m an ornithologist as much as I am a composer, may be even more so. . .”<sup>2</sup>

Olivier Messiaen

### **Background**

Olivier Messiaen (1908-1992) began collecting birdsongs when he was approximately fifteen years old. However, the first use of identifiable birdsongs did not appear until *Quatuor pour la fin du temps* of 1941. In *Technique de mon langage musical* (1942), he devoted a chapter to explaining the purpose of his birdsong transcriptions and cited examples to show how he adapted birdsongs to his music. Since the early 1950s, he began using birdsongs as important elements of composition. Birdsongs first appear as major musical material in *Réveil des oiseaux* (1953), *Oiseaux exotique* (1955-1956), *Catalogue d'Oiseaux* (1956-1958) and *Chronochromie* (1959-1960).

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<sup>1</sup> Claude Samuel, *Olivier Messiaen Music and Color: Conversations with Claude Samuel*, trans. Thomas Glasow, Oregon: Amadeus Press, 1994, 11 (my italics).

<sup>2</sup> Claude Samuel, *Olivier Messiaen entretien avec Claude Samuel: The Composer Talks to Claude Samuel*. Erato: ECD 75505. Compact disc booklet translated by Stuart Walters, 6.



## Literature review

### I. Authenticity in Messiaen's birdsongs

The study of Messiaen's use of birdsong in his musical compositions first appeared in the early 1960s by Norman Demuth. Since the 1970s, Trevor Hold's attitude towards Messiaen's adaptation of birdsongs and their authenticity became rather critical.

Nonetheless, this controversial issue has more recently been settled by Meri Kurenniemi's thoughtful study.

In 1960, Norman Demuth supported Messiaen's early use of birdsongs in his music. When authentic birdsongs were used, he commented that Messiaen's versions of birdsong were in the style of "impressionistic verism." He has also disclosed that Messiaen utilized birdsongs as the basis of creative melody.<sup>3</sup> He focused his discussion on the birdsong writing techniques in *Réveil des oiseaux* (1953), and concluded that:

- Instruments are not expected to imitate each other;
- No two birds exactly sing in the same way;
- Each bird represents more than one song;
- All birdsongs are spasmodic and more disjunct than conjunct;
- Polyphonic birdsong is supported by harmonies;
- The use of pianism creates highly resemblant birdsongs of le merle noir (blackbirds) and rouge-gorge (robin).<sup>4</sup>

These techniques created totally new melodic and contrapuntal styles, which made *Réveil des oiseaux* a unique art work.

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<sup>3</sup> Norman Demuth, "Messiaen's Early Birds," *The Musical Times* 101 (October 1960), 627. However, Demuth did not mention the source where Messiaen expressed this idea.

<sup>4</sup> *Ibid.*, 628-629. Demuth miscounted the types of birdsong used in *Réveil des oiseaux*. The correct number should be thirty-eight. Their names are shown in the preface of the work and *Traité* V/2, 633.



Approximately ten years later, Trevor Hold criticized Messiaen's birdsong music harshly. Hold's stance is clearly shown in the beginning of his article where he quoted an anonymous commentary:

“They sing by themselves, they sing together,  
In colours of orange and blue and red,  
But you will never see them fly[,]  
For Messiaen's birds live in Messiaen's head.”<sup>5</sup>

Hold seems to say only that Messiaen values his birdsongs while the outsiders would never understand his birds. He repeats this comment explicitly by saying: “this is Messiaen's pigeon, not ours.”<sup>6</sup> He thinks that music would express by itself. Other additional information, such as the preface to the work and the acknowledgements of the use of permutations and birdsongs, is important to the composers rather than the audience.

By listing the similarities and differences between the composed music and the authentic birdsong, and the supportive views towards Messiaen's birdsongs, he furthers his criticism of Messiaen's birdsong technique and provides his counter commentaries by comparing his birdsongs with the authentic transcriptions of birdsongs in staff notation.<sup>7</sup> He concludes that Messiaen's birdsongs are not as authentic as the real birdsongs in terms of tempo, gesture, meter, pitch, tone quality and timbre. Through his imaginative transmutation, Messiaen produces rigid and cageful mechanical birdsongs rather than free and spontaneous ones.<sup>8</sup>

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<sup>5</sup> Trevor Hold, “Messiaen's Birds,” *Music and Letters* 52/2 (April 1971), 113.

<sup>6</sup> *Ibid.*, 114.

<sup>7</sup> Hold took the birdsongs of rossignol (nightingale), huppe (hoopoe), engoulevent (nightjar) and troglodyte (wren) in *Réveil des oiseaux* for comparison. In the case of nightingale, he even used sound-spectrograph to compare, see *ibid.*, 118-119 (opposite leaves). The supportive side included David Drew, Claude Rostand, Eric Salzman and Norman Demuth. For detail, see *ibid.*, 115-116.

<sup>8</sup> *Ibid.*, 118 and 122.

This controversial issue came to be settled in the early 1980s. Kurenniemi pointed out that the acceptance of Messiaen's birdsong style and the critical attitudes from the Anglo-Saxon world might be due to the idea of "imitation de la belle nature" to French thinking.<sup>9</sup> He reminded the readers that the melody may remain recognizable when they are transposed to different keys and octaves, or set to different instruments, being a solo or a huge unison. All these situations are relevant to birdsongs in nature. To support his argument, he quoted the comment by Roger Nichols:

By 'exactly' he means that he has reproduced the original material in terms that humans can perform and understand: that is, the internal relationships of the birdsongs have been as far as possible maintained, even though the whole is now lower, slower and based on a smallest melodic interval of a semitone.<sup>10</sup>

Nichols understands that Messiaen's birdsong music needs accommodations when they are "translated" into our human musical world.

By stating the purposes, the possible criteria for judgment and the steps in Messiaen's birdsong study, Kurenniemi argues against Trevor Hold's analysis and his criticism from the perspective of musical meaning and understanding. He takes the birdsongs of nightingale from Messiaen's *Réveil des oiseaux* as well as Hold's examples in his article (1970) to illustrate that Hold's interpretation of Messiaen's "fallacy" birdsongs in fact does not conflict with the view of the ornithologist.<sup>11</sup> Furthermore, Kurenniemi points out Hold's problematic assumptions concerning the lack of exact records of the birdsongs Messiaen used. Hold's inability in giving exact examples in staff notation for birdsong comparison is nevertheless unnecessary. Even

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<sup>9</sup> Meri Kurenniemi, "Messiaen, the Ornithologist," *The Music Review* 41/2 (1980), 121.

<sup>10</sup> Roger Nichols, *Messiaen* (Oxford: Oxford University Press), 56, in Kurenniemi, "Messiaen, the Ornithologist," 121.

<sup>11</sup> For detail, see Charles Hartshorne, *Born to Sing: An Interpretation and World Survey of Bird Song* (Bloomington: Indiana University Press, 1973), 88, in Kurenniemi, "Messiaen, the Ornithologist," 124.



two people listening to the same birdsong may not come up with the same understanding and transcription.<sup>12</sup>

Kurenniemi continues to say that no instrument can express the feeling, joy or sorrow of a bird. If there is a feeling, it is from the audience's interpretation rather than through the imitative sound of the instrument.<sup>13</sup> Finally, Kurenniemi concludes with the result from his experiment that the best judges of the authenticity of the birdsongs are the birds themselves.<sup>14</sup> His last commentary ended the whole issue: "Messiaen the composer does not make music to communicate with the birds."<sup>15</sup>

## II. Messiaen's writings, speeches and interviews about birdsong music

As a prolific composer, Messiaen not only writes music in different kinds of genres, from character pieces for piano solo to gigantic orchestral works and opera, but he also writes prefaces to works since *La Nativité du Seigneur* (1935), program notes to recordings and two important treatises, *Technique de mon langage musical* (1942) and *Traité de rythme, de couleur et d'ornithologie* (1992-2002) in seven volumes. In addition, he also delivers speeches in conferences and has interviews with scholars and critics. All these activities enable Messiaen to disseminate his musical language and compositional philosophy. Therefore, in order to understand Messiaen's music and his compositional techniques, it is necessary for us to study his writings in addition to his music.

In this section, I concentrate my review on Messiaen's treatises, speeches and interviews. The prefaces to works and program notes to recordings will be discussed in the following chapters together with the music analyses.

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<sup>12</sup> *Ibid.*, 125.

<sup>13</sup> *Ibid.*, 125.

<sup>14</sup> Kurenniemi's unpublished experiment in 1977.

<sup>15</sup> Kurenniemi, "Messiaen, the Ornithologist," 126.

a) Treatises

i) *Technique de mon langage musical* (1942)

In Messiaen's first treatise, *Technique de mon langage musical* (hereafter *Technique*), he discusses his own compositional thoughts and techniques. *Technique* consists of nineteen chapters and an appendix of his worklist, in which the number of asterisks shows the extent a work is typical of his musical language.<sup>16</sup>

The chapters can be further grouped into three categories: the study of rhythm (chapters I to VII); the study of melody and form (chapters VII to XII) and the study of harmony and chord (chapters XIII to XIX).

Chapter IX, "Bird Song," comes under the second category. It is a single-page chapter with six musical examples. Messiaen begins with the quotation from his teacher, Paul Dukas: "Listen to the birds. They are great masters."<sup>17</sup> Then he describes some general features of birdsongs, such as jumbles of rhythmic pedals, and the untempered intervals smaller than a semitone. While Messiaen states that, "it is ridiculously servilely to copy nature,"<sup>18</sup> he cites examples that are based on the transcription and transformation of authentic birdsongs.<sup>19</sup>

In the following section, Messiaen only wrote briefly on each of the following six examples. He cited the birdsong from, "Abîme des oiseaux," the third movement of *Quatuor pour la fin du Temps*, as example 114. He only pointed out that there is an arpeggio of the dominant chord with appoggiaturas at the end. The original form of

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<sup>16</sup> The appendix of works is grouped according to the genres rather than following the chronological order. The indications of the degree of Messiaen's characteristics are no, one or two asterisks in front of the name of the work.

<sup>17</sup> Olivier Messiaen, *The Technique of My Musical Language*, vol. I (Translated by John Satterfield. Paris: Alphonse Leduc, 1942), 34.

<sup>18</sup> *Ibid.*, 34.

<sup>19</sup> Messiaen's original words of "our little servants of immaterial joy" implicitly means birds. See *Ibid.*, 34.



the dominant chord with appoggiaturas was shown in example 115. He named the clarinet solo in “Liturgie de crystal” as a typical bird style.<sup>20</sup> Messiaen ends the chapter by providing four transcriptions of birdsongs: the call of a merle (example 116), the improvisations of a merle (example 117), the vehement tiralirra of the lark (example 118) and the hymn of the sparrows (example 119).

ii) *Traité de rythme, de couleur, et d'ornithologie* tome I to VII (1949-92)

The title of *Traité de rythme, de couleur, et d'ornithologie* (hereafter *Traité*) signifies that ornithology plays an important role in Messiaen's second treatise. The part on ornithology comprises the two volumes that constitute tome V which includes eight chapters: Volume 1, which consists of only one chapter, discusses birdsongs from France and other parts of the Europe, including fourteen geographical areas.<sup>21</sup> Volume 2 discusses the birdsongs from Japan (chapter II), United States of America (chapter III), New Caledonia (chapter IV), and various other countries (chapter V). The analysis of *Sept Haïkai* (chapter VI), Messiaen's beautiful ornithological memories (chapter VII), and the birdsongs used in Messiaen's works (chapter VIII) are also added to volume 2.

Messiaen classifies and presents his huge collection of birdsongs in his own systematic way. By reading through tome V, it is obvious that Messiaen categorizes the birdsongs according to geographic areas. He usually starts with a description of the physical appearance of bird, its habitat and some common features of its songs. Then his transcriptions of the birdsongs follow. Sometimes he also indicates the date and time of the field trips. In most cases, Messiaen includes the passages of the birdsongs that are adapted into his compositions. With both his transcription and

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<sup>20</sup> *Ibid.*, 34.

<sup>21</sup> There is a misprint of order of birdsongs in section VII from the content page. The correct order should be: 1) La Linotte mélodieuse; 2) Le Bruant Ortolan; 3) Le Bruant fou.

excerpts of his composition, he analyses the birdsongs on the basis of his musical languages, such as the application of Greek and Hindu rhythms, the notion of plainchants, the modes of limited transpositions, special chords, sound-colors and so on.

The compositional examples that Messiaen cited range from *Livre d'orgue* (1951) to his last work *Éclairs sur l'Au-Delà. . .* (1987-91). Although he did not include any examples from *Concert à quatre* (1990-1992)<sup>22</sup> at the end of volume 2 of tome V, this posthumous work appears in the summary of birdsongs used in Messiaen's works from *Vision de l'Amen* (1943) to *Concert à quatre*. This probably has been added by Yvonne Loriod. She also includes bird names that were not mentioned by Messiaen in the preface to the work; the number of bird names listed does not match the number stated by Messiaen in the preface.<sup>23</sup> (Appendix E)

#### b) Conferences and speeches

Messiaen presented altogether three public lectures from the late 1950s to the mid-1980s: *Conférence de Bruxelles* (1958), *Lecture at Notre-Dame* (1977) and *Conférence de Kyoto* (1985). Almut Rößler's collection of Messiaen's public discussions is usually overlooked, though they greatly help illuminate his compositional philosophy.<sup>24</sup> All these sources throw light on different aspects of Messiaen's birdsong studies.

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<sup>22</sup> *Concert à quatre* was completed by Yvonne Loriod-Messiaen after Messiaen's death in consultation with Heinz Holliger and George Benjamin. It has been recently published by Alphonse Leduc.

<sup>23</sup> For details, compare the prefaces to *Trois petites Liturgies de la Présence Divine* (1943-44) and *Vingt Regards sur l'Enfant-Jésus* (1944) with the summary at the end of *Traité V/2*.

<sup>24</sup> For details, see Almut Rößler's *Contributions to the Spiritual World of Olivier Messiaen* (Duisburg: Gilles und Francke Verlag, 1986).



i) *Conférence de Bruxelles* (1958)

Messiaen's short lecture at the *Conférence de Bruxelles* focuses on his compositional philosophy and issues of time and rhythm in his music. He also discusses his fondness of birdsongs, since they refresh him as a musician, giving him musical inspiration and ideas for rhythmic techniques. Nevertheless he did not discuss in detail how birdsongs can be related to music. Table 1.1 shows the list of birdsongs he noted down in different provinces of France.

Table 1.1: Birds from different provinces and habitats in France.<sup>25</sup>

<b>Bird Name</b>	<b>Province</b>	<b>Habitat</b>
Alpine Chough	Casse Déserte, Queyras, Galibier and Col d'Iseran	Mountains and Glaciers of Oisans
Black Wheatear	Cap Béar and Cap Abeille	Cliffs
Blackbird	Sologne	Parks and Gardens
Black-Eared Wheatear	Roussillon	Wastelands
Blue Rock Thrush	Cap Béar and Cap Abeille	Cliffs
Curlew	Ile d'Ouessant and Finistère	Not Specified
Golden Oriole	Sologne	Meadow
Great Reed-Warbler	Sologne	Rushes of Ponds
Herring-Gull	Ile d'Aute	Lake of Sigean
Linnet	Charente	Vineyards
Little Egret	Camargue	Not Specified
Nightingale	Sologne	Edge of the Forest
Pink Flamingo	Camargue	Not Specified
Redshank	Ile d'Ouessant and Finistère	Not Specified
Reed-Warbler	Sologne	Rushes of Ponds
Short-Toed Lark	La Crau	Light and Heat
Skylark	Champagne	Wheatfields
Snow-Finch	Casse Déserte, Queyras,	Mountains and Glaciers of

<sup>25</sup> Adapted from Olivier Messiaen, *Conférence de Bruxelles* (Paris: Alphonse Leduc, 1960), 13.

	Galibier and Col d'Iseran	Oisans
Song-Thrush	Sologne	Edge of the Forest
Spectacled Warble	Roussillon	Wastelands
Tawny Owl	La Crau	Frightening Darkness
Turnstone	Ile d'Ouessant and Finistère	Not Specified
Water-Rail	Sologne	Rushes of Ponds
Wheatear	Causse Méjean	Stony Desert
Woodlark	Col du Grand Bois	At Night

ii) *The First Düsseldorf Messiaen Festival (1968)*

During a discussion at the First Düsseldorf Messiaen Festival, Jürg Baur, Messiaen's colleague, asked several questions regarding Messiaen's transcription and the actual use of birdsongs in his music. At the stage of transcription, Messiaen uses only paper and pencil to notate birdsongs, and occasionally his wife uses a tape recorder to capture the birdsongs for future refinement of the initial transcription.<sup>26</sup> Messiaen states that there are two difficulties when notating birdsongs: first, one needs to recognize the individual bird and its species from real-time hearing; and second, one needs to transcribe the birdsongs, which often are very fast and very high-pitched. Messiaen explains that the recognition comes very naturally for the ornithologist much like the way people recognize one another even if they have met only once or twice in fifty years.<sup>27</sup> For the second problem, Messiaen states that he tries to transcribe rhythm and melody as precisely as possible, without mentioning how he solves the problem. He even mentions a third problem, which involves the actual production of birdsong-like timbres since every melodic note pairs with a complex of pitches to yield specific timbre.<sup>28</sup>

<sup>26</sup> Almut Rößler, *Contributions to the Spiritual World of Olivier Messiaen*, 31.

<sup>27</sup> *Ibid.*, 31.

<sup>28</sup> *Ibid.*, 32.



In addition, Messiaen discusses the musical forms of birdsong writings in his music. There are two categories: the deceitful one and the original one. He cited *Oiseaux exotique* as an example to illustrate the deceitful type because he invokes birdsongs from India, China, North America and Malaysia, even though they belong to different geographical areas. This combination consequently produces unusual contrapuntal relationships and colors.<sup>29</sup> He strives to reproduce not only the birdsongs, but also things that surround the birds, such as landscapes, fragrances, colors and the passing of the hours during day and night.<sup>30</sup>

iii) *Speech delivered on the occasion of the conferment Praemium Erasmianum in Amsterdam (1971)*

In a speech he delivered in 1971 at the conferment Praemium Erasmianum in Amsterdam, Messiaen discusses different styles of birdsongs, some of which develop the melody into unexpected rhythms and timbres from short or long calls; some sing in stanza; and some great singers generate phrases, cadences, and solo passage which may last as long as half an hour.<sup>31</sup>

He also records the occasions on which his compositions evolved. For instances, the birdsongs which are notated in his field trips every spring in all French provinces emerged as *Catalogue d'oiseaux*. The birdsongs collected from India, China, Malaysia and both Americas enhance *Oiseaux exotique*. The concert tour with Yvonne Loriod to Japan enables him to be in contact with numerous Japanese birdsongs, which eventually appeared in *Sept Haïkai*.<sup>32</sup>

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<sup>29</sup> *Ibid.*, 33.

<sup>30</sup> *Ibid.*, 34.

<sup>31</sup> *Ibid.*, 44-45.

<sup>32</sup> *Ibid.*, 45.

iv) *The Second Düsseldorf Messiaen Festival* (1972)

As in the first festival, Jürg Baur asked Messiaen about his birdsong music. In his reply, Messiaen discloses how he adopts birdsong in his music. In every field trip, he studies the birds in that particular area and tries to preserve the specific style of the birdsongs. Moreover, birds also have a symbolic meaning to him – freedom.<sup>33</sup>

v) *Lecture at Notre-Dame* (1977)

On the occasion of the Notre-Dame presentation, Messiaen focuses on the liturgical music, the religious music and the sound-colored music. When giving a brief definition of neumes in connection with the liturgical music, he discloses that neumatic characteristics are inherent in birdsongs of the Garden Warbler, the Black-Cap, the Song-Thrush, the Field Lark and the Robin.<sup>34</sup> He does not further elaborate this topic, but he does add in the conclusion that religious music is present in nature, including birdsongs.<sup>35</sup>

vi) *Conférence de Kyoto* (1985)

In the speech delivered in Kyoto, Messiaen briefly summarized the techniques of his musical language, touching on four recurring difficulties: rhythm, sound-color, birdsongs and religious music. Messiaen also made clear that he constantly utilizes birdsongs in his music for the sake of those in the audience who may have never listened to birdsongs.<sup>36</sup>

His discussion of birdsongs is divided into four parts. First, he starts with background information. Messiaen started to transcribe birdsong since the age of

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<sup>33</sup> *Ibid.*, 55.

<sup>34</sup> Olivier Messiaen, *Conférence de Notre-Dame* (Paris: Alphonse Leduc, 1978), 5-6.

<sup>35</sup> *Ibid.*, 15.

<sup>36</sup> Olivier Messiaen, *Conférence de Kyoto* (Paris: Alphonse Leduc, 1988), 1.



eighteen, usually in the springtime, before sunrise, sunset, or during the morning and the afternoon. He begins his collection in France, and then America, Japan and New Caledonia, adding that French birdsongs are more or less the same as those all over the Europe.<sup>37</sup> He groupes the birdsongs according to their habitat and song style (Tables 1.2 and 1.3).

Table 1.2: Birds commonly found in Europe.

<b>Bird Name</b>	<b>Habitat</b>
Alouette des champs	Wheatfield
Chocard des Alpes	High Mountain
Courlis cendré	Coastal Marine and Ocean
Fauvette à tête noire	Parks and Gardens
Grive musicienne	Edge of Forest
Linotte	Vineyard
Rousserolle Effarvate	Reeds and Ponds
Traquet Stapazin	Scrubland

Table 1.3: Birdsongs in different styles.

<b>Bird Names</b>	<b>Song Style</b>
Alouette des champs	Great soloist
Chouette Hulotte	Stanzas with elaborations
Fauvette des jardins	Great soloist
Grive musicienne	Great soloist
Les oiseaux de la montagne et de la mer	No cry rhythms
Loriot	Stanzas with elaborations
Merle noir	Great soloist
Pic vert	Stanzas with elaborations
Pinson	Stanzas with elaborations
Rossignol	Great soloist
Rouge-gorge	Great soloist

<sup>37</sup> *Ibid.*, 9.

Second, he discusses the transcription. He argues that the transcription made by the magnetic tape recorder are too exact. He preferred to use pencil and music paper to note down more artistic and musical dictation of nature.<sup>38</sup> Messiaen jots down the melodies several times and combines them to form an ideal birdsong.

Third, he talks about the adaptation of birdsongs in his music. He recreates the timbre of birdsong by adopting piccolos, flutes, xylophone and piano to perform birdsongs, as well as relying on inventing chords to harmonize birdsongs. Since birdsongs tend to appear in ensemble, he transcribes melody by melody before combining them in counterpoint.<sup>39</sup>

Fourth, he comments on works that uses birdsongs from *Réveil des oiseaux* (1952-1953) to *Des Canyons aux étoiles* (1971-1974), disclosing one important feature of his birdsong arrangement. Birdsongs from different habitats are dispersed in nature but they are at times grouped together to create interesting musical moments.<sup>40</sup>

At the end of the speech, Messiaen introduces one important treatment of birdsongs: *hor tempo (au signe du Chef)* – free tempo (follow the sign of the conductor). This certainly provides an impression of disorder in the organization of the birdsong ensemble, though he insists strongly that it is not essentially aleatory music but is rather the superimposition of birdsongs in different tempos.<sup>41</sup>

These speeches are given at different points of his career and separated by roughly a decade. The early ones are short but he already shows his preference for

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<sup>38</sup> *Ibid.*, 10.

<sup>39</sup> *Ibid.*, 10.

<sup>40</sup> *Ibid.*, 10.

<sup>41</sup> *Ibid.*, 18.



organizing birdsongs according to provinces and habitats, and his concern for related rhythmic issues. While he already had used birdsongs extensively in his music, it is not until the Kyoto presentation that he discusses birdsongs more systematically. We may thus infer that his birdsong techniques matured from the 1980s onwards.

### c) Interviews and conversations

#### i) With Claude Samuel (1967, English translation 1976)

This is a collection of seven conversations between Messiaen and Samuel, the fourth of which focuses on birdsongs. Here, Messiaen begins with the general features and functions of birdsongs in nature before continuing to describe the characteristics of some common birdsongs, such as Blackbird, Nightingale, Skylark, Song Thrush, and French Warbler. He points out that the best time for collecting birdsongs is in the spring during the courtship period. Patience and an extremely practised ear, which a composer-ornithologist should have, are the two criteria for maintaining the accuracy of a birdsong collection.<sup>42</sup> He denies using a tape-recorder but rather a pair of field-glasses to identify the birds.<sup>43</sup>

Messiaen at times adapts the birdsongs into his music as exactly as possible and at other times treats them as malleable materials. He cited *Catalogue d'oiseaux* and "Epôde" from *Chronochromie* to illustrate the accuracy of his treatment of birdsongs.<sup>44</sup> However, he did not explain further the nature of his malleable treatment of birdsongs. One major problem is the reproduction of birdsong timbre, which he tried to solve by means of orchestration and harmonic combinations, providing each

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<sup>42</sup> Claude Samuel, *Conversations with Olivier Messiaen* (Translated by Felix Aprahamian, London: Stainer & Bell, 1976), 60. The first time denial appeared in the conversation one, 13.

<sup>43</sup> *Ibid.*, 60-61.

<sup>44</sup> *Ibid.*, 61-62.

note from the birdsong with a chord – a complex of sounds – in order to capture the timbre concerned.

Due to the limitation of musical instruments, Messiaen has to transcribe the birdsong in a slower tempo and a lower register in order that they can be performed. Furthermore, since birdsongs have smaller intervals than can be played by modern instruments, Messiaen enlarges all intervallic relationship; as a result a real semitone is equivalent to a whole tone or a third in the authentic birdsong.<sup>45</sup> According to Messiaen, “. . . in consequence, what I restore is nevertheless exact. It’s a transposition into a more human scale than that which I heard.”<sup>46</sup>

ii) With Almut Rößler (23 April 1979)<sup>47</sup>

In this three-hour interview, Messiaen discloses some details about the characteristics of his musical language, for example, *langage communicable*, rhythmic treatment, sound-colour, religious and symbolic issues, and last but not least, the birdsongs. To Messiaen, birdsongs bring refreshing ideas in melody, counterpoint, timbres and orchestration. Each birdsong has its own modes, and birds sing in small intervals, as small as a quarter-and-third-tone. Birdsongs also contain aleatoric and plainchant-like characteristics of torculus, porrectus, climacus.<sup>48</sup>

iii) With Claude Samuel (1986, English translation 1994)

Based on the 1976 version, this collection of interviews is revised and expanded. The most significant revision is in the discussion of *Saint François*

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<sup>45</sup> *Ibid.*, 62.

<sup>46</sup> *Ibid.*, 62.

<sup>47</sup> Although Almut Rößler had a second interview with Messiaen after the première of *Saint François d’Assise*, this focused in the dramatic and sound-colour issues of the opera. Here, I only include her first interview. For details, see Almut Rößler, *Contributions to the Spiritual World of Olivier Messiaen*, chapter 7, “Conversation with Olivier Messiaen on December 16, 1983, in Paris.”

<sup>48</sup> *Ibid.*, 109-110.



*d'Assise*, which is one the longest among all new chapters. Messiaen provides a comprehensive analysis of the staging and dramatic settings of the sixth scene, “The Sermon to the Birds.” He divides the scene into six parts and explains the layout and the meaning of each of the settings. The most striking effect used in this scene is the technique of *hors tempo*. The conductor is not only responsible for two simultaneous actions, but there is also a third task for him – the entries and the cut-offs of instrumentalists playing in *hors tempo*. The effect is akin to that of organized chaos.<sup>49</sup> In general, he was proud of his birdsong style and claimed that the sixth scene is his best bird tutti.<sup>50</sup>

#### iv) With Claude Samuel (October 1988)

A tape-recorded interview with Claude Samuel in October 1988 has not been previously mentioned in the secondary literature. It lasts one hour and features a wide range of Messiaen’s musical interests, such as sound-colour, religious music, his opera *Saint François d’Assise*, his classes at the Paris Conservatory and his students. At the outset, Messiaen reveals how he tries to discover new birds in every trip, which rewards him with a kind of joy and pleasure. In his trip to Australia, for example, he newly discovered the lyre-bird – a bird that appears exclusively in Australia.

According to Messiaen, the lyre-bird sings only at six o’clock, so he must get up before that time. Even though Yvonne Loriod had to give a concert that evening, she still accompanied him, probably because she had to record the birdsongs for Messiaen’s later use. As usual, Messiaen only uses staff paper and pencil while his

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<sup>49</sup> Claude Samuel, *Olivier Messiaen Music and Color*, 236.

<sup>50</sup> *Ibid.*, 239.

wife makes the tape-recording: this enables him to work at home in order to arrive at an ideal birdsong for use in his later compositions.<sup>51</sup>

### III. Secondary source of Messiaen's birdsong music study

#### a) Robert Sherlaw Johnson

Johnson has devoted an entire chapter to *Catalogue d'oiseaux* in his monograph *Messiaen*. A brief review of the movements is followed by his grouping of the major birds according to their forms, areas and habitats. He divides Messiaen's birdsongs into four groups before subdividing groups I, III and IV into subgroups (a) and (b):<sup>52</sup>

Group		Characteristics
I	(a)	Short calls, homophonic, dissonant and usually atonal.
	(b)	Longer and more varied calls, homophonic, dissonant and atonal.
II		Short repetitive song-patterns with slight variations.
III	(a)	Varied song patterns, melodic in style, often with tonal implications. Slower tempo than group IV.
	(b)	Varied song patterns, declamatory in style.
IV	(a)	Long strophes "chattering" in style, continuous or broken up into shorter phrases. Tempo rapid. One or more notes tend to predominate as a modal "dominant".
	(b)	Same as group IVa, but without pronounced "dominant".

He also differentiated the non-birdsong materials into the following five groups:<sup>53</sup>

Group I	Mode: twelve-tone. Rhythm: (a) Greek or Sharngadeva; (b) permutation series; (c) free.
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<sup>51</sup> Claude Samuel, *Olivier Messiaen entretien avec Claude Samuel*, 7-8.

<sup>52</sup> The following table is adapted from Robert Sherlaw Johnson, *Messiaen* (California: University of California Press, 1975), 132-135. In Table VI, 134-135, Johnson also classifies the birdsongs according to the characteristics of these four groups.

<sup>53</sup> The following table is adapted from Johnson's *Messiaen*, 136-137.



Group II	Mode of pitches, durations and intensities.
Group III	Modes of limited transposition.
Group IV	“Turangalila” motives
Group V	Color-chords other than those in groups I and III.

These classifications of birdsong and non-birdsong materials enhance his following analysis of “group” features for each movement. Here Johnson offers a two-level analysis: group structure shown with inter-connections and formal structure.<sup>54</sup>

Approximately twenty years later, based on this early study, Johnson explores the topic more deeply under the same chapter title of “Birdsong,” which appears among a collection of essays called *The Messiaen Companion*.<sup>55</sup> He discusses Messiaen’s birdsongs from three perspectives: the development of birdsong in Messiaen’s composition, symbolism, and the pitch-structure of birdsong.

Regarding the development of birdsongs, Johnson traces all possible birdsong resemblances in Messiaen’s early works, including *L’Ascension* (1932-34) and *La Nativité du Seigneur* (1935), according to contextual and symbolic meanings of the melodies and the writings in *Technique*. Although Messiaen named the birdsongs used in *Quatuor pour la fin du Temps*, Johnson notices that his naming is inconsistent and sometimes conjectural when compared with the birdsong passages of *Catalogue d’oiseaux* (1956-58).<sup>56</sup>

Johnson also observes that Messiaen’s birdsongs have several layers of symbolic meanings, which can be deduced from his description of the Christian symbolism of birds in *Technique*: “. . . our little *servants* of immaterial joy.”<sup>57</sup> In

<sup>54</sup> For details of the analysis, see Johnson’s *Messiaen*, 143-158.

<sup>55</sup> Robert Sherlaw Johnson, “Birdsong” in *The Messiaen Companion*, edited by Peter Hill (London: Faber and Faber Limited, 1994), 249-265.

<sup>56</sup> *Ibid.*, 250-252.

<sup>57</sup> Olivier Messiaen, *Technique de mon langage musical* (Paris: Alphonse Leduc, 1944): 34. Quoted in *The Messiaen Companion*, 257 (with my italics).

addition, Johnson suggests that there is a change of Christian symbolism to other symbolisms, which are partly derived from Hinduism, Inca and Aztec sources, the myths of Tristan and Isolde, and other sources of love and magic.<sup>58</sup> In addition, Messiaen's birdsongs also treat humanistic scenes as metaphors, for instance, as dawn, country scenes and the death moment.<sup>59</sup> Since the use of set theory may not be helpful in showing the characteristics of Messiaen's birdsong music which is highly registrally sensitive,<sup>60</sup> Johnson, in closing the chapter, offers two analyses of birdsong using a quasi-Schenkerian method.

#### b) Roger Nichols

Nichols first attempts to analyze Messiaen's birdsong music in the late 1980s.<sup>61</sup> He counted the frequency of pitch appearance and concluded that A $\flat$ , E $\flat$ , D $\flat$  and G $\sharp$  are used most frequently.<sup>62</sup> He also analyzed Messiaen's use of rhythmic permutation in the piece. Furthermore, Nichols examined Messiaen's use of twelve-tone technique in the latter piano part of the piece, in which the alternation between consonance and dissonance lies at the core of the birdsong figure of the solo flute.<sup>63</sup>

#### c) David Morris

Instead of using set theory as an analytical tool, Morris adopts Jean-Jacques Nattiez's semiotic approach to analyze "Abîme des oiseaux," the third movement

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<sup>58</sup> Johnson, "Birdsong" in *The Messiaen Companion*, 257.

<sup>59</sup> For further reading, see *ibid.*, 257-259.

<sup>60</sup> *Ibid.*, 260; see also 260-263 for Johnson's analyses.

<sup>61</sup> See Roger Nichols, "Messiaen's 'Le merle noir': The Case of a Blackbird in a Historical Pie," *The Musical Times* 129 (December 1988): 648-650.

<sup>62</sup> This is the set class 4-9 [0167]. Nichols did not use any set class name in presenting the specific pitches.

<sup>63</sup> Nichols, "Messiaen's 'Le merle noir'," 650.



from *Quatuor pour la fin du Temps*.<sup>64</sup> He provides a very detailed bar-to-bar analysis in two levels. First, Morris divides the movement into three parts, each of which is categorized into several sections. He gives a structural analysis with respects to rhythm, motive, melody, use of specific pitch and form. Second, he takes Messiaen's *Technique de mon langage musical* as a source of poietic evidence to support his analyses.

#### d) Paul Sung Il Kim

Kim's comprehensive study<sup>65</sup> of *Catalogue d'oiseaux* is characterized by its emphasis on style analysis, phenomenological approach and performance guide.<sup>66</sup> He chose six movements for in-depth analysis according to a set of preference rules.<sup>67</sup> Each analysis is carried out in four stages. First, he analyzes two aspects of the piece: the structural level for formal structure; and the stylistic level for sonority, melody, rhythm and harmony. Second, adopting a phenomenological approach, he applies the philosophical notions of Thomas Clifton to discuss the temporality, spatiality and play element of the selected movement. Third, in the conclusion to the analysis, he comments on the analytical findings. Fourth, in his performance guide, Kim provides his own interpretation of the piece.

Since Kim's objective is to apply phenomenology in music analysis and to provide a performance guide, his analyses are descriptive rather than analytical in tone.

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<sup>64</sup> See David Morris, "A Semiotic Investigation of Messiaen 'Abîme des oiseaux,'" *Music Analysis* 8/1-2 (1989): 125-158.

<sup>65</sup> Paul Sung Il Kim, "Olivier Messiaen's 'Catalogue d'oiseaux' for Piano Solo: A Phenomenological Analysis and Performance Guide" (Ph.D. diss., New York University: 1989).

<sup>66</sup> For details of style analysis and phenomenological approach, see Jan LaRue's *Guidelines for Style Analysis* (New York: W. W. Norton, 1970) and Thomas Clifton's *Music as Heard: A Study in Applied Phenomenology* (New Haven: Yale University Press, 1983) respectively.

<sup>67</sup> For details of his selection process, see Paul Sung Il Kim's "Olivier Messiaen's 'Catalogue d'oiseaux' for Piano Solo," 90-96. The six movements are as follows: the second movement, "le loriot"; third movement, "le merle bleu"; fifth movement, "la chouette hulotte"; seventh movement, "la rousserolle effaravate"; ninth movement, "la bouscarle"; and twelfth movement, "le traquet rieur."

Due to the philosophical and practical approaches, his analysis is not primarily about birdsongs. He simply names the birdsongs without analyzing them in-depth from the perspectives of pitch, rhythm and other musical parameters. Nevertheless, Kim's research testifies to the usefulness of a phenomenological approach to music analysis and takes a performer's view in reading one of the most important works of Messiaen.

#### e) Stephen Hopkins

Hopkins's comprehensive study of *Petites esquisses d'oiseaux* shows how it resembles Scriabin's piano music (exclusively his last five sonatas and *Five Preludes*, op. 74) and to Messiaen's own gigantic piano solo work, *Vingt regards sur l'enfant-Jésus*, through a comprehensive structural analysis.<sup>68</sup> By using set theory as his analytical tool, he compares also the pitch structures of every movement from *Petites esquisses d'oiseaux* with the other selected works. Thus he not only demonstrates the similarity in musical language of the two composers, but also shows the development of Messiaen's *style oiseau* by means of homorhythmic polymodality.<sup>69</sup>

#### f) Shu-Wen Sun

Adopting set theory and Messiaen's compositional theory as analytical tools, Sun provides a detailed analysis of the eighth movement, "L'alouette calandrelle" (short toed-lark) in her dissertation.<sup>70</sup> She divided the piece into eight sections according to the order of appearance of birds, the formal structure and the similarity in

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<sup>68</sup> Stephen Hopkins, "A Comparative Analysis of Selected Works of Alexander Scriabin and Olivier Messiaen for Solo Piano" (Ph.D. diss., The Florida State University, 1993).

<sup>69</sup> *Ibid.*, 521.

<sup>70</sup> Shu-wen Sun, "Birdsong and Pitch-Class Sets in Messiaen's 'L'Alouette Calandrelle'" (DMA. diss., University of Oregon, 1995).

the musical gestures and materials, such as birdsongs, dessert chords, calls of cicadas, kestrel and quail, and color chords.<sup>71</sup>

In each section, she marks the segmentation, and she compares similar segments drawn from the same and related sections. She concludes that the song of short toed-lark varies from double-voiced gesture to single-lined melody, and has different melodies between the parallel sections (sections A and A'; sections C and C') and the non-parallel sections (section D and coda). Despite all these variations, it still maintains its identity by the contour, common tones, shared melodic intervals, emphasized pitches, identical range and register, and similar rhythmic pattern.<sup>72</sup> The emphasized pitches of A, C, and E $\flat$  become the only consistent linkage between two stylistic birdsongs of short toed-lark.<sup>73</sup>

### **Scope, methodology and delimitation**

Studies of Messiaen's birdsongs have been launched since the 1960s, adopting different perspectives and divergent means. The development of Messiaen's birdsong writings throughout his extended compositional career is however often overlooked. Although Robert Sherlaw Johnson is the first only one who studies the development of Messiaen's use of birdsongs and the formal and pitch structures of selected birdsong music, both his studies in the 70s and the 90s have not revealed the development of Messiaen's birdsong writing styles and the musical setting of birdsongs.

Although the analytical studies of Messiaen's birdsong music in dissertations and journals span in the last twenty years, scholars tend to focus on aspects of performance rather than analyzing the music in terms of Messiaen's compositional

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<sup>71</sup> For details of the formal organization and the relationship of gestures and form, see *ibid.*, 76 and 128.

<sup>72</sup> *Ibid.*, 84, 105 and 115-6.

<sup>73</sup> *Ibid.*, 123.



notions. Those who undertake structural analysis such as Shu-wen Sun and Stephen Hopkins, view Messiaen's birdsongs from the perspective of pitch structure by using set theory. They show rather exclusively the relationship among the different sets, leaving aside the roles register and specific pitches play in the birdsongs.

Furthermore, some scholars try to reveal the inner structures of birdsongs with reference to Messiaen's treatises, *Technique de mon langage musical* and *Traité de rythme, de couleur, et d'ornithologie*. David Morris's study, which is based on *Technique*, has been outdated in the late 1980s since the publication of *Traité*, for Messiaen only reserved a page of *Technique* to explain his birdsongs. Similarly, Christopher Dingle has limited his discussion up to Messiaen's *Traité* V/1, which is the latest publication of the whole series at the time of his dissertation.<sup>74</sup> As a result, Messiaen's musical language has not been investigated in any studies with respect to the seven volumes of *Traité*.

This thesis addresses the lack of study on the evolution of Messiaen's birdsong and explores more fully appropriate analytical approaches, taking into account Messiaen's view of birdsongs as delineated in the seven volumes of *Traité*. In my thesis, I adopt a comparative approach in all analyses to examine how Messiaen develops and changes his musical settings of the blackbird from his first named birdsongs onwards. Although the use of set theory is still controversial since Messiaen's birdsong is closer to a transcription rather than atonally conceived music, set theory is used where appropriate though not exclusively to reveal the pitch structure of birdsongs. I also adopt Joseph Straus's newly proposed voice-leading analysis to give multiple perspectives on how the musical materials progress from one

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<sup>74</sup> Christopher Dingle, "Understated Charm: Style and Technique in the Last Works of Olivier Messiaen" (Ph.D. diss., University of Sheffield, 2000).

point to another.<sup>75</sup> In addition, I adopt Messiaen's analytical perspectives as expressed in *Technique* and *Traité*, focusing especially on the two volumes of *Traité* V and the last volume of the series, *Traité* VII. The former contains an anthology of Messiaen's ornithological work while the latter discusses Messiaen's color chords, which were used frequently in the musical settings of birdsongs.

Due to time limitations, I limit myself to materials written in English, with the exception of Messiaen's seven volumes of *Traité*.<sup>76</sup> I further limit my analysis to the blackbird featured in different pieces because it is one of the first named birdsongs in his music and it is also used throughout his compositional career. Chapter 2 contains analyses of the blackbird in different pieces, including *Quatuor pour la fin du Temps* (1940-41), *Le Merle noir* (1951), *Catalogue d'oiseaux* (1956-58) and *Chronochromie* (1959-60). My justification bases on Messiaen's first use of named birdsongs until one of his compositional climaxes. Chapter 3 is part II of the analysis of Messiaen's late music. I include the "Le merle noir" from *Petites esquisses d'oiseaux* (1985) and "Le merle noir" from *Feuillets inédits* (2001). All these analyses provide microscopic views of pitch, harmony and formal design in Messiaen's blackbird music, and show how he treats this birdsong in his music. Chapter 4 discusses Messiaen's compositional techniques in birdsong writings and the integration of birdsongs to his music over the years. Apart from tracing Messiaen's evolution of birdsong writings, I also comment on Messiaen's compositional techniques as manifested in his birdsong writings and the impact of *Technique* and *Traité* on existing Messiaen scholarship.

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<sup>75</sup> For details of the analytical approaches, see Jonathan W. Bernard, "Pitch/Register in the Music of Edgard Varèse." *Music Theory Spectrum* 3 (1981): 1-25 and his book, *The Music of Edgard Varèse* (New Haven: Yale University Press, 1987); and Joseph Straus, "Uniformity, Balance, and Smoothness in Atonal Voice Leading." *Music Theory Spectrum* 25/2 (Fall 2003): 305-352.

<sup>76</sup> There is an unofficial English translation of *Traité* 1 by Melody Baggech as her D.M.A. dissertation in the University of Oklahoma in 1998.



## Chapter 2

### *Analyses (Part I)*

“Characteristic[s] of the blackbird are formulae always rising to a high pitch. Its song, at once solemn and mocking, is based, if not on a hypermajor mode, at least on the use of the major third, perfect fourth, major sixth, and augmented fourth”<sup>1</sup>

Olivier Messiaen

#### ***Quatuor pour la fin du Temps (1940-41), first movement***

*Quatuor pour la fin du Temps* contains Messiaen’s first named birdsongs of the blackbird and the nightingale. He mentions the bird names only in the preface of the work – the description to the first movement: “Between three and four in the morning, the awakening of birds: a solo blackbird or nightingale improvises . . . .”<sup>2</sup> However, in latter descriptions in the preface and on the score, he simply names “les oiseaux” and marks “comme un oiseau” beside the birdsong. Although it is difficult to distinguish exactly where the birdsongs occur in the music, Anthony Pople concludes that the violin plays the song of the nightingale while the clarinet plays the song of the blackbird. He draws this conclusion by comparing the excerpts with *Catalogue d’oiseaux* and the interview between Antoine Goléa and Messiaen.<sup>3</sup>

My brief analysis concentrates on the first section, measures 1-7, of the song of the blackbird in the first movement. The section consists of four fragments separated by rests. The first fragment is dominated by F4, while other pitches of the song appear evenly. Such pitch domination does not occur again in the three fragments that follow since notes in each phrase appear only once or twice. However,

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<sup>1</sup> Samuel, *Olivier Messiaen Music and Color*, 88.

<sup>2</sup> The translation is quoted from Anthony Pople, *Messiaen: Quatuor pour la fin du Temps* (Cambridge: Cambridge University Press, 1998), 17.

<sup>3</sup> Pople, *Messiaen*, 102 (notes 1 and 3).



when we determine the exact frequency of pitch appearance among these four fragments, the emphasis on several structural notes is revealed (Figure 2.1.1 and Table 2.1.1).

Figure 2.1.1: The first section of the song of the blackbird in concert pitch, mm. 1-7.



These emphasized structural notes, D4, F4, G $\flat$ 4, G4, B $\flat$ 4, B4, D $\flat$ 5 and F5, contribute to the hypermajor in F, which involves F major and its  $\hat{4}$  and  $\hat{5}$ . Messiaen established the mode of the blackbird by using the “key-note” frequently while the “non-key-note” appeared only once. Thus the sense of mode is made clear and strong.



## *Le merle noir* (1951)

*Le merle noir* can be divided into three sections: measures 1-43, 44-90 and 91-125 (Appendix A). The second section repeats and extends the first section by four measures, which is followed by a new section (Table 2.2.1). Hence, it is written in bar form of AA'B.<sup>4</sup>

Table 2.2.1: The comparison of sections A and A'.<sup>5</sup>

	Measures	
	A	A'
Birdsong under the piano chromatic arabesque	1-3	44-47*
Birdsong solo	3-8	46-53*
Combined interlude I	9-26	54-71
Interlude II in octaves	27-30	72-76*
Interlude III harmonized by chords	31-35	77-82*
Birdsong over trills and chord	36-43	83-90

### *Section A: measures 1-43*

#### *Birdsong above the piano chromatic arabesque (measures 1-3)*

Piano begins with a nonachord of 9-1 [012345678], which is formed by an ascending chromatic pentachord of 5-1 [01234] (starting at E2) and a descending chromatic tetrachord of 4-1 [0123] (starting at C3). The flute announces a phrase of birdsong in three segments over the sustained chromatic nonachord. They can be distinguished by the articulation marks – slur and staccato, and the dynamic marks – *f*, *ff* and *p*: 3-5 [016], 6-12 [012467] and 2-2 [02].

<sup>4</sup> Roger Nichols simply calls the B section as a coda. See Roger Nichols, "Messiaen's 'Le merle noir'," 648.

<sup>5</sup> Modified and corrected from Nichols' table. See Nichols, "Messiaen's 'Le merle noir'," 648. " \* " indicates the extended section.



*Birdsong solo (measures 3-8)*

The first phrase (measure 3) of the birdsong is elided between the first and the second sections as described above. The second phrase (m. 4) forms a septachord of 7-29 [0124679], which contains three fragments of 4-9 [0167], 2-2 [02] and 4-Z15 [0146]. This also can be viewed as two interlocked hexachords of set classes 6-Z12 [012467] and 6-Z47 [012479].

The third phrase (measure 5) is a hexachord of 6-18 [012578], which is formed by a pentachord of 5-14 [01257] and a trichord of 3-5 [016]. The fourth phrase (measure 6) is a hexachord of 6-7 [012678], which is formed by a tetrachord of 4-9 and a dyad of 2-6 [06]. This tetrachord reappears and combines with a singleton of G5 to form pentachord of 5-7 [01267]. This kind of “fixed head but varied tail” combination is also used in the fifth phrase (measure 7). The tetrachord of 4-9 is expanded to a hexachord of 6-5 [012367], which is followed by a pentachord of 5-6 [01256].

In the last measure (measure 8) there are three phrases whose music has all appeared in the previous phrases. The sixth phrase is an octachord of 8-18 [01235689], which is formed by 4-9 and 5-6. The seventh phrase is another octachord of 8-9 [01236789], which is simply formed by two tetrachords of the same 4-9. The last phrase is a septachord of 7-1: the opening trichord of 3-5 frames the chromatic pentachord of 5-1. This recalls the openings of the piano and the birdsong in the flute.

*Combined Interlude I (measures 9-26)*

Interlude I has three phrases. The first one, announced by the piano, is an octachord of 8-Z29 [01235679], which is combined by the head fragment of 5-7 [01267] and the

tail fragment of 6-Z29 [023679]. This phrase of interlude is immediately taken up and followed by the flute. The second phrase is a septachord of 7-7 [0123678], which contains a head fragment of 6-Z41 [012368] and a tail fragment of 4-6 [0127]. Same as the manner in the first phrase, the flute enters immediately after the piano completed the phrase.

In contrast to the first two phrases, only the flute plays the third phrase of the interlude. It is a septachord of 7-6 [0123478], where the head fragment is 4-4 [0125] and the tail fragment is 5-7 [01267].

These three phrases of interlude are supported by a series of tritones underneath, which further forms a series of interlocking tetrachord of 4-9 [0167]. On top of that, this series of tetrachords forms two cycles of twelve-tone aggregates and finally concludes with another tetrachord of 4-28 [0369], which frames the tetrachord of 4-9 [0167] to form a complementary 8-9 [01236789]. In addition, the rhythmic patterns of dyads show a gradual diminution in the birdsong phrases (Table 2.2.2).

Table 2.2.2: Rhythmic patterns of the supporting dyads in mm. 9-26 of section A.<sup>6</sup>

	First phrases		Second phrases		Third phrase	
Duration of each dyad	11+10+10	11+10+10	5+6+7+6	5+6+7+6	5+5+9+19	
Duration of each phrase	31	31	24	24	19	19
Duration of the whole	62		48		38	

### *Interlude II in octaves (measures 27-30)*

This section of Interlude II consists of three repeated melodic fragments: an octachord of 8-5 [01234678]. The piano plays the phrase in octave (starting at D5 and

<sup>6</sup> The figures indicate the duration of the dyad and the phrase in terms of the numbers of semiquaver.



D6) two times. Rhythmically, it is composed of eight quavers with an added note of one semiquaver around the middle of the phrase.<sup>7</sup>

It is then followed by the flute at D6. However, the flute does not directly enter. There is a quaver rest separates the interlude between the piano and the flute. The flute plays the same phrase of the piano but in another fashion. The last note of E6 is separated by a quaver rest and is also expand from a quaver to a quaver tied to a minim. While the second last note in the flute is expanded from a quaver to a dotted quaver. This flute solo is accompanied by two vertical septachords of 7-7 [0123678] and 7-5 [0123567], which appeared previously as melodic phrases.

#### *Interlude III supported by chords (measures 31-35)*

This section is distinguished by the supporting chords in the piano part, where the top note of each chord is the same as the melodic note in the flute. There are two short melodic fragments of interlude: two tetrachords of 4-21 [0246] and 4-11 [0135]. The first melodic fragment is harmonized by a pair of Z-related septachords in transposition: 7-Z36 [0123568] and 7-Z12 [0123479]; they share the same interval vector [444342]. The second phrase is mostly harmonized by the same pentachord of 5-32 [01469], except the third chord is a tetrachord of 4-22 [0247]. Finally, this section is concluded with a silent measure.

#### *Birdsong over trills and chord (measures 36-43)*

The piano septachord of 7-5 [0123567] in the beginning of the section recalls the style of opening of the piece though it is not a chromatic arpeggio. The birdsong enters after a quaver rest, which is supported by the trills on the note D5 and later is doubled

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<sup>7</sup> The note D6 is repeated near the end of the phrase, so the complete phrase consists of nine notes.



in octave with D<sub>4</sub>. Although the note of trill is on the note D, Messiaen provides a chromatic alteration to its upper note, which makes a trilled pair become either D-E<sub>b</sub> or D-E<sub>♯</sub>.

Together with the birdsong fragments ranging from tetrachord to hexachord, the music progresses from measure to measure in an alternation of hexachords of 6-Z17 [012478] and 6-Z41 [012368], and follows with the hexachord of 6-5 [012367]. The section concludes with a septachord of 7-7 [0123678], which forms an octachord of 8-8 [01234789] with the final long note D<sub>5</sub> in the birdsong. Same as the last section, a silent moment (a quaver rest) separates the current and the following section.

*Section A': measures 44-90*

*Birdsong under the piano chromatic arabesque (measures 44-47)*

Piano begins with a chromatic nonachord of 9-1 with the same manner in section A. However, the birdsong over the suspension of chord is extended by one measure. The trichord of 3-5 is expanded to a tetrachord of 4-Z15 [0146] by a singleton C<sub>5</sub> in flutter tongue. The hexachord is reduced to a tetrachord of 4-9 [0167] but in an extended fragment. The dyad is expanded to two trichords of 3-8 [026]. Hence these two trichords forms a hexachord of 6-18 [012578].

*Birdsong solo (measures 46-53)*

This solo section has a little extension by one measure compared with section A. The elided first phrase (measures 46-47) of the birdsong, which has been discussed above, which is also expanded.<sup>8</sup> However the following phrases are more complex than the subdivision in section A in terms of pitch and phrase structures.

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<sup>8</sup> This expansion is counted in the last subdivision.

In measures 48-50, the music can be segmented by considering the slur marks, commas and similar openings. There is a series of chords ranging from tetrachord to septachord: chords of 5-Z18 [01457], 6-Z41 [012368], 5-19 [01367], 4-27 [0258], 7-4 [0123467], 5-6 [01256] and 6-18 [012578].<sup>9</sup>

In measures 51-53, the birdsong mainly consists of trichords, tetrachords and septachords. This phrase begins with a septachord of set class 7-31 [0134679] and is followed by a series of trichords and tetrachords of 3-5 [016], 4-2 [0124], 3-5 and two 4-Z15s [0146]. The ending phrase starts with a septachord of 7-5 [0123567] and concludes with a chromatic hexachord of 6-1 [012345] and an additional dyad of C#6 and E#6.

#### *Combined interlude I (measures 54-71)*

This section has three phrases of interlude too, but they are organized in a more compact way. Same as the subdivision in section A, the birdsong appeared in the piano is an octachord of 8-Z29 [01235679]. However, this phrase of interlude is immediately taken up and followed by the flute in the last semiquaver beat of the same measure (measure 54) in canonic style. This interlude phrase is repeated once more before the second phrase begins.

The second phrase is a septachord of 7-7 [0123678] and the flute announces the same phrase immediately after finishing the first phrase, where only a separation of a semiquaver rest in measure 61. The whole phrase repeats once in both instruments.

In contrast to section A, the piano also plays the third phrase of the interlude, which is another septachord of 7-6 [0123478]. In the same manner of the previous

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<sup>9</sup> This is a superset of set class 5-19 [01367].



phrase, the flute enters immediately after finishing the second phrase and is followed by a semiquaver rest separation.

Structurally, this section is more or the less same as in section A because both have six measures of the first phrases, eight measures of the second phrases and four measures of the third phrases, hence, a total of eighteen measures. However, it is more compact in terms of textural writing. Rather than finishing and entering one by one, interlude is introduced in canonic style in this section. As a result, four phrases of the same interlude are packed in the length of six or eight measures.<sup>10</sup>

The supporting dyads are arranged differently from those in section A. Though they also contribute to two formations of aggregate, they do not form a series of interlocking tetrachord of 4-9 [0167] but rather a series of 4-9. The concluding complementary octachord of 8-9 is implicit as the framing tetrachord of 4-28 is interlocked between two 4-9s. On top of that, the rhythmic patterns of dyads show a new arrangement of gradual diminution, which is independent of the interlude phrases (Table 2.2.3).

Table 2.2.3: Rhythmic patterns of the supporting dyads in mm. 54-71 of section A'.<sup>11</sup>

	First group	Second group	Third group	Fourth group
Duration of each dyad	4+6+8+17	4+6+8+16	4+6+8+15	5+7+3+5+3+5+7+9
Duration of the whole	35	34	33	44

*Interlude II in octaves (measures 72-76)*

This section of interlude consists of four phrases of the same melody: an octachord of 8-5 [01234678]. The piano and the flute play the phrases in canon three times. The

<sup>10</sup> In the case of the third phrase, two phrases are saturated in four measures.

<sup>11</sup> The figures indicate the duration of the dyad and the group in terms of the numbers of semiquaver.



piano right hand begins at D6 and left hand enters at D5 one quaver rest after. The flute joins after two quaver rests. Three voices stop sharply at the end of measure 74. Such abrupt ending results two subset classes of octachord: 7-5 [0123567] in the piano left hand of the piano and 6-Z4 [012456] in the flute. The ending of the section is the same as measures 29-30 in section A.

*Interlude III harmonized by chords (measures 77-82)*

This first phrase of the section is extended by flipping the tail of the first phrase to the opening in an octave higher. The following of the interlude reappears in the same pattern but the ending phrase (measures 80-81) has a  $T_5$  operation compared with mm. 33-34.

*Birdsong over trills and chord (measures 83-90)*

This section is simply an operation of  $T_5$  of the same subdivision in section A (mm. 36-43).

*Section B: measures 91-125*

*Birdsong over twelve-tone rows accompaniment*

In this section, birdsong consists of new pitch material. It is supported by two rows of three tetrachords in the piano, which further forms two rows of twelve-tone series under rhythmic permutation of one-two-three-four semiquaver length. In measures 91-96, birdsong is confined to a chromatic trichord of 3-1 [012], notes of G, G $\sharp$  and A. This trichord transforms into trichords of 3-8 [026] and 3-2 [013], and further expands into hexachord of 6-Z49 [013479], tetrachord of 4-5 [0126] and hexachord of 6-Z11 [012457].

Together with the emphasis of the opening chromatic notes of this section, the following phrase begins with a repeated hexachord of 6-Z41 [012368]. This trichordal chromatic characteristic expands to a tetrachord of 4-1 [0123], which later is developed into pentachords of 5-4 [01236] and 5-5 [01237], a septachord of 7-Z18 [0145679] and an octachord of 8-18 [01235689]. These materials are selectively restated in the following phrase.

A shortened version of chromatic trichord of 3-1 begins the final phrase of this section and it expands to a pentachord of 5-5 and a hexachord of 6-Z41 [012368] with an additional note of C#. The birdsong in the flute conclude the section with a chromatic nonachord of 9-2 [012345679], which consists of a tetrachord of 4-12 [0236] and a hexachord of 6-Z11 [012457].

The piano accompaniment is based on twelve-tone rows and rhythmic permutation. The tone row consists of three adjacent combinatorial tetrachords of 4-9 [0167] and 4-25 [0258] twice (Table 2.2.4). It begins with P<sub>9</sub> in the right hand and RI<sub>2</sub> in the left hand. The rows in both hands are transposed up a minor second (T<sub>1</sub>) in the opening of the following rows until they arrive at P<sub>0</sub> and RI<sub>5</sub>, the pitch materials in both hands exchange with one another (Table 2.2.5).



Table 2.2.4: Set table of the twelve-tone row (piano left hand) in section B.

0	5	11	6	1	9	7	3	4	2	8	10
7	0	6	1	8	4	2	10	11	9	3	5
1	6	0	7	2	10	8	4	5	3	9	11
6	11	5	0	7	3	1	9	10	8	2	4
11	4	10	5	0	8	6	2	3	1	7	9
3	8	2	9	4	0	10	6	7	5	11	1
5	10	4	11	6	2	0	8	9	7	1	3
<b>9</b>	<b>2</b>	<b>8</b>	<b>3</b>	<b>10</b>	<b>6</b>	<b>4</b>	<b>0</b>	<b>1</b>	<b>11</b>	<b>5</b>	<b>7</b>
8	1	7	2	9	5	3	11	0	10	4	6
10	3	9	4	11	7	5	1	2	0	6	8
4	9	3	10	5	1	11	7	8	6	0	2
2	7	1	8	3	11	9	5	6	4	10	0

Table 2.2.5: Twelve-tone rows used in piano part in section B.

<b>R.H.:</b>	P <sub>9</sub>	P <sub>10</sub>	P <sub>11</sub>	P <sub>0</sub>	RI <sub>2</sub>	RI <sub>3</sub>	RI <sub>4</sub>	RI <sub>5</sub>
<b>L.H.:</b>	RI <sub>2</sub>	RI <sub>3</sub>	RI <sub>4</sub>	RI <sub>5</sub>	P <sub>9</sub>	P <sub>10</sub>	P <sub>11</sub>	P <sub>0</sub>

Rhythmically, the piano accompaniment shows a permutation of one to four semiquavers. Messiaen exhausts all twenty-four possibilities of the combination, i.e. 4! (Table 2.2.6). These rhythmic patterns are also pitch related and both hands exchange with one another when the tone rows exchange.

Table 2.2.6: Rhythmic permutation of one to four semiquavers in section B.

P <sub>9</sub>	1234	1243	1324
RI <sub>2</sub>	2134	2143	2341
P <sub>10</sub>	1342	1432	1423
RI <sub>3</sub>	2314	2431	2413



P <sub>11</sub>	3412	3421	3124
RI <sub>4</sub>	4123	4132	4213
P <sub>0</sub>	3142	3241	3214
RI <sub>5</sub>	4231	4321	4312

### *Codetta*

This ending begins with three pentachords of 5-Z36 [01247], 5-14 [01257] and 5-22 [01478]. Again, a recall of the chromatic trichord of set class 3-1 appears once more before the final birdsong phrase, which is composed of a hexachord of 6-30 [013679] and a dyad of B $\flat$ 6 and C7 played by the flute.

### *Commentary*

In the opening of the piece, Messiaen displays the main pitch material of the music. The chromatic nonachord of 9-1 prefigures that the work contains a number of chromatic moments and sometimes with octave displacement, for example, the septachord and octachords in measure 8.

The flute starts with a structurally important trichord of 3-5 [016], combination of a semitone and a tritone, which becomes the source set of the piece. Except for the tetrachords, there are only a few pentachords and hexachords that do not contain this trichord as a subset.<sup>12</sup> The most immediate effect is the expansion to the tetrachords of 4-9 [0167] and 4-Z15 [0146] in the following birdsong solo. The former contains two source trichords while the latter contains one only, and they both signify the importance of 4-9 in the piece. These structural sets are also pitch-

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<sup>12</sup> There are only nine tetrachords out of twenty-nine that contain the trichord of set class 3-5. However, there are thirteen pentachords out of thirty-eight that do not contain this subset, and six out of fifty hexachords do not contain this subset. From the septachord onwards (chord with the cardinality larger or equal to seven), all chords contain this subset.

sensitive. They correspond to specific pitches: 3-5 {932}, 4-9 {2389} and 4-Z15 {8902}.<sup>13</sup>

Four kinds of harmonic patterns support the birdsong and interludes: chromatic arpeggio, tetrachords in aggregates or twelve-tone rows, block chords and trills. The chromatic arpeggio leads to the entry of the birdsong. Although the first use of tetrachords in aggregates contain notes which overlap with the next aggregate and the rhythm of the notes also shows regular diminution of length, section B is stricter in the twelve-tone row no longer repeats any note before the next row begins, and all twenty-four rhythmic permutations are exhausted.

There are two kinds of block chords: chords in semibreve and chords that share the same top notes with the interludes. Trills only appear near the end of sections A and A'. Messiaen varies the upper trilled note, which combines the interlude and forms a Z-related pair hexachord. In this way, the same number of intervals can be generated. Hence, coherence is enhanced by similarity of chord.

It is the first piece where Messiaen uses birdsong explicitly in its title and in the pitch materials. He transforms the birdsong into a more structured way by setting up the musical form with different materials, and using different kinds of harmonies and textural devices to bring out the varieties by incorporating the solo birdsong with interludes.

### ***Catalogue d'oiseaux* (1956-58), the blackbird passage**

In this gigantic piano solo work, the blackbird is not the most representative bird in this movement. However, the blackbird plays an accompanying role to the other birds

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<sup>13</sup> See Nichols, "Messiaen's 'Le merle noir'," 648, for his statistic account on the pitches used.



in the second, seventh and ninth movements. In this analysis, only the second movement is considered (Appendix B).

### *Second movement: Le Loriot*

The song of the blackbird appears two times in this movement (p. 2 of the movement): the first one is made up of five fragments which are separated by rests and the second one has one fragment only. Three groups of “silent chords” are interpolated between these two birdsong passages.

### *Silent chords*

There are two basic types of silent chords: the original group and the extended group. Both are indicated by the expression mark of “*sourd.*”<sup>14</sup> The original group is used in the opening of the movement. It consists of two major seventh chords in root position, which is over the open perfect fifth in the lowest register of the piano (F#1 and G#1). Thus the latter chord is a major second transposed up from the previous chord. This original group has one more transformation. Instead of transposing the first chord up a major second, the latter is transposed down a major second and is contracted to major triad, which shares the same gesture of the first chord but without the seventh note in the top.

The extended group consists of five chords when it appears in the first time in the movement (p. 2 of the movement). It is thickened and embellished by using the ninth chord and the thirteenth chord. Being similar to the original group, the first chord is an F# chord. In other words, the left hand plays the F# major seventh

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<sup>14</sup> The first appearance of the original group actually has the expression mark of “*sourd.*” in the first chord and “*calme*” in the second chord. However, the later appearance of the original group only has the mark of “*sourd.*” Nevertheless, I would say they have the same effect as the opening pair, in which the literal meaning of “*sourd.*” and “*calme*” are highly similar while the chords are the same.



tetrachord while the right hand plays the doubled ninth notes that inscribed a diminished fifth. This chord is transformed to an E major thirteenth chord by transposing down a major second. It means that the left hand keeps the same gesture of the tetrachord while the right hand is contracted from the tetrachord to the trichord with the thirteenth note inside it.

This E major thirteenth chord is contracted back to the following ninth chords but in different fashion: the right hand plays two open perfect fifths stacking together; the left hand plays a tetrachord with a doubled third note of the chord. This is transposed down a major second in the following C major ninth chord; but the right hand tetrachord is contracted to a trichord.

The contraction of chord is further developed and results an E major triad in the final chord of the group: the left hand plays the open perfect fifth in E1 register; the right hand plays a complete E major triad in E3 register.<sup>15</sup>

### *Le merle noir*

This first passage of the song of the blackbird comes over the sustained final E major triad of the extended group of silent chords. Every fragment in the first passage birdsong opens with one of the combination of diatonic notes, white keys in the piano, of C, D, E and G. In general, each fragment has the same basic boundary from G5 to G#6, where every fragment of birdsong tries to reach. In the fourth and the fifth fragments, the birdsong expands its lower boundary to C#4 or D $\flat$ 4 while keeps the same upper boundary of G#6.

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<sup>15</sup> Four similar passages appear in the later section of the music. They are all series of major and minor triads but without the expression mark of "*sourd.*". As a result, it is difficult to distinguish whether they are the silent chord groups though they have the similar gesture, rhythm and tempo mark, Lent ( $\text{♩} = 60$ ).

The original group of silent chords separates the first and the second passage of the birdsong, where the last chord, G# major seventh chord, is sustained under the second passage of the birdsong. Having only one fragment, the second passage opens with the same note as the first one. The lower boundary generally descends from G5 to E $\flat$ 5 while the birdsong keeps the same higher boundary of G#6 as if the first one. As a result, the second passage is more or less a condensed version of the first one. The blackbird section is concluded with the transformed form of the original group, which is also the opening of the following section, rouge-queue à front blanc (Tables 2.3.1 and 2.3.2).



Table 2.3.1: Formal structure of the blackbird section in the second movement.

Set Name	Lent (♩= 60)	6-33 [023579]	5-34 [02469]	5-34 [02469]	5-34 [02469]	Vif (♩= 144)	Lent (♩= 60)	4-27 [0258]	4-27 [0258]	Vif (♩= 144)	Lent (♩= 60)	3-11 [037]	3-11 [037]	Effect
R. L.	G# E A# G#	E C# F#	F# E C F#	D Bb E	B G# E	Merle noir	F# E A#	G# F# B#	F# E A#	Merle noir	F# E A#	E G#	E G#	Sustained
L. H.	E C# A# F#	D B G# E	E A D	D G C	B E	Merle noir	C# F#	D# G#	C# F#	Merle noir	C# F#	B E	B E	Sustained
Effect					Sustained			Sustained						Sustained

Table 2.3.2: Pitch distribution of the blackbird in the second movement.

Register	5												6								
Pitch	C#	D	E <sub>b</sub>	E	F	F#	G	G#	A	A#	B	C	C#	D	D#	E	F	F#	G	G#	
Phrase 1							3					4		3		1		3			3
Fragment 1												4		3		1		3			3
Fragment 2							2					1		1							1
Fragment 3							2							1		1					1
Fragment 4	1						2					1		2		1		1			1
Fragment 5	1 <sup>16</sup>				1		3					2		3		3					1
Phrase 2			2			1	1				1	2		5		2		1			1
Total	2	0	2	0	1	1	13	0	0	0	1	10	0	15	0	8	0	5	0	0	7

<sup>16</sup> It is notated as D<sub>b</sub> in the score.



## *Commentary*

It can be seen that the interpolated groups of silent chords not only establish the silent atmosphere for the blackbird, but also set up a harmonic environment for it, with the sustained chords under the birdsong. It is also a characteristic that there is a leap between boundary at the end of each fragment. In the first passage, the first fragment ends with G5-G#6, ornamented around G#6; the second fragment ends with a descent from G#6 to G5; the third fragment ends with an ascent from G5 to G#6; the fourth fragment ends with an ascent from G5 to F#6; the fifth fragment ends with an ascent from F5 to G#6. In the second passage, the fragment seems to be ended with an expanded ascent from E<sub>b</sub>5 to E6.

## *Chronochromie (1959-60), “Épôde”*

*Chronochromie*, for grand orchestra, is the largest work and the most climactic output in the late 1950s. The title tells implicitly that Messiaen uses birdsongs as musical material because the title describes the color of time but not of birds. However, Messiaen devotes as much as a whole movement, which is named “Épôde,” to birdsongs.

In the “Épôde,” Messiaen comments that this movement has only the birdsongs found in France, which are combined by the counterpoint technique with more colorations and chords.<sup>17</sup> Messiaen uses only eighteen strings in this movement: six 1<sup>st</sup> violins, six 2<sup>nd</sup> violins, four violas and two cellos to represent twenty-one birdsongs. Messiaen replaces three birds in measure 49 in the middle of the movement, and one bird comes back in measure 99 (Table 2.4.1).<sup>18</sup> In order to highlight the uniqueness of each bird, Messiaen has to characterize each bird, in

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<sup>17</sup> Messiaen, *Traité* III, 98.

<sup>18</sup> Messiaen stated clearly in his *Traité* III page 98 that the middle of the “Épôde” is located in page 178 one measure before the rehearsal no. 105.



twenty one ways according to their individual features, especially those birds of the same species. In this analysis, I will analyze the characteristics of the blackbird.

Table 2.4.1: Instrumentation of birdsongs.

Instrument	Birdsongs
1 <sup>st</sup> Violin 1	1 <sup>er</sup> Merle noir
1 <sup>st</sup> Violin 2	2 <sup>e</sup> Merle noir
1 <sup>st</sup> Violin 3	3 <sup>e</sup> Merle noir
1 <sup>st</sup> Violin 4	4 <sup>e</sup> Merle noir
1 <sup>st</sup> Violin 5	Bruant jaune
1 <sup>st</sup> Violin 6	1 <sup>er</sup> Chardonneret, Linotte (mm. 49-102)
2 <sup>nd</sup> Violin 1	Pouillot véloce
2 <sup>nd</sup> Violin 2	2 <sup>e</sup> Chardonneret, 1 <sup>re</sup> Fauvette des jardins (mm. 49-102)
2 <sup>nd</sup> Violin 3	Fauvette grisette
2 <sup>nd</sup> Violin 4	Fauvette babillarde, 2 <sup>e</sup> Fauvette des jardins (mm. 49-99), return of Fauvette babillarde (mm. 99-102)
2 <sup>nd</sup> Violin 5	1 <sup>er</sup> Pinson
2 <sup>nd</sup> Violin 6	2 <sup>e</sup> Pinson
Viola 1	Rossignol
Viola 2	5 <sup>e</sup> Merle noir
Viola 3	6 <sup>e</sup> Merle noir
Viola 4	Verdier
Cello 1	1 <sup>er</sup> Lorient
Cello 2	2 <sup>e</sup> Lorient

There are in total six blackbirds, around one-third of the total number of birds in this movement. All of them are square bracketed, which means that their melodies are important.<sup>19</sup> Since the emphasis is put on those melodies within the square brackets, only the square bracketed melodies will be analyzed.

<sup>19</sup> Messiaen states at the bottom of the score on page 155 that the privileged melody will be given square brackets.

The 1<sup>st</sup> blackbird appears as the top line of the ensemble. The melody of the song is mainly composed of white-note keys that reveals some kinds of diatonic flavor. From the analysis, it shows that the birdsong is based on the structural notes G5-C6-D6, together with the tritones and the semitonal leaps at the end (Figure 2.4.1 and Table 2.4.2).<sup>20</sup> In addition, since the melody is freely elaborated, the form of the song cannot be distinguished.

Figure 2.4.1: The ending of the first blackbird, mm. 6-7.



For the 2<sup>nd</sup> blackbird, Messiaen said it is the echo to the 1<sup>st</sup> blackbird.<sup>21</sup> However, this statement creates a problem about how an echo can come before the main melody in measure 1. Besides regarding the 2<sup>nd</sup> blackbird as an echo of the first one, I suggest this can be a duet between two voices because the 2<sup>nd</sup> blackbird also has the structural notes of G5-C6 and both melodies are highly elaborated.

For the 3<sup>rd</sup> blackbird, the rhythmic content is very similar to those of the first and second one. One of the characteristic figures is shown from measure 21, an arch shape of demisemiquavers (Figure 2.4.2).

<sup>20</sup> The semitonal leap means the intervals of major seventh or minor ninth and their intervallic equivalent.

<sup>21</sup> Messiaen, *Traité* III, p. 99.



Figure 2.4.2: An arch shape figure of the 3<sup>rd</sup> blackbird, m. 21.



For the 4<sup>th</sup> blackbird, the square bracketed songs only come twice: the beginning and the ending of the second half of the movement.<sup>22</sup> For the 5<sup>th</sup> blackbird, the square bracketed melody in the first half appears only once, but becomes more prominent in the second part.<sup>23</sup> The quintuplet setting becomes the characteristic of the song (Figure 2.4.3).<sup>24</sup>

Figure 2.4.3: The quintuplet setting of the 5<sup>th</sup> blackbird, m. 56.



For the 6<sup>th</sup> blackbird, the characteristics of the song are a semiquaver with an acciaccatura and a group of four demisemiquavers, which is further extended into a quintuplet group after the middle of the movement (Figure 2.4.4).<sup>25</sup>

<sup>22</sup> For detail examples, please refer to mm. 50-56, 95-101.

<sup>23</sup> There is a misprint in p. 194, m. 81. The triplet sign should cover the demisemiquaver rest and notes; and should leave the semiquaver note B<sub>♭</sub> alone.

<sup>24</sup> For detail examples, please refer to mm. 75, 77, 82, 87 and 98-100.

<sup>25</sup> For detail examples, please refer to mm. 13-20, 30-31, 33-34, 44-48, 52-55, 69-73, 81-90, and 99-101.







### *Commentary*

As shown in Table 2.4.2, six blackbirds are divided into three pairs. Each pair has its own structural pitches, which forms its unique identity. The structural notes of the first pair, 1<sup>st</sup> and 2<sup>nd</sup> blackbirds, are G5-C6-D6; those of the second pair, 3<sup>rd</sup> and 4<sup>th</sup> blackbirds, are B5 and E6; those of the third pair, 5<sup>th</sup> and 6<sup>th</sup> blackbirds, are E $\flat$ 4-A $\flat$ 4-C5-D5-E5. Although their structural notes are quite different especially with respect to specific pitches, they still embed some degrees of diatonic flavor.

In addition to the different characteristics among the same species, and even those among different species, Messiaen provides variety of texture by means of counterpoint, where the entries of the square bracketed birdsongs are signaled by the conductor. This application foreshadows his innovative technique of *les hors tempo* from the *Saint François d'Assise* onwards. The change of texture also helps in establishing the form of the movement where the thinnest texture of the beginning of the “Épôde” reappears again in the measure 49 – the beginning of the second section (Tables 2.4.3 and 2.4.4).



Table 2.4.3: Birdsongs distribution in mm. 1-31.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31						
1V1																																					
1V2																	X																				
1V3																		X																			
1V4	X																																				
1V5	X			X			X									X	X	X	X																		
1V6	X																																				
2V1	X	X					X				X	X						X																			
2V2	X	X																																			
2V3	X	X										X																									
2V4	X	X	X					X				X				X		X						X													
2V5	X	X	X			X											X	X	X																		
2V6	X	X	X			X					X						X	X	X																		
A1	X	X	X	X	X																																
A2	X	X	X	X	X																																
A3	X	X	X	X	X																																
A4	X	X	X	X	X							X																									
C1	X	X	X	X	X								X																								
C2	X	X	X	X	X				X					X																							

Shaded area represents squared bracket birdsongs.

Blank box represents general birdsongs.

“X” represents whole bar rest.

“|” represents the signal of squared birdsong entry from the conductor.



Table 2.4.4: Birdsongs distribution in mm. 49-79.

	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79					
1V1	X																																			
1V2	X																																			
1V3	X	X																																		
1V4	X																																			
1V5	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X			
1V6																																				
2V1	X	X	X					X									X																			
2V2																																				
2V3	X	X															X							X												
2V4																																				
2V5																											X	X	X	X	X	X	X	X		
2V6																																				
A1	X	X																																		
A2	X																																			
A3	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
A4	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
C1	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
C2	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

Shaded area represents squared bracket birdsongs.  
 Blank box represents general birdsongs.  
 "X" represents whole bar rest.  
 "|" represents the signal of squared birdsong entry from the conductor.



## Chapter 3

### *Analyses (Part II)*

“...bird songs...are the most musical, the closest to us and the easiest to reproduce.”<sup>1</sup>

Olivier Messiaen

#### ***Petites Esquisses d'oiseaux (1985), second movement***

*Petites esquisses d'oiseaux* is the last solo piano work of Messiaen. It consists of six short movements, in which the first, third and the fifth are devoted to robin, which unifies the piece. They are interpolated by the songs of the blackbird, the song thrush and sky lark in the second, fourth and sixth movements respectively. The following analysis concentrates on the second movement, “le merle noir” (Appendix C).

#### *Formal structure*

This short movement consists of forty measures and it can be divided into four highly similar sections justified by the CTI (chord of transposed inversions on the same bass note) opening, double-lined birdsong, tetrachord cluster and ending hexachord (Table 3.1.1).

Table 3.1.1: Four sections in the second movement, “le merle noir”.

Section	1	2	3	4
Measure	1-9	10-19	20-30	31-40
No. of measures	9	10	11	10

#### *CTI opening*

The chords of transposed inversions on the same bass note (abbreviated as CTI) characterize the opening of each section.<sup>2</sup> There are two dominating CTI, 4A and

<sup>1</sup> Samuel, *Olivier Messiaen Music and Color*, 35.

11B, and a hexachord of 6-15 [012458] setting up the colored environment to the following the songs of the blackbird.<sup>3</sup> According to Messiaen, his special chords are related to color perception in his mind.<sup>4</sup> Although different transpositions of CTI are used to add different color effects to the music, the use of CTI in the piece, nevertheless sets up two contrasting color groups: green-violet-dark blue (4A of CTI) and lemon yellow with red spots (11B of CTI), i.e. the opening two CTI (Tables 3.1.2, 3.1.3 and 3.1.4).<sup>5</sup>

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<sup>2</sup> The abbreviation of Messiaen's special chords is proposed by Wai-ling Cheong. She also provides a comprehensive study of the origins of the special chords in her article, "Rediscovering Messiaen's Invented Chords" *Acta Musicologica* 75/1 (2003), 85-105. See also Messiaen's *Traité* vol. VII, 135-147, for the structure, the table and the related colors of this chord, CTI. As suggested by the chord name, the second and the third chords (chord B and chord C) in the same table are the inversions of the first chord (chord A) but transposed to the same bass note of the first one. The other eleven tables in the CTI collection are simply the transpositions of the first table for the completion of bass notes in twelve pitch classes.

<sup>3</sup> 4A represents the first chord in the fourth transposition table; while 11B represents the second chord in the eleventh table.

<sup>4</sup> Messiaen, *Traité* VII, 97.

<sup>5</sup> Except for 5D of CTI, which is pale green with the reflections of yellow and mauve.



Table 3.1.2: CTI, with corresponding colors, used in "Le merle noir".<sup>6</sup>

CTI	Section	1	2	3	4
1B: broad tablecloth of blue sapphire, ringed blue but intense (fluorine blue, bright blue of Chartres ) and recerclée of violet				√	
3B: crystal: burned ground, amethyst violet, Prussian bright blue, roasted chestnut and reddish – with gold stars.					√
3D: black drawings on the pink background (rhodonite like) with the lily Martagon (brown purplish flower)					√
4A: vertical bands: green, violet, dark blue		√	√	√	√
5B: ash, pale green, and mauve		√		√	√
5D: pale green, with the reflections of yellow and mauve					√
7B: red and white oblique bands, black drawings on top of the pink background			√	√	
7D: orange, red and brown, lemon yellow		√			√
9D: monochrome of blue: intense sapphire blue, translucent kind of fluorine blue, dull kind of lapis-lazuli blue, violet blue, and bright blue of Chartres			√		
11B: lemon yellow, with red spots		√	√	√	√

<sup>6</sup> The descriptions of the corresponding colors are my translations of *Traité VII*, 142-147.

Table 3.1.3: CTI progression in the opening of each section.

Section 1:										
4A	11B	6-15	4A	11B	4A	11B	6-15	7D	5B	5-35

Section 2:										
4A	11B	6-15	4A	11B	4A	11B	6-15	9D	7B	6-33

Section 3:														
1B	7B	6-15	7-21	1B	7B	6-15	7-21	4A	11B	4A	11B	5B	6-15	5-27

Section 4:																
4A	11B	6-15	4A	11B	4A	11B	6-15	7D	5B	5D	3B	3D	6-15	6-14	6-21	4-26

Table 3.1.4: Major colors of CTI used in "le merle noir".

Green, violet and blue	Yellow and red
1B, 3B, 4A, 5B, 9D	7B, 7D, 11B
3D, 5D	



In each section, in addition to the color alternation between green-violet-dark blue (4A of CTI) and lemon yellow with red spots (11B of CTI), which is separated by 6-15, there are migrations of similar colors at the end of each section. Except in the section three, where the migrations of colors are continue from the end of section two in the beginning of section three; and a new separator, 7-21 [0124589], is introduced following the existing hexachord separator in this extended section.

In section four, similar colors transforms by means of transposing the CTI pair, 7D and 5B, down two semitones; the transposition is only completed once, and it stops abruptly with CTI 3D in the second cycle.

The CTI opening ends with a diatonic chord, which is sustained during the following birdsong to provide a similar harmonic context (Table 3.1.5).

Table 3.1.5: Birdsongs' harmonic support.

Section	1	2	3	4
Types of chord	Pentatonic chord	Incomplete dominant thirteenth chord	D-minor ninth chord	A-minor seventh chord

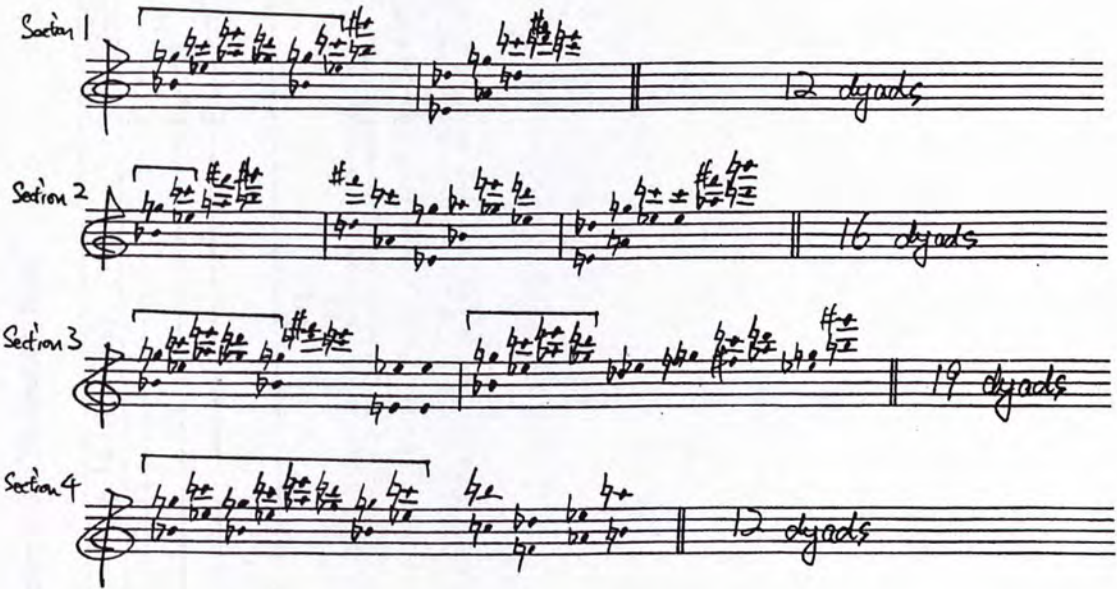
In section four, two hexachords interpolate between the hexachord separator and the A-minor seventh chord, which extend the space before arriving at the A-minor seventh. Meanwhile, they also provide a smooth link since the voice-leading involves either through only one or two semitones (Table 3.1.6).

#### *Double-lined birdsong – mal doubling*

The birdsong is indicated by the bird name, “le merle noir,” next to each entry in every section. The length of the birdsong gradually increases from section 1 to

section 3 where there are two phrases of birdsongs in this extended section 3. Finally, the length of the birdsong in section 4 contracts back to the same length in section 1.

The birdsong is characterized by its diatonic opening, in which the opening dyads are pitch specific, for instance, the birdsong of section 1 opens with: G-B $\flat$ , C-E $\flat$ , E-A $\flat$  and D-G $\flat$  (boldly and *italically* typed in Table 3.1.7). Chromatic notes represented by black keys in the piano are introduced after the diatonic opening.<sup>7</sup> All melodic notes, diatonic as well as the chromatic are doubled inexactly (Figure 3.1.1).<sup>8</sup> Figure 3.1.1: Pitch reduction of the blackbird from four sections.<sup>9</sup>



<sup>7</sup> There is an exception in section four, m. 37, B $\sharp$  immediately follows the diatonic opening.

<sup>8</sup> There is an exception in section two, m. 16, two C-E $\flat$  dyads are referential to the diatonic opening dyads. Also the G $\sharp$ 6-B5 dyad in sections one to three is also pitch corresponded.

<sup>9</sup> The square bracket indicates the pitch corresponding dyads in the beginning of each phrase.



Table 3.1.6: Voice-leading graph of chords at the end mm. 35-36, section four.<sup>10</sup>

Set name of the chord	6-15 [012458]	6-14 [013458]	6-21 [023468]	4-26 [0358]
	A <sub>b</sub> — F — D <sub>b</sub> —	G — E — C —	F — E <sub>b</sub> — B —	E — C — A — G - -
Transposition		$T_{11}$	$*T_{11}$ (1)	$*T_1$ (4)
	A — G - - E —	A <sub>b</sub> — F - - E <sub>b</sub> —	G — E — D <sub>b</sub> - -	E — G — C —
Transposition	$*T_{11}$ (1)	$*T_{11}$ (1)	$*T_{11}$ (1)	$*T_0$ (1)

<sup>10</sup> The asterisk indicates the fuzzy transposition where the bracketed number underneath is the number of semitones involved in the fuzzy transformation.





### *Tetrachordal cluster*

The tetrachordal cluster, for instance in measure 7, forms a sustained bass, as in the case of the diatonic chord that precedes the first appearance of the birdsong, serving as a background for the ending hexachord. The cluster of the four sections shows the following transpositions (Table 3.1.8):

Table 3.1.8: Transposition of cluster across four sections.

Cluster in section:	1	2	3	4
	C	C	C	D
	B	B	F	C#
	B $\flat$	B $\flat$	E	C
	A	A	E $\flat$	B
	A	A	D	
Transposition:				

The same cluster is used two more times in sections two and three. In the extended third section, this cluster is transposed up five semitones and it is finally balanced by transposition down three semitones in the last section. On another level, the clusters show an appoggiatura gesture, with the cluster of sections 1, 2 and 3 preparing the cluster of section 4.

### *Closing hexachord*

Although the closing hexachord shows a very independent relationship among the materials in the section, it does show distinct transformation relationships at the same points of different sections. In contrast to conventional transposition procedure, where every note of the chord transposed assumes the same degree of transposition, the closing hexachords exhibit two degrees of transpositions: one in the higher register and one in the lower register.

Messiaen also allows flexibility in such transformation operations. At some points, crisp and fuzzy transpositions occur in the same chord.<sup>11</sup> In addition, fuzzy transpositions even exist in both registers. Table 3.1.9 shows the development of these transpositions in the closing hexachords among the four sections. The hexachord is treated with static and crisp transposition among in sections 1, 2 and at the beginning of section 3 before it begins to use an increasing number of fuzzy transpositions in sections 3 and 4. Although crisp transposition does not relate the hexachords that link sections 3 and 4, the hexachord of section 4 does show a more obvious connection with the previous sections: it is the transposed inversion of the hexachord (6-Z36) of section 3; it is also the Z-related pair of the hexachord (6-Z3) of section two (boldly typed in Table 3.1.9).<sup>12</sup>

<sup>11</sup> Joseph Straus proposes this new measurement of voice leading in atonal music in his recent article, "Uniformity, Balance, and Smoothness in Atonal Voice Leading" *Music Theory Spectrum* 25/2 (Fall 2003), 305-352.

<sup>12</sup> Messiaen appears not to intentionally use Z-related chords. Nevertheless, his invented chord, 1<sup>st</sup> CCR [chords A and B], is incidentally a Z-related pair.



Table 3.1.9: Voice leading graph of the ending hexachord across sections.<sup>13</sup>

Section	One	Two	Three	Four
Set class	6-5 [012367]	6-Z3 [012356]	6-Z12 [012467]	6-Z10 [013457]
	A# G# B	A# G# B	A G B <sub>b</sub>	E D F
				6-Z10 [013457]
				6-Z36 [012347]
				6-Z40 [012358]
				6-Z10 [013457]
				6-Z40 [012358]
Transposition	T <sub>0</sub>	T <sub>11</sub>	T <sub>7</sub>	T <sub>11</sub>
				I <sub>3</sub>
				*T <sub>10</sub> (2)
				*T <sub>7</sub> (3)
	D A E <sub>b</sub>	C G D <sub>b</sub>	E B F	G <sub>b</sub> D <sub>b</sub> A <sub>b</sub>
				6-Z10 [013457]
				6-Z36 [012347]
				6-Z40 [012358]
				6-Z10 [013457]
				6-Z40 [012358]
Transposition	T <sub>10</sub>	T <sub>4</sub>	*T <sub>2</sub> (1)	T <sub>6</sub>
				T <sub>8</sub>
				*T <sub>2</sub> (1)
				T <sub>8</sub>
				Inversionally related

<sup>13</sup> The asterisk indicates the fuzzy transposition.

### *Commentary*

In this miniature, Messiaen utilizes the limited materials in the beginning section by transforming the block chords to the corresponding locations of the following three sections. In such way, materials do not necessarily have horizontal relationships to the following block in the same section. On the contrary, they provide local effects and become very independent to each other. These transformations project the material blocks out and hence, sections are connected because of the same structures are used over the music.

The use of CTI dominates the opening of each section. On the musical surface, three forms of chords A, B and D of CTI in different transpositions are used. They appear to bear little relationship to the following materials, even in the corresponding location of the following sections. However, since Messiaen mentioned that the use of these invented chords is highly color correspondent, we may understand why those transpositions are used by referring to his color perception. Sections 1 and 2 simply establish the color environment, in which the background begins to change to other places in section 3. Section 3 takes up this initiation in its beginning, where the alternation of colors and chords that are not CTI repeats once before arriving at the core color area. In closing, section 4 begins with the core color before shifting to the opposite colors. However, the rate of color change is kept in check by the CTI that contains portions of both core colors, 3D and 5D.

Although the main notes of the song of the blackbird are C, D and E, the use of inexact doubling provides more colors and variations to the music by exploring a new register and new pairing of notes. As a result, the dyadic pairs deviate from the opening of the birdsong and most note-pairs do not recur afterward. Nevertheless, the fixed pairs consolidate and characterizes the opening of each birdsong phrase.



Different from other transformation of chords in the movement, the tetrachord clusters show a crisp transposition rather than a fuzzy one. Nevertheless, the fuzzy transposition in voice-leading allows internal intervallic transformation among groups of notes of any cardinality. This fuzzy transposition is especially helpful in viewing those chords have different rates of transposition in different registers, for instance, the end of the CTI opening in section four and the ending hexachord across sections.

### ***Feuillets inédits* (2001), the blackbird passage**

*Feuillets inédits*,<sup>14</sup> as suggested by the title, remained unpublished until 2001 when it was published by Durand and restored and edited by Loriod. It is probably in a private collection of Messiaen's because even the most recent bibliographical research by Nigel Simeone in 1998 does not contain an entry of this work in either "Publications in preparation" or "Unpublished works" column.<sup>15</sup> Although there are three dates indicated under the birdsongs in the score, the earliest one is in 1987 indicating when Messiaen collected the birdsongs on fieldtrips,<sup>16</sup> it is Loriod who puts a passage of blackbird from Messiaen's notebook in this missing register part of the score. Loriod said,

"The second piece is in a triple measure. After a descent in the 2<sup>nd</sup> mode, the music comes to a standstill on a dominant in the lower register. The upper register is missing. Where is the bird song? I found (in the notebook of Olivier Messiaen where he noted his bird songs) a Blackbird, noted the 29<sup>th</sup> of April 1987, which seems to me permits us to terminate this piece on a brilliant note."<sup>17</sup>

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<sup>14</sup> A collection of four short pieces for ondes Martenot and piano.

<sup>15</sup> See Nigel Simeone, *Olivier Messiaen: A Bibliographical Catalogue of Messiaen's Works* (Tutzing: Schneider, 1998), xix.

<sup>16</sup> The birdsongs of the blackbird was collected on 29 April 1987; Fauvette des jardins was collected on 7 July 1988; and Fauvette à tête noire was collected on 9 July 1988.

<sup>17</sup> Yvonne Loriod, booklet from *Olivier Messiaen Inédits* (Jade: 7432167411-2), under the title *QUATRE INÉDITS*, no page number is indicated. The parentheses are added by Loriod.



In his recent compact disc publication, Thomas Bloch dated Messiaen's *ondes Martenot* music back from 1937 onwards, however, he could not tell the exact composition date of *Feuillets inédits*.<sup>18</sup>

The song of the blackbird appears at the end of the second movement, where the piano plays the single melodic line in seventeen fragments in two sections (Appendix D). The division of the sections is distinguished by the sudden change of the pitch content in the tenth fragment. Three frequently used notes, C, D and F,<sup>19</sup> are suddenly omitted from the tenth fragment.<sup>20</sup> Instead, two other notes, B $\flat$  and A $\flat$ , appear for the first time and continue to be restated in later fragments.<sup>21</sup> Although there is no phrase-separation-rest between phrases 9 and 10, the ascending leap at the end of phrase 9 suggests a common ending gesture. In this way, the sudden shift of pitches suggests the birdsong initiating into a new section (Tables 3.2.1 and 3.2.2).

Among the seventeen fragments, two highly similar hexachords of set classes 6-Z24 {024578} [013468] and 6-22 {024678} [012468] become the most significant chords of the birdsong. They maintain maximum invariance, sharing the five-note set {02478}. The former one dominates the first half, appearing four times, three of which are presented in direct succession;<sup>22</sup> the latter one dominates the second half, appearing two times in direct succession.<sup>23</sup> These two sets of hexachords share the most pitch content. Those five common notes are mostly pitch specific, except in

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<sup>18</sup> Thomas Bloch, booklet from *Ondes Martenot* (Naxos: 8.555779), 7.

<sup>19</sup> These three notes form a trichord of set class 3-7 [025], which becomes a subset of most chords in the first section.

<sup>20</sup> The notes, C and D, absence only in the tenth fragment. They resume their importance by frequent appearance in the rest of section. However, beginning with the tenth fragment, the note F only appears once more (in the last fragment).

<sup>21</sup> The note B $\flat$  appears only twice in the tenth fragment, as well as among the rest of the birdsong. Before the tenth fragment, only G $\sharp$  appears. However from this fragment onwards, the note A $\flat$  becomes more prominent until the end of the birdsong.

<sup>22</sup> The third to the fifth fragments are composed of 6-Z24.

<sup>23</sup> The fourteenth and fifteenth fragments are composed of 6-22.



phrase 14, the pitch class {8} is in terms of  $A\flat_5$  rather than its octave equivalent of  $G\#_6$ .

The first section begins with the hexachord of 6-Z10 in which four common tones (the notes of C, D, E and G) remain in the following phrase of hexachord. This common tone connection becomes more obvious in the later phrases. Five common tones are kept in the next phrase of hexachord 6-Z24, which acts as the center of the section. Table A further complete set inclusion relation is shown near the end of the section. The superset 6-9 is followed by two subsets: 4-11 and 5-9. Finally the first section ends with the significant 6-Z24 (Tables 3.2.3 and 3.2.4).

The tenth fragment announces the second section with new pitch materials – the absence of notes C, D and F, and the introduction of notes  $B\flat$  and  $A\flat$ . Common tones also link the phrases in the second section. Contrary to the first section, the second one shows a decreased number of common tones in the beginning, which is due to the new pitch materials. Three notes, G,  $A\flat$  and  $B\flat$ , are retained in the eleventh fragment which combine with the two frequently appeared notes of C and D, and a new note of  $E\flat$  to form the hexachord of 6-Z26. This hexachord, together with the following tetrachord of 4-24, acts as a turning agent to transit the fragment with new materials to the one has more common tones. A complete set inclusion with the same notes is shown near the end of the section, where the subset 5-24 frames the doubly appeared superset of 6-22. This framing pentachord is again included in the last phrase, which adopts the superset 7-2 (Tables 3.2.3 and 3.2.5).

### *Commentary*

In the above analysis, I give note names and set classes in normal form. Because the song of the blackbird has fixed and limited notes, they are pitch space sensitive. Thus

some notes only appear in specific register; for instance, the most frequently used notes C, D and E, appear only in register 6. Hence, the use of note names and normal forms rather than abstract prime forms retains the specificity of the birdsong.

The trichord of 3-6 {024} [024] becomes the core of the birdsong. Except in the opening of the second section, this trichord appear in every phrase. This trichord further expands to two tetrachord of 4-22 {0247} [0247] and 4-11 {0245} [0135] or their inclusion of pentachord 5-23 {02457} [02357]. Either one or both is embedded in every phrase in the first section. On the contrary in the second section, this trichord expands to a pentachord 5-24 {02467} [01357], which not only is embedded in its supersets of hexachord and septachord, but also explicitly appears as a self-contained birdsong fragment.

The characteristic of these diatonic sets, with the emphasis of the trichord of 3-6, is also revealed in the melodic intervals in the birdsong. The most frequent used intervals are the major second, major sixth and major third, which are the common intervals of the set classes 3-6, 4-22, 5-23 and 5-24 (Table 3.2.2).



Table 3.2.1: Pitch distribution of the blackbird in *Feuillets inédits*, 2<sup>nd</sup> movement.

Register and pitch <sup>24</sup>		5													6												
Set Class	E <sub>b</sub>	E	F	F#	G	A <sub>b</sub>	A	B <sub>b</sub>	B	C	C#	D	E <sub>b</sub>	E	F	F#	G	A <sub>b</sub>	A	B <sub>b</sub>							
1	6-Z10 [013457]	2			4					2		2		3		3											
2	6-Z48 [012579]				1	2				3		2		1			1										
3	6-Z24 [013468]		1		2					3		1		1			1										
4	6-Z24 [013468]		2		1					5		4		3			1										
5	6-Z24 [013468]		1		2					1		2		2			1										
6	6-9 [012357]		1		2					1		2		1		1											
7	4-11 [0135]		2							1		5		5													
8	5-9 [01246]		1							1		2		2		1											
9	6-Z24 [013468]		1		2					1		1		2			1										
10	5-8 [02346]				1			2						2		2	1			1	1						
11	6-Z26 [013578]				2					1		2	1				1			1	1						
12	4-24 [0248]					1				4		2		1													
13	5-24 [01357]				3					3		3		2		1											
14	6-22 [012468]				1	1				4		3		2		1											
15	6-22 [012468]				3	1				4		4		3		1		1									
16	5-24 [01357]				2					4		5		3		2											
17	7-2 [0123457]		1		2					3		3	1	1		1											
Total:		2	0	10	0	28	3	2	2	0	42	0	43	2	34	0	13	0	8	0	2						

<sup>24</sup> For simplicity, enharmonic equivalent is used to represent the same pitch.

Table 3.2.2: Melodic interval distribution of the blackbird in *Feuillets inédits*, 2<sup>nd</sup> movement.

Set Class Interval <sup>25</sup>		Semitone															
		0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
PP		m2	M2	m3	M3	P4	A4	P5	m6	M6	m7	M7	P8	m9	M9	m10	
1	6-Z10 [013457]	2		2			1	1		3		5		1			
2	6-Z48 [012579]	1		4	1	1				1		1					
3	6-Z24 [013468]	1		1		1		1	1	2				1			
4	6-Z24 [013468]	2		3		2	1	2	1	2		2					
5	6-Z24 [013468]	1		2		1				2				1		1	
6	6-9 [012357]					1	1	1	1	2		1					
7	4-11 [0135]			6		2				2		1					
8	5-9 [01246]			4				1				1					
9	6-Z24 [013468]	1		1		1			1	2		1					
10	5-8 [02346]	1		3			1		1	1		1					
11	6-Z26 [013578]	1	1	3			1									1	
12	4-24 [0248]	2		2		2	1										
13	5-24 [01357]	1		4				2		3		1					
14	6-22 [012468]	1		3		2	1	2	1	1							
15	6-22 [012468]	1		6		2	2	1	1	1				2			
16	5-24 [01357]			8		3		1		1		2					
17	7-2 [0123457]		1	4	1	2	2	1	1								
Total:		15	2	56	2	19	6	10	11	6	23	0	15	0	5	0	2

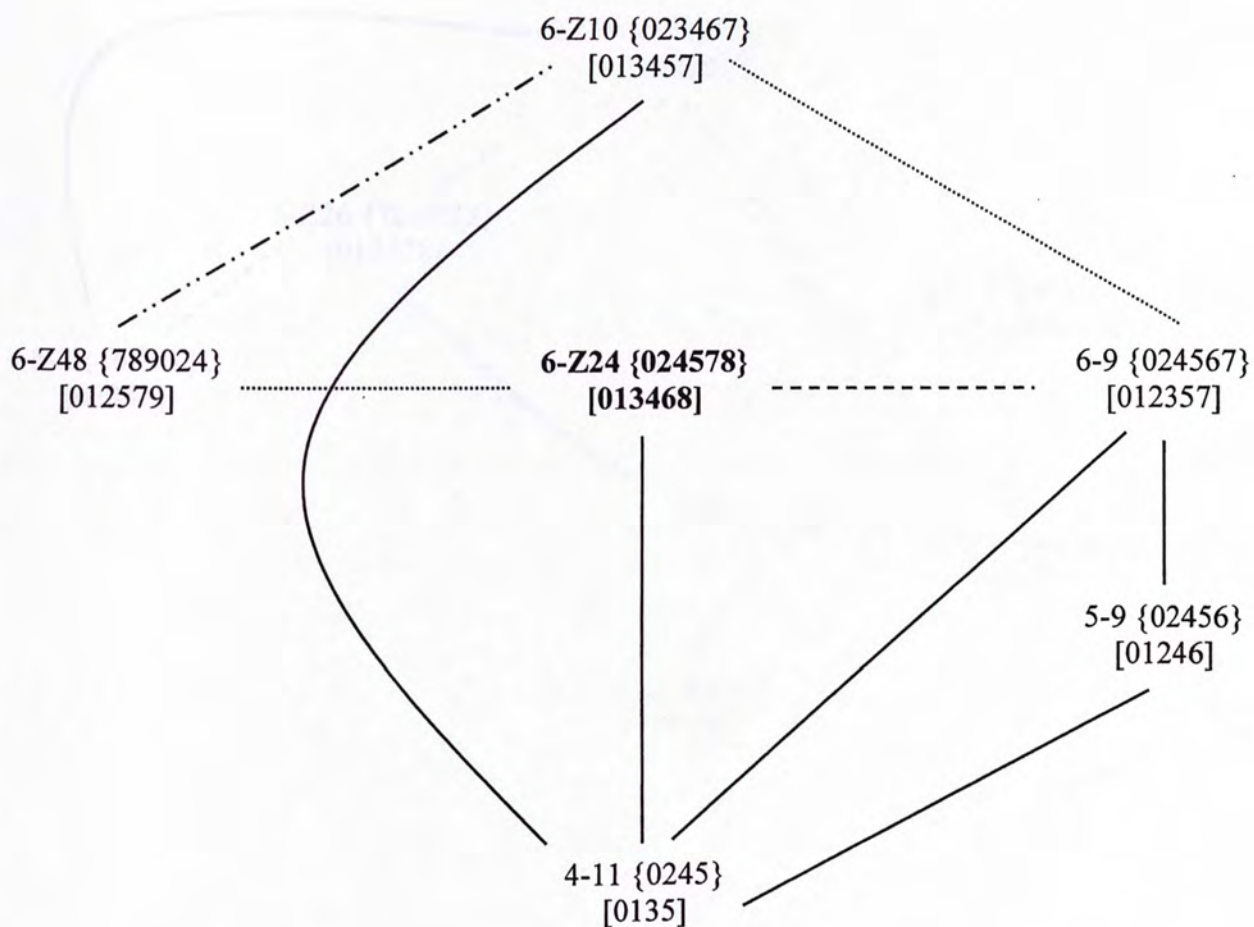
<sup>25</sup> For simplicity, enharmonic equivalent interval is used to represent the distance between two notes.



Table 3.2.3: The voice-leading graph of birdsong fragments in *Feuillets inédits*, 2<sup>nd</sup> movement.

Fragment	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>	7 <sup>th</sup>	8 <sup>th</sup>	9 <sup>th</sup>
Set Class	6-Z10 [013457]	6-Z48 [012579]	6-Z24 [013468]	6-Z24 [013468]	6-Z24 [013468]	6-Z24 [012357]	4-11 [0135]	5-9 [01246]	6-Z24 [013468]
Notes arranged in normal order	G F# E Eb D C	E D C A G# G	G# G F E D C	G# G F E D C	G F# F E D C	F F E D C	F# F E D C	F# F E D C	G# G F E D C
Fragment	9 <sup>th</sup>	10 <sup>th</sup>	11 <sup>th</sup>	12 <sup>th</sup>	13 <sup>th</sup>	14 <sup>th</sup>	15 <sup>th</sup>	16 <sup>th</sup>	17 <sup>th</sup>
Set Class	6-Z24 [013468]	5-8 [02346]	6-Z26 [013578]	4-24 [0248]	5-24 [01357]	6-22 [012468]	6-22 [012468]	5-24 [01357]	7-2 [0123457]
Notes arranged in normal order	G# G F E D C	Bb Ab G F# E	Eb D C Bb Ab G	Ab E D C	G F# E D C	Ab G F# E D C	Ab G F# E D C	G F# E D C	G F# F E Eb D C

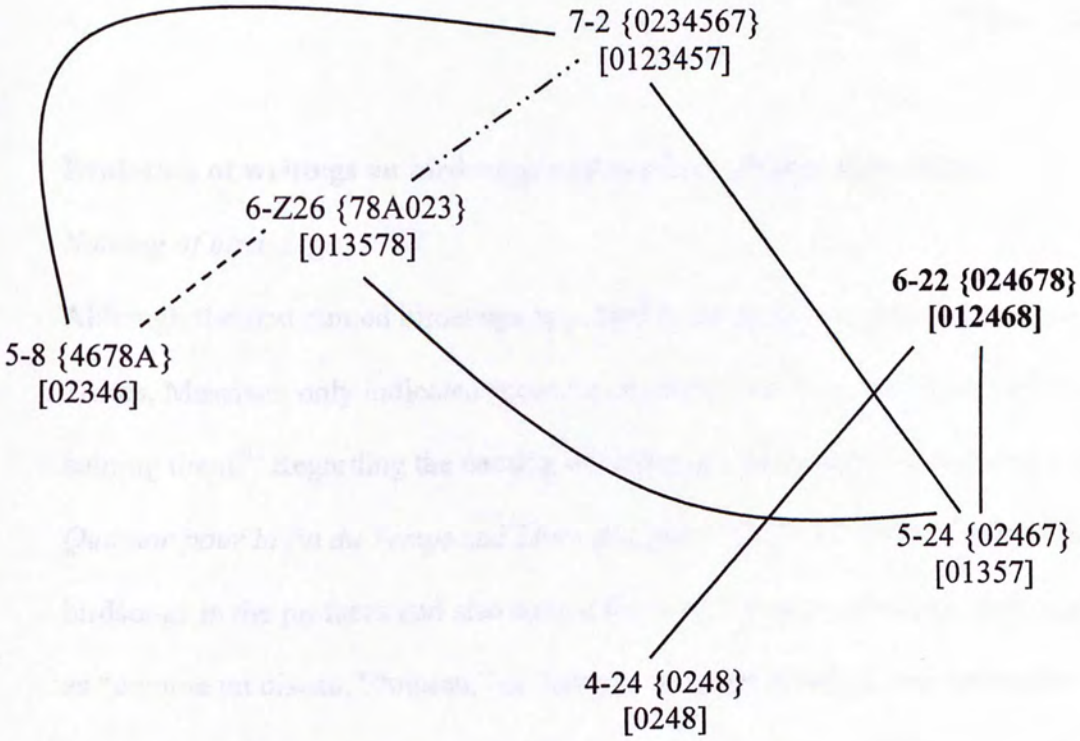
Table 3.2.4: Relationship of birdsong fragments in the first section.<sup>26</sup>



<sup>26</sup> The solid straight line represents the strict common tone set inclusion relation; the solid curve line represents the set inclusion under transposition/inversion operation; other lines represent partial common tone inclusion relation.



Table 3.2.5: Relationship of birdsong fragments in the second section.<sup>27</sup>



<sup>27</sup> The solid straight line represents the common tone set inclusion relation; the solid curve line represents the set inclusion under transposition/inversion operation; other lines represent partial common tone inclusion relation.

## Chapter 4

### Conclusion

“But, obviously, it’s I who listen and unintentionally I may introduce something of my manner of listening in reproducing the birdsong.”<sup>1</sup>

Olivier Messiaen

### Evolution of writings on birdsongs and musical settings of birdsong

#### *Naming of birdsongs*

Although the first named birdsongs appeared in the preface to *Quatuor pour la fin du Temps*, Messiaen only indicated “comme un oiseau” on the score instead of literally naming them.<sup>2</sup> Regarding the naming of birdsongs, he remains inconsistent between *Quatuor pour la fin du Temps* and *Livre d’orgue* (1951). At times he named the birdsongs in the prefaces and also named them on the score; however, such markings as “comme un oiseau,” “oiseau,” or “comme un chant d’oiseau” are most often used.

From *Réveil des oiseaux* (1953) onwards, Messiaen consistently named all the birdsongs used in his music, both in the prefaces and on the scores. In many prefaces, Messiaen tables the birdsongs in the order of appearance in French and other languages, such as German, English, Italian, Spanish, Latin and even Japanese in the case of *Sept Haïkai* (1962). Although he becomes more systematic in comparison to earlier practices before 1953, Messiaen’s choice of language with which to identify birds remains somewhat arbitrary.

Compared with *Technique*, birdsongs were more extensively treated in the two volumes of *Traité V*, covering such topics as habitats, physical appearances, melodic

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<sup>1</sup> Samuel, *Conversations with Olivier Messiaen*, 61.

<sup>2</sup> In the preface, which birdsongs are used remains unclear since Messiaen indicates, “un merle ou un rossignol” (a blackbird or a nightingale). Even in “*Abîme des oiseaux*,” the third movement, he mentions only that the movement title was related to birdsongs but no bird names were shown in the preface and the music.



characteristics, transcriptions and adaptations of birdsongs in Messiaen's music. The worklist appended to *Technique* indicates only the degree of characteristics with respect to his musical language. Messiaen, and more probably Yvonne Loriod, appended a worklist to *Traité V/2* to summarize the use of birdsongs in his music.<sup>3</sup> Birdsongs are noted in some early works, such as *Vision de l'Amen* (1943). While the worklist provides much important information, there are discrepancies in the numbers of birdsongs given in the preface and in this worklist, such as *Trois petites liturgies de la présence divine* (1943-44), *Vingt regards sur l'enfant-Jésus* (1944) and *Messe de la Pentecôte* (1950) (Appendix E).

#### *Harmonic settings*

Beginning from *Quatuor pour la fin du Temps*, Messiaen has incorporated chords as both harmonic support and background material to birdsongs. Earlier, Messiaen only sets birdsongs against chords without explaining any connotation of the harmonic background. Not until *Catalogue d'oiseaux* does Messiaen provide more detailed description of chords in the score. In the course of time he endeavors to capture not only the birdsongs he heard, but also the light and color he perceived, the fragrance he smelled, and indeed, the whole environment around the singing birds.

In a later composition, *Petites esquisses d'oiseaux*, Messiaen uses special color-chords to implicitly provide the birdsongs with a colorful background by drawing on his knowledge and experience of synaesthesia. The change and development of color and the contrast between different colors add coherence and complexity to the existing aural perception.

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<sup>3</sup> In most cases the tables were reproduced from the preface to the music.

*Applications of “les hors tempo” in birdsongs*

The last chapter of *Traité III* contains an introduction to “*les hors tempo*” (which literally means out of tempo or free tempo) through birdsongs featured in Messiaen’s late music. At the outset, Loriod remarks that Messiaen did not have time to adequately explore the concept of “*les hors tempo*,”<sup>4</sup> and thus she cited five excerpts from Messiaen’s late works to illustrate this idea.<sup>5</sup> The first application of “*les hors tempo*” in birdsongs appears in the sixth tableau of *Saint François d’Assise* (1975-1983):<sup>6</sup>

En plus des mesures complexes, à temps inégaux en durée, que m’imposent à la fois ma musique et *les oiseaux*, pour avoir cet aspect d’improvisation qui existe dans la nature, j’ai usé d’instruments hors tempo.<sup>7</sup>

In the preface to the sixth tableau of *Saint François d’Assise*, Messiaen explained the performance direction of “*les hors tempo*” assigning it to soloists exclusively. At the signal of the conductor, soloist starts to play the music under another tempo that is completely independent from the rest of the orchestra.<sup>8</sup>

Furthermore, Messiaen distinguished his use of “*les hors tempo*” from an aleatoric operation in music by clarifying that since his music was fully notated, it is not essentially aleatoric in nature.<sup>9</sup> Apart from this chapter, Loriod also revealed on the occasion of an interview that Messiaen differentiated “*les hors tempo*” from *rubato*. She recalled Messiaen’s notion of time and added that Messiaen detested *rubato* because it killed rhythm.<sup>10</sup> In sum, “*les hors tempo*” is cultivated by the

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<sup>4</sup> Messiaen, *Traité III*, 377.

<sup>5</sup> Those cited musical examples are largely taken from the prefaces to the works.

<sup>6</sup> There is a misprint in *Traité III*, 377; the opera was written between 1975 and 1983, not 1883.

<sup>7</sup> *Ibid.*, 377 (with my italics). See also the preface to the sixth tableau of *Saint François d’Assise*.

<sup>8</sup> *Ibid.*, 377.

<sup>9</sup> *Ibid.*, 377.

<sup>10</sup> Rebecca Rischin, *For the End of Time: The Story of the Messiaen Quartet* (New York: Cornell University Press, 2003), 52.



superimposition of music in different tempi rather than by any random process or twisted tempo.

The use of “*les hors tempo*” can be traced back to the 60s to the “Épôde” of *Chronochromie*, in which eighteen string solos play twenty-one French birdsongs. Based on the arrows indicated at the bottom part of the score, the conductor gives signals to the solos for the entries and cut-offs of the birdsongs. The first marking of “*les hors tempo*” appears in *Saint François d’Assise*, some twenty years after *Chronochromie*. Following the opera, only two more works contain the marking of “*les hors tempo*.” As shown in the cited examples, Messiaen experimented with this in both birdsong and non-birdsong settings though he did not reuse “*les hors tempo*” in non-birdsong passages after the opera. In the opera and especially the sixth tableau, he used “*les hors tempo*” extensively assigned usually to one or two solos.

Messiaen might have been dissatisfied with such quantitative use of “*les hors tempo*,” since the music still fails to capture the natural phenomenon of temporal disorder. In the following orchestral work, *Un vitrail et des oiseaux*, he confined the use of “*les hors tempo*” to a small birdsong ensemble to create a climactic moment. An idealized birdsong ensemble characterized by a kind of natural temporal disorder is further extended in the ninth movement of *Éclairs sur l’au-delà*. . . .

There are thus two ways to treat birdsongs in “*les hors tempo*.” First, birdsong simply follows one another in the manner of imitative counterpoint. Second, the entry of birdsong sets the boundary of ensemble at the outset before filling in the defined space to thicken the texture and increase the complexity of disorder.<sup>11</sup>

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<sup>11</sup> For details, see *Un vitrail et des oiseaux*, 46-49.

### *The blackbird music*

As shown in the analyses and the transcriptions cited in both *Technique* and *Traité V/1*, Messiaen's adaptation of the blackbird are characterized by structural notes that appear most frequently in the songs. As mentioned in both his speeches and *Traité V/1*, these structural notes contribute to the modes of the songs, and the music of blackbirds is characterized by the use of the hypermajor, for instance, the hypermajor in C that involves C major together with F# and G#.

Furthermore, according to Messiaen, religious music and the melodic contour of plainchant pre-exist in nature, including birdsongs. Some songs of blackbirds are, for instance, characterized by the melodic contours of *torculus* and *porrectus*.<sup>12</sup>

### *Critique of the analytical methods*

In the preceding analyses, different analytical methods are adopted to investigate Messiaen's birdsongs. Although set theory analysis is powerful in tackling the interrelation of different pc sets, Messiaen's birdsongs are closer to a kind of artistic transcription rather than atonally conceived. More significantly, his birdsong music is pitch specific, and thus set theory, which disregards the registral pitch space, fails to address this important feature.

The statistical method of counting occurrences of pitches does show the most frequently used pitches, though it unavoidably disregards the rhythmic aspect of the birdsongs. Joseph Straus's voice-leading analysis allows the flexibility of offset of semitones in transpositional and inversional operations of any two sets, i.e. "fuzzy" transposition and inversion. This enables us to measure the relationship between two sets with the same cardinality or even those of different cardinalities, while traditional

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<sup>12</sup> Messiaen, *Traité V/1*, 484.



“crisp” transposition and inversion can only measure two sets of the same set class. Straus’s approach leads to a broader view of voice-leading, one that captures how Messiaen transforms the harmonic background in his music.

### **Impact of *Technique* and *Traité***

Undoubtedly, Messiaen’s publication of *Technique* in the 1940s has enhanced our understanding of his musical language through his discussion of musical examples cited from his works. Although *Technique* delineates Messiaen’s techniques and ideas, it cannot possibly catch up with the rapid development of his creative approaches. From the end of the 1940s until his death in 1992, Messiaen was revising and expanding drafts of a more expanded treatise. Finally, with the assistance of Loriod, the belated publication of his seven-volume *Traité* was completed in 2002. The publication of *Traité* not only fulfilled Messiaen’s long-term desire, but also quenched the thirst of those who had long awaited the complete *Traité*.

Compared with *Technique*, *Traité* contains many more expanded studies of rhythm, sound-color, ornithology, as well as more analyses of Messiaen’s compositions and those of others.<sup>13</sup> These studies provide vital keys to Messiaen’s musical world, since they lavishly disclose his compositional philosophy and musical language.

More recent research which takes into account *Traité* includes Christopher Dingle’s dissertation of 2000 which only considers up to *Traité* Tome V/1. My thesis

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<sup>13</sup> Messiaen provided the analyses of his composition *Quatour pour la fin du Temps*, *Vingt regards*, *Cinq rechants*, *Sept HaïKai*, *Turangallla-Symphonie*, *Messe de la Pentecôte* and *Livre d’orgue* in Tome I; *Turangallla-Symphonie*, *Messe de la Pentecôte*, *Livre d’orgue* and *Vingt regards* in Tome II; *Quatre études de rythme*, *Livre d’orgue*, *Chronochromie*, *Vision de l’Amen* and *Harawi* in Tome III; *Messe de la Pentecôte* in Tome IV; *Sept HaïKai* in Tome V; *Trois petites liturgies* in Tome VII; and the analyses of Claude Le Jeune’s *Printemps* in Tome I; Stravinsky’s *Sacre du Printemps* in Tome II; Mozart’s twenty-one *Piano Concertos* in Tome IV; and Debussy’s *Prélude à l’après-midi d’un Faune*, *La Mer* and *Pelléas et Mélisande* in Tome VI.

ventures beyond *Traité V/1* and shows the discrepancies between the worklist of *Traité V/2* and Messiaen's music. Furthermore, I adopt the colour-chord tables of *Traité VII* in the analyses to show that, at the surface level, Messiaen seems to have applied his colour-chords arbitrarily to provide harmonic support for birdsong. However, at deeper levels, the colour-chords add coherence and colors along the line of his sound-color perception.

While my thesis focuses only on the blackbird, further study is needed to address similarity relations among other birdsongs in order to arrive at a deeper understanding of Messiaen's birdsong writings.<sup>14</sup>

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<sup>14</sup> Here I suggest those interested readers to look at Ian Quinn's articles for further information and possible research in the future: "Fuzzy Extensions to the Theory of Contour," *Music Theory Spectrum* 19/2 (Autumn 1997): 232-263; "The Combinatorial Model of Pitch Contour," *Music Perception* 16/4 (Summer 1999): 439-456; "Listening to Similarity Relations," *Perspectives of New Music* 39/2 (Summer 2001): 108-158, with this article, Quinn is given the Emerging Scholar Award in the 2004 meeting of the Society for Music Theory.



Appendix A: The analysis of *Le merle noir*.

# LE MERLE NOIR

pour Flûte et Piano

OLIVIER MESSIAEN

FLÛTE

Modéré

Modéré 9-1

PIANO

pp

Un peu vif, avec fantaisie

7-29 [0124679]

3-5 [0167] 6-212 [0124677] 2-2 [012]

9 3 2 9 3 2 9 8 1 4 0 2 0 2

6-212 ff p [01234677] 7-4

8 4 5 6 7 8 15-1

4-9 [01673] 2-2 [012] 4-215 [0146] 5-14 [01257] 3-5 [016] 4-9

1 2 9 3 2 9 8 1 4 0 2 0 2

1-22 [0124679] 16-247 [0124799] 4-9 2-1 [012] 5-6 [012567]

6 1 7 2 9 8 4 8 2 9 8 3 2 7 6 0 4 4 3 5 3

flatterränge [0126782] 6-5 [012367] 6-7

4-9 5-6 4-9 4-9 3-5 [0167] 5-1

9 2 8 3 2 0 4 3 5 2 9 8 1 4 0 6 7 8 8 9 3 4 5 6 7 8

8-18 [01235679] 8-9 [01236789] 7-1 flatterränge ppp

9 Presque lent, tendre 8-229 [01235679] 5-7 5-31

Presque lent, tendre 6-229 [0123679] 8-229 6-229

6 1 0 4 7 8 3 4 10 4 7 6

4-9 5-7 [01267] 9 5-31 [01369] 4-9 9 4-9

7-28 [0135679] 7-28 1-3-8 [0126] 7-19 [0123679] 7-22 [0125679]

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14

6-241 [012368]

4-6 [0127]

6-241

5 7 8 1 11

mf

5 7 8 6 b6 b7 5 0 4 7 6

mf

7 6 4 9 5 4 9 5 4 9 5

3-5 [016]

4-9

4-9

4-9

4-9

4-9

21

4-6

4-4 [0125]

5-7 [01267]

7-7

7-6 [0123478]

4-9

4-9

4-28 [0369]

6-30 [013679]

8-9 [01236789]

27

8-5 [01234678]

8-5

7-5 [0123567]

8-5

mf

mf

mf

8-5

8-5

7-7 [0123678]

7-7 [0123678]

A.L. 21, 089



30

4-21 [0246]      4-11 [0135]

mf      mf      p

7-5 [0123567]      7-236 [0123567]      7-212 [0123479]      7-236      7-212      5-32 [0149]      5-32      4-22 [01247]

34

Un peu vif

7-5 [0123567]

Un peu vif

4-2 [004]      5-4 [012367]

f

6-27 [012478]      6-241 [012368]

39

5-13 [01248]      5-4      6-5

7-7 [0123678]

f

6-217 [012478]      6-241      6-5 [012367]      18-8      1234989

44

Modéré

Modéré 9-1

Un peu vif, avec fantaisie

4-215 [0146]      4-9      6-18 [012578]

pp

trillerage

4-215 [0146]      4-9      6-18 [012578]







68 5

Handwritten musical score for measures 68-71. It features a treble and bass clef system with complex fingering and chord markings. Measure 68 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1. Measure 69 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1. Measure 70 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1. Measure 71 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1.

72

Handwritten musical score for measures 72-74. It features a treble and bass clef system with complex fingering and chord markings. Measure 72 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1. Measure 73 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1. Measure 74 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1.

75

Handwritten musical score for measures 75-78. It features a treble and bass clef system with complex fingering and chord markings. Measure 75 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1. Measure 76 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1. Measure 77 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1. Measure 78 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1.

79

Handwritten musical score for measures 79-82. It features a treble and bass clef system with complex fingering and chord markings. Measure 79 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1. Measure 80 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1. Measure 81 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1. Measure 82 has a treble clef with notes G4, A4, B4, C5, B4, A4, G4 and a bass clef with notes G2, F2, E2, D2, C2, B1, A1.

AL. 24. 088







99

4-5 [0126] 6-241 [012457] 6-241 [012368] 6-241

103

4-1 5-11 [02347] 7-218 [0145679] 5-4

106

[01236] 5-5 [01237] 5-5 3-8 [026] 8-10

109

[01235689] 4-5 [0126] 4-11 [0148] 2-6 5-5 [01237]







## II. LE MERLE NOIR

11

(*Turdus merula*)

Un peulent (♩ = 80)

*f* 6-15 [012458] 6-15

Red. Red. Red. Red. Red. Red. Red.

CTI: 4A 11B 4A 11B 7D

Modéré, (♩ = 112)  
un peu vif

Merle noir

*pp* 5-35 [02479]

Red. Red. Red.

5B

Modéré (♩ = 88)

*pp* 6-5 [01267]

Un peulent (♩ = 80)

*f* 6-15

Red. Red. Red.

4A 11B

6-15

Red. Red. Red. Red. Red. Red. Red.

1A 11B 4A 11B A.L. 27 453 9D 7B



Modéré, (♩ = 112)  
un peu vif  
Merle noir

*p* 6-33 [023579]

Red. (under first measure)  
Red. (under last measure)

Detailed description: This system contains the first two measures of the piece. The right hand has a melodic line with slurs and fingerings (1, 2, 4, 5, 1, 2, 4, 5). The left hand has a bass line with slurs and fingerings (5, 3, 2, 1, 3, 5, 2, 3). The first measure is marked 'Red.' and the last measure is also marked 'Red.'. There are three horizontal lines between the first and second measures, and between the second and third measures.

Modéré (♩ = 88)

*pp* 6-23 [012356]

Red. (under first measure)  
Red. (under last measure)

Detailed description: This system contains the next two measures. The right hand continues the melodic line. The left hand has a bass line with slurs and fingerings (5, 3, 2, 1, 3, 5, 2, 3). The first measure is marked 'Red.' and the last measure is marked 'Red.'. There are three horizontal lines between the first and second measures, and between the second and third measures. A key signature change to two sharps is indicated at the start of the second measure.

Un peu lent (♩ = 80)

*f* 6-15 7-21 [0124589]

Red. 1B Red. 7B Red. Red. Red. 1B Red. 7B Red. Red.

Detailed description: This system contains the next two measures. The right hand has a melodic line with slurs and fingerings (1, 2, 4, 5, 1, 2, 4, 5). The left hand has a bass line with slurs and fingerings (5, 3, 2, 1, 3, 5, 2, 3). The first measure is marked 'Red. 1B' and the last measure is marked 'Red. 7B'. There are three horizontal lines between the first and second measures, and between the second and third measures.

6-15

Red. 4A Red. 1B Red. 4A Red. 1B A.L. 27 482 Red. 5B Red.

Detailed description: This system contains the final two measures. The right hand has a melodic line with slurs and fingerings (1, 2, 4, 5, 1, 2, 4, 5). The left hand has a bass line with slurs and fingerings (5, 3, 2, 1, 3, 5, 2, 3). The first measure is marked 'Red. 4A' and the last measure is marked 'Red. 5B'. There are three horizontal lines between the first and second measures, and between the second and third measures.

Modéré, (♩ = 112)  
 un peu vif  
 Merle noir

*p* 5-27 [01358]

Red.

Modéré (♩ = 88)

*ff* *mf*

*g. dessus* *pp*

Red. Red. Red.

*pp* *pp* *pp* *pp*

[012467] [013457] [012347] [012467] [013457] [012347] [012467] [012358]

Red. Red. \*

Un peu lent (♩ = 80)

*f* 6-15

Red. Red. Red. Red. Red. Red. Red. Red.

4A 11B A.L. 27 432 4A 11B 4A 11B



(*f*)  
6-15

Red. 7D 5B 5D 3B 3D

6-15 *dim.* 6-21 [02468] *p* 4-26 [035e]

Red. 6-14 Red. Red. Red.

Modéré, (♩ = 112)  
un peu vif  
Merle noir

*ff* *mf*

Red.

Modéré (♩ = 88)

*pp* *pp* 6-236 \*

Red.

Appendix D: The analysis of *Feuillets inédits*, the blackbird passage.

Musical score for *Feuillets inédits*, the blackbird passage. The score is divided into three systems, each with a vocal line and a piano accompaniment.

**System 1 (Mele 2<sup>2</sup>):** Measures 17-21. Tempo: *Modéré* (♩ = 108). Dynamics: *dim.*, *pp*, *p*. Includes handwritten annotations:  $4-17 \{2A0\}$ ,  $4-27 \{SE\}$ ,  $4-26 \{B2A\}$ ,  $4-27 \{A2A\}$ ,  $4-27 \{E\}$ ,  $7-28 \{5789B12\}$ ,  $5-34 \{57982\}$ ,  $4-27 \{580\}$ .

**System 2 (Merle noir):** Measures 22-27. Tempo: *Modéré* (♩ = 108). Dynamics: *mf*, *ff*. Includes handwritten annotations:  $6-210 \{023467\} [013457]$ ,  $6-249 \{789024\} [02579]$ ,  $6-24 \{024578\} [03460]$ ,  $6-224$ ,  $6-9 \{024567\} [012357]$ ,  $4-11 \{0245\} [0135]$ ,  $5-9 \{02456\} [01246]$ ,  $6-224 \{78A023\} [013578]$ ,  $4-24 \{0248\} [0048]$ .

**System 3 (Piano):** Measures 28-34. Dynamics: *pp*, *f*, *ff*, *mf*, *f*, *mf*, *p*. Includes handwritten annotations:  $5-8 \{1678A\} [02346]$ ,  $5-24 \{02467\} [01357]$ ,  $6-22 \{024678\} [012468]$ ,  $7-2 \{0234567\} [0123457]$ ,  $5-24$ .



Appendix E: Birdsongs mentioned in Messiaen's published works.

	Title	Preface	Score	Traité V/2 Appendix
1	<i>Le Banquet celeste</i> (1928)	X	X	X
2	<i>Préludes</i> (1929)	X	X	X
3	<i>Diptyque</i> (1930)	X	X	X
4	<i>Trois Mélodies</i> (1930)	X	X	X
5a	<i>Les Offrandes oubliées</i> (orchestre) (1930)	X	X	X
5b	<i>Les Offrandes oubliées</i> (réduction pour piano) (1930)	X	X	X
6	<i>La Mort du Nombre</i> (1930)	X	X	X
7	<i>Le Tombeau resplendissant</i> (1931)	X	X	X
8	<i>Apparition de l'Église éternelle</i> (1932)	X	X	X
9	<i>Hymne au Saint-Sacrement</i> (1932) <sup>15</sup>	X	X	X
10	<i>Thème et variations</i> (1932)	X	X	X
11	<i>Fantaisie burlesque</i> (1932)	X	X	X
12a	<i>L'Ascension</i> (orchestre) (1932-4)	X	X	X
12b	<i>L'Ascension</i> (orgue) (1933-4)	X	X	X
13	<i>Vingt leçons de solfège modernes</i> (1933)		TEXT	

<sup>15</sup> The score was lost around 1944. Messiaen reconstructed and published the piece in 1947. Broude Brothers published the work as a newly engraved study score titled as *Hymne pour grand orchestre*.

14	<i>La Nativité du Seigneur</i> (1935)	X	X	X
15	<i>Vocalise-étude</i> (1935)	X	X	X
16	<i>Pièce (pour le Tombeau de Paul Dukas)</i> (1935)	X	X	X
17a	<i>Poèmes pour Mi</i> (Chant et piano) (1936)	X	X	X
17b	<i>Poèmes pour Mi</i> (Grand soprano dramatique et orchestre) (1937)	X	X	X
18	<i>O sacrum convivium!</i> (1937)	X	X	X
19	<i>Chants de Terre et de Ciel</i> (1938)	X	X	X
20	<i>Les Corps glorieux</i> (1939)	X	X	X
21	<i>Vingt leçons d'harmonie</i> (1939)	TEXT		
22	<i>Quatuor pour la fin du Temps</i> (1940-41)	Named	Comme un oiseau	X
23	<i>Technique de mon langage musical</i> (1942)	TEXT		
24	<i>Rondeau</i> (1943)	X	X	X
25	<i>Visions de l'Amen</i> (1943)	Named (4)	Comme un oiseau	Named (4)
26	<i>Trois petites Liturgies de la Présence Divine</i> (1943-4)	Named (4)	Comme un oiseau	Named (2)
27	<i>Vingt Regards sur l'Enfant-Jésus</i> (1944)	Named (8)	Named (3) Comme un oiseau	Named (4)
28	<i>Harawi</i> (1945)	X	Comme un oiseau	X
29	<i>Turangalîla-Symphonie</i> (1946-8)	X	Comme un oiseau	Named (2)



30	<i>Cantéyodjayá</i> (1948)	X	X	X	X
31	<i>Cinq Rechants</i> (1948)	X		X	X
32	<i>Mode de valeurs et d'intensités</i> (1949)	X		X	X
33	<i>Neumes rythmiques</i> (1949)	X		X	X
34	<i>Île de feu 1</i> (1950)	Named <sup>16</sup>	Oiseau		X
35	<i>Île de feu 2</i> (1950)	X		X	X
36	<i>Messe de la Pentecôte</i> (1950)	X		Named (8)	Named (6)
37	<i>Le Merle noir</i> (1951)	X		X	X
38	<i>Livre d'orgue</i> (1951)	Partially named		Named(9)	Named (8)
39	<i>Leçon d'harmonie</i> (before Feb 1953)			TEXT	
40	<i>Réveil des oiseaux</i> (1953)	Named with list (38)		Named	Named (38)
41	<i>Oiseaux exotiques</i> (1955-6)	Named with list (48)		Named	Named (48)
42	<i>Catalogue d'oiseaux</i> (1956-8)	Named with list (77)		Named	Named (77)
43	<i>Chronochromie</i> (1959-60)	Mentioned the habitat		Named	Named (27)
44	<i>Verset pour la fête de la Dédicace</i> (1960)	X		Named (1)	Named (1)
45	<i>Sept Haïkai</i> (1962)	Named with list (17)		Named	Named (25)
45a	<i>Monodie</i> (1963)	X		X	X
46	<i>Couleurs de la Cité céleste</i> (1963)	Named (17)		Named	Named (17)

<sup>16</sup> The 1950 edition did not mention the birdsong. The 2000 edition is prefaced by Lorient.

47	<i>Et exspecto resurrectionem mortuorum</i> (1964)	Named (2)	Named	Named (2)
48	<i>La Transfiguration de Notre-Seigneur Jésus-Christ</i> (1965-9)	Partially named	Named	Named (80)
49	<i>Méditations sur le Mystère de la Sainte Trinité</i> (1969)	Named (10)	Named	Named (10)
50	<i>La Fauvette de jardins</i> (1970)	Named with list (18)	Named	Named (18)
51	<i>Des Canyons aux étoiles . . .</i> (1971-4)	Partially named	Named	Named (82)
52	<i>Saint François d'Assise</i> (1975-83)	Named	Named	Named (70)
53	<i>Livre du Saint Sacrement</i> (1984)	Named with list (11)	Named	Named (11)
54	<i>Petite Esquisses d'oiseaux</i> (1985)	Named (4)	Named	Named (4)
55	<i>Un Vitrail et des oiseaux</i> (1986)	Named with list (7)	Named	Named (7)
56	<i>La Ville d'En-haut</i> (1987)	Named (3)	Named	Named (3)
57	<i>Un Sourire</i> (1989)	Mentioned	X	Named (1)
58	<i>Pièce (pour piano et quatuor à cordes)</i> (1991)	X	Named	X
59	<i>Traité de rythme, de couleur et d'ornithologie</i> (1949-92)		TEXT	
60	<i>Chant des Déportés</i> (1945) [Republished in 1998]	X	X	X
61	<i>Éclairs sur l'au-Delà . . .</i> (1987-91)	Named with list (57)	Named	Named (57)
62	<i>Concert à quatre</i> (1990-92; unfinished at Messiaen's death)	Named (25)	Named	Named (25)
*	<i>Offrande au Saint Sacrement</i> (pour orgue) (c. 1930-35) <sup>17</sup> [Published in 2001] <sup>18</sup>	X	X	X

<sup>17</sup> This is suggested by Najj Hakim. See program note to the compact disc "Olivier Messiaen Inédits" (Jade/Bmg 67411 in 1999).



*	<i>Feuillets inédits</i> (1937 onwards) [Published in 2001]	X			X
*	<i>Prélude</i> (pour piano) (1964) [Published in 2000]		Mentioned		X

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<sup>18</sup> Yvonne Loriod discovered the piece in 1997. Olivier Latty suggests the compositional date was probably around the time of *Banquet Céleste* (1928). See preface to this work.

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“But I have no doubts about God, because God is Truth, the only Truth, even, the unique Truth, whereas I am a very small creature, subject to weakness and change, subject to variations, and it’s quite normal that I doubt myself, and not celestial truths.”<sup>1</sup>

Olivier Messiaen

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<sup>1</sup> Samuel, *Olivier Messiaen entretien avec Claude Samuel*, 35.





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