

Birdsong in the Music of Olivier Messiaen

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Abstract

The intention of this investigation is to formulate a chronological survey of Messiaen's treatment of birdsong, taking into account the species involved and the composer's evolving methods of motivic manipulation, instrumentation, incorporation of intrinsic characteristics and structure. The approach taken in this study is to survey selected works in turn, developing appropriate tabular forms with regard to Messiaen's use of 'style oiseau', identified bird vocalisations and even the frequent appearances of music that includes familiar characteristics of bird style, although not so labelled in the score. Due to the repetitive nature of so many motivic fragments in birdsong, it has become necessary to develop new terminology and incorporate derivations from other research findings. The 'motivic classification' tables, for instance, present the essential motivic features in some very complex birdsong.

The study begins by establishing the importance of the unique musical procedures developed by Messiaen: these involve, for example, questions of form, melody and rhythm. The problem of 'authenticity' - that is, the degree of accuracy with which Messiaen chooses to treat birdsong - is then examined. A chronological survey of Messiaen's use of birdsong in selected major works follows, demonstrating an evolution from the general term 'oiseau' to the precise attribution of particular material to particular birds.

In later periods, the composer explores new instrumentation and accompanying harmonies (or chordal complexities) to create, as closely as possible, the unique timbres and other idiosyncrasies of birds' vocalisations; at the same time, Messiaen begins to introduce a much larger variety of species into his music, using birdsong from all over the world. The representations of birdsong are much more 'authentic', or at least more colourful, than in previous works and perhaps, with the accompanying portrayal of landscape in (for example) *Catalogue*, greater verisimilitude is created. The inclusion of so many exotic species in the scores of, for instance, *Sept Haïkaï* and *Chronochromie* is a result of Messiaen's meticulous ornithological investigations and painstaking notations. More importantly, the monophonic bird style tends increasingly to be replaced by other textures such as two-voice homophony, homorhythm, hybrid forms and polyphony.

The most pertinent works of this final period are evaluated, clearly displaying the many features of each birdsong and call, and their part in the structure of the pieces. Conclusions are drawn concerning the technical means by which the composer realises the distinguishing features of each birdsong. The thesis is sustained by a close study of three elements governing Messiaen's treatment of birdsong (rhythm, melody and structure), especially considering the close relationship between them.

There has not previously been a systematic attempt to analyse Messiaen's pieces in this way. This research provides a coherent structural overview of Messiaen's employment of birdsong, displaying recurring patterns found in the use of rhythm, melody and structure. Further, the recent publication of Messiaen's 'Traité de Rythme, de Couleur et d'Ornithologie' enables the research to be genuinely up-to-date, using the composer's personal comments on, and analyses of, birdsongs found frequently in his music.

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Foreword

In a critical study of this kind where a musical development is surveyed over a substantial period (1928-1987), it is inevitable that certain works are given more attention than others: as important innovations are cited, the corresponding section is given a higher level of analysis, and these innovations are shown both in the 'motivic classification' tables and in the musical examples. Nevertheless, in order to follow the thesis in detail, it will be useful to have scores to hand. Throughout the thesis I have employed a number of symbols in bold in order to give specific directions to the reader. For example, [p6, s2, b4] signifies page six, system two, at bar four; further, **III/7** indicates a musical example in Chapter III, number seven.

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Glossary

Key:-

DK: original terms

O: ornithological terms

M: Messiaen's terms

agrandissement asymétrique (M): This technique involves the repetition of a melodic cell: notes are transposed up or down, while others remain the same.

alternator (DK): Two notes interchange one after the other in a pattern of equal durations, often semiquavers. Common intervals are the tritone or augmented octave.

bird call: A short, declamatory sequence of pitches.

birdsong: A section of music which has been identified by the composer with a specific bird. A birdsong can be short with repetitive features, but more commonly it is melodic and more elaborate than a call.

block form: This term is used by a few musicologists. It refers to an episodic compositional style which is contrary to a more 'developmental' form. Most of the pieces in *Catalogue d'Oiseaux* juxtapose many passages, usually representations of bird vocalisations and depictions of habitats. The phrase 'block form' is extended to encompass the device where instrumental groups within the framework of an orchestral work - typically strings, piano and tuned percussion, woodwind and xylophone-trio - play in their respective groups.

chirp (O): A short, often staccato, high-pitched sound which is usually at least an octave above surrounding pitches.

chromatic rhythm (M): A series of durations in which each note progressively diminishes or augments by one primary unit (see 'Regard de l'Onction Terrible' from *Vingt Regards sur l'Enfant Jésus*).

chordal-complexes: An invented chord which is often used to simulate the timbre of birdsong.

circadian time-scale (M): Term employed by Messiaen describing the form of a piece being a microcosm of, and relating to, the 24 hour daily cycle.

ethologist: Scientist of animal behaviour, attempting to elucidate development, function and evolution of animals.

harmonic litany (M): A melodic cell of two or more notes repeated with several different harmonisations.

hors tempo (M): This technique is almost aleatoric in effect, although the birdsongs are notated precisely. Certain birdsongs, played by specific instruments, are heralded by a sign from the conductor and, therefore, play in their 'own time' independent of the rest of the orchestra. This effect is found in 'The Sermon to the Birds' from *Saint François d'Assise* (1975-83) and in the polyphonic tutti sections of *Un Vitrail et des Oiseaux*. (1986).

inferior resonance/lower resonance (M): This technique is frequently used by Messiaen and is produced when a chord is played loudly in the bass of a piano and set against other chords or notes. In *Catalogue d'Oiseaux*, the fundamental phrases of birdsong are often accentuated by the colours produced by superior or inferior resonances. See also 'superior resonance'.

interruption call (DK): In early works, there are many short exclamatory figures that interrupt another texture: I refer to these appearances as 'interruption calls', although they are very often not labelled 'style oiseau'. Frequently, the complexity of the chord used in an 'interruption call' may give it an alarming quality. These short 'interruption calls' appear throughout birdsong.

interversion system (M): A systematised form of permutation: by addition or subtraction, rhythmic values increase or decrease by one durational value (e.g. the semiquaver). This system is used in retrograde order or, in the case of *Chronochromie* (for example), durations may be subdivided into sets, providing rhythmic patterns for the structure.

melograph mona (O): An apparatus that provides an objective registration of frequency and pressure level in musical sounds. There is a marked improvement over the sonagram: the analyser has a faster response, and a 'variable' filter is included, isolating the fundamental melodic line in the birdsong.

motivic classification (DK): A tabular methodology which shows underlying characteristics in some very complex birdsong. The phrase 'motivic classification' is my short hand for this codification. The 'motivic classification' develops from a table used to investigate the chorus of larks in *Messe de la Pentecôte*. Each rhythm and pitch characteristic is given a letter: x, y and z... represent pitch predominance, while a, b and c... are used to demonstrate other features. Metrical forms and plainsong terminology are also used in conjunction with these codes. These findings are set out in a table which gives a comprehensive bar-by-bar or phrase-by-phrase account of a birdsong.

motivic islands: Indicates a passage that revolves around certain pitches. This term was originally used by Paul Griffiths (1985).

onomatopoeic representation: Ornithologists have attempted to describe the quality of bird vocalisations with mnemonics. In the same way, Messiaen includes real or invented words that most closely resemble the sonorities of a particular bird vocalisation: in *Réveil des Oiseaux*, for instance, the song thrush is portrayed in musical notation and accompanied by the onomatopoeia, 'é-di-di, é-di-di, tioto, tioto, tioto, tou-hitte'.

personnages rythmiques (M): Formed by three rhythmic continuums. In the first group the durations increase, in the second they decrease, while in the third, the durations remain the same. As Johnson advises, this device is a rhythmic counterpart to the ‘agrandissement asymétrique’ system where the pitches shift progressively up and down while one remains constant.

prosody (M): Metrical forms are used in musical analysis in order to describe stress or un-stress and rhythmic patterns in birdsong. A list of these terms can be found in the Musical Examples, Table II/1.

plainchant phraseology (M): Due to the repetitive nature of birdsong, terms derived from Gregorian chant are apposite when describing similar melodic shapes. A list of these terms can be found in the Musical Examples, Table II/2.

reference points/anchor points: In a musical language that is rarely diatonic, reference points provide the listener or analyst with a sense of coherence. They are pitches that feature regularly in a birdsong passage, and are often returned to at the end of a phrase.

renversements transposés (M): Translated as ‘[chords of] transposed inversions’. A series transposing chordal-complexes, usually in a cadential context. In ‘Le Traquet Stapazin’ (*Catalogue d’Oiseaux*, 1958) the invented chord on C# is transposed progressively up a minor third: C# - E - G - Bb, while in *La Fauvette des Jardins* (1970) sequences are uninterrupted - the bass notes remain the same and the voice leading of the other parts moves step-by-step (a tone or a semitone away).

resonance contractée (M): Translated as ‘[chords of] contracted resonance’. Just as, according to Messiaen, an F# is perceived in the perfect chord (see Musical Example III/1 a-d), so too are harmonic implications perceived in a more complex chord of Messiaen’s own invention. In a ‘superior’ or ‘inferior’ resonance effect, chords are widely-spaced; but here, however, resonance is achieved within a restricted area. Chords of ‘contracted resonance’ are generally two compact chordal-complexes that merge together in a quasi-cadence, usually played with ‘overlapping hands’.

rhythmic/pitch palindrome: This is a group of pitches or rhythms which can be read the same forwards as backwards. Generally a non-retrogradable rhythm is a rhythmic palindrome, which often includes an added note value (that cannot be divided equally) at its centre. For example, a cretic rhythm is palindromic.

sonagram (O): An apparatus that indicates, in graphic form, the relative differences in sound pressure in a bird vocalisation or, indeed, in any musical sound.

style oiseau: This phrase is reserved for bird style phrases or cells which are not attributed to a particular species. This phrase can also be used to refer to passages that have bird-like qualities, even if they have not been credited as such by the composer.

superior resonance/upper resonance (M): Formed when a loud note or chord on the piano is played above other musical material. See also ‘inferior resonance’.

tâlas: Composite rhythmic patterns. There are 120 'deçî-tâlas' in the Indian Rhythmic System recorded by Sharngadeva. Their characteristic ametricality replaces western notion of 'beat' with the shortest note value.

texture classification: Adapted from the dissertation of Philips and Sun, a classification of textures has been compiled. I have extended the codification, originally intended for the analysis of the piano cycle *Catalogue d'Oiseaux*, to encompass the larger range of textures in orchestral works. The textures are as follows:

(1) monophony (2) homophony in coequal emphasis (3) homophony with one voice or part dominant (4) homorhythm in coequal emphasis (5) homorhythm with one voice or part dominant (6) hybrid texture and (7) polyphony.

vocalisation (O): 'Birdsong' is often distinct from 'bird calls'. This term encompasses both forms.

Chapter I: Background

The purpose in tracing the composer's background is to place Messiaen historically and suggest possible reasons for his attraction to birdsong. The important periods of his life are discussed, with passing references to influential works written by other composers; in addition, the extent to which his own music proved influential is considered. The composer's philosophical outlook, involving an integration of such diverse elements as nature, beauty, freedom, love and theology, is also surveyed.

Olivier Messiaen is generally regarded as one of the most important composers of the twentieth century. His compositions, philosophy and personality have been a focus for many articles and monographs, yet his influence on the musical world derives not only from his oeuvre but also from a lifetime's work as a pedagogue.

Messiaen was born on 10 December 1908 at Avignon. His father, Pierre, taught English and is best known for his translation and analysis of the works of Shakespeare: indeed, the mystery and magic of these plays were in the forefront of Messiaen's imagination at only eight years of age. His mother, Cécile Sauvage, was a poetess: she was of paramount importance to the young boy's artistic and emotional development. The prophetic 'L'Âme en Bourgeon' ['The Burgeoning Soul', the last chapter of her first book 'As the World Turns'], written by Messiaen's mother before he was born, no doubt had a profound effect on Messiaen's character and philosophy, while the second book, 'Le Vallon', describes

particularly birds and nature. Already Messiaen was being introduced to aspects of life that would later become obsessions as a grown man. Indeed, his mother said,

‘..all the Orient is singing here within me -
with its blue birds, with its butterflies.’¹

Messiaen lived with his mother and grandmother in Grenoble during the First World War. The mountains of Dauphiny are close to this city: they too influenced the young man’s outlook. The same mountain range provided a source of inspiration that led him to write ‘Montagnes’ (the third movement of the song cycle *Harawi*) and the later *La Fauvette des Jardins*. Messiaen has said (see Robert Sherlaw Johnson, p9) that his mother brought him up in an atmosphere ripe with poetry and fairy tales. It was here in Grenoble that Messiaen discovered various great classical masterpieces, amongst them Mozart’s ‘Don Giovanni’, Wagner’s ‘Walküre’ and Berlioz’s ‘The Damnation of Faust’. Messiaen also received as gifts piano pieces by Ravel and Debussy. Between the ages of seven and nine, Messiaen taught himself to play the piano. These impressionable years produced an inquisitive and cultured young man - and his first composition, ‘The Lady of Shalott’.

Messiaen moved to Nantes after the First World War. During this brief stay Messiaen so rapidly gained the respect of some of the finest musicians in the town that they offered him free lessons. The most notable of these musicians, Jehan de Gibon, taught Messiaen harmony. Messiaen had already been introduced to impressionistic music with Debussy’s ‘Estampes’²; however, Jehan de Gibon gave the ten year old a score of ‘Pelléas et

Mélisande', and it was this opera which opened up a completely new sound world to the young composer.

The influence of Debussy's harmony, sound complexes in orchestration and rhythm is to some extent prevalent in Messiaen's *Preludes* of 1929. The subtitles of the pieces are quite similar to those of Debussy - 'Les Sons Impalpables du Rêve', for example. On the other hand, we rarely find sonata form and ternary phrases in Debussy, yet there is much reference to these classical constructions in Messiaen's preludes. According to Reverdy³ there is a strong resemblance between Messiaen's 'Chant d'extase dans un Paysage Triste' (*Preludes*) and Debussy's prelude to 'Pelléas et Mélisande'. Messiaen's modes of limited transposition were already quite sophisticated and were entirely distinct from the tonal/modal languages of Debussy. At this stage, Messiaen had yet to achieve a degree of rhythmic freedom comparable to Debussy. Both Debussy and Bartok took inspiration from folksong and Eastern music, adding elements derived from them to their own compositional styles. Messiaen extended Debussy's harmonic and modal language by searching for Oriental and Gregorian modes, while also exploring the many Hindu and Greek rhythms. It is this rhythmic freedom which Messiaen was, above all, to discover in birdsong: these songs would provide innumerable, innovative sources of motivic material for compositions.

In 1919, Messiaen entered the Paris Conservatoire where he continued his studies until 1930, taking piano lessons with Georges Falkenberg. Later, Messiaen studied harmony with Jean Gallon and received (for ten years) private lessons on musical theory and

counterpoint with Noël Gallon. He undertook organ classes with Marcel Dupré, history of music with Maurice Emmanuel, percussion with Joseph Baggers and composition with Paul Dukas. It was Marcel Dupré who introduced Messiaen to plainchant, organ registration and improvisation, as well as giving special attention to Greek metres. The discovery of the 120 Indian *deçî-tâlas* rhythms proved to be invaluable for source material, even in early works (especially after *L'Ascension*). These rhythms are described by the thirteenth century Hindu theorist, Shrngadeva, in his treatise 'Samgîta-ratnâkara'. The most important feature of many of these rhythms is their inherent ametricality: Messiaen derived the principle of 'added note values' from both the Hindu rhythms and the rhythms of Stravinsky. Messiaen would add a sixteenth note, lengthen a note or add a sixteenth note as a rest. This became a notable characteristic of Messiaen's language: the timelessness of the music is achieved by both the absence of a pulse (which is due to the added note value and rhythmic ametricality) and the slow tempi of some of the pieces [ex I/1].⁴ Messiaen already had a predilection for the rhythms created by the use of prime-numbers; after subdividing certain cells into sixteenth notes, durations of 5,7,11,13,17 are often found.

At the age of twenty-two, in 1931, Messiaen was appointed organist at the church of La Sainte Trinité in Paris, a post which he held for the rest of his life. He was the youngest titular organist in France at the time. For many years, Messiaen played three masses as well as vespers every Sunday, and weddings and funerals during the week, a schedule later reduced to two masses on Sunday. It may seem odd that Messiaen wrote very little music for liturgical use, but all of the organ works are on religious subjects, even if they are

essentially meditative in nature, and are relevant for specific dates in the Christian calendar. Messiaen had great affection for the *Cavaillé-Coll* organ of La Trinité. The extensive range of colours (including some electronic stops) is fully utilised in the seven large-scale organ cycles he composed in his career. The organ cycles of the 1930's were *L'Ascension* (1934), *La Nativité* (1935) and *Les Corps Glorieux* (1939). Messiaen's highly-tuned timbral complexities, chromatic harmonies and improvisations became a source of inspiration for organists and composers; however, Catholics and church-goers were at first shocked by the musical language. Many who objected, anxious to give the music a label, likened it to dance music or even jazz. This angered Messiaen, as he was vehemently opposed not only to jazz but also to 'Les Six' and their disciples.

In 1936, Messiaen became the leader of 'La Jeune France' with composers Jolivet, Baudrier and Daniel-Lésur. The basic beliefs of this select group involved a reaction both against the composers of the time who sometimes appeared to write music solely for the purpose of being difficult and somewhat mechanical, and those who seemed to trivialise the form. At this time, the main direction of compositions was following a course away from romantic and impressionistic associations and seeking refuge in eighteenth century dance music, and jazz. Messiaen's group, on the other hand, valued music that not only had a human element but would touch people on a spiritual level, while remaining cerebral. The group published a manifesto which outlined their aims, and a few concerts were arranged which brought a large following. 'La Jeune France' broke up at the outbreak of World War Two, after which the composers followed very different directions. However, these years were very important for Messiaen: he married the

violinist, Clare Delbos, in 1936, and they had a son, Pascal, in 1937. The two song cycles *Poèmes pour Mi* (1936), and *Chants de Terre et de Ciel* (1938) were inspired by these major events in Messiaen's personal life. As the composer's rhythmic, melodic and harmonic language evolves, bird style, although not always indicated, also appears more frequently. The texts of the cycles are both religious and surreal: the words are honest in sentiment and typical of his own intrinsic manner, to the extent that one might imagine Messiaen himself advising anyone who wished to understand his music better to begin by reading them. Messiaen's love of the dramatic soprano voice is shown clearly in these songs, which were originally intended for the vocally flexible and musically sensitive Marcelle Bunlet. The music of these two cycles includes very long extended phrases, using the extremes of a soprano's vocal range. Messiaen shows that he has a wide knowledge of the voice: he reveals an understanding of the problems of diction, register and breathing. Few singers have tackled *Poèmes pour Mi*, for instance, but there have recently been some enlightening versions, notably by Jane Manning, Gabrielle Dumaine, Felicity Palmer and Phyllis Bryn-Julson.

Messiaen joined the army when war broke out. He worked in a hospital until 1940 before being taken prisoner after France fell to the Germans. He spent two years in Stalag VIII at Görlitz in Silesia where, in extremely cold and unpleasant conditions, Messiaen composed the *Quatuor pour la Fin du Temps* for clarinet, violin, cello and piano. The work was performed in the POW camp on 15 January 1941. Messiaen himself played the piano, while fellow prisoners played the other three instruments. Messiaen regards *La Nativité* and the Quartet as initiating new stages in rhythmic freedom. In the Quartet, the rhythmic

system is based on the added note value, prime numbers, Hindu and nonretrogradable rhythms, while the harmonies are more dissonant than those of previous works. It is here that specified birdsongs are introduced for the first time.

After his repatriation in 1942, Messiaen was appointed Professor of Harmony at the Paris Conservatoire. Over the next forty-five years, Messiaen was to include among his composition pupils a number of distinguished composers. In 1943 he taught composition privately at the house of a friend, Guy Delapierre. His first pupils included the pianists, Yvette Grimaud and Yvonne Loriod, and the composer, Pierre Boulez. Messiaen later became Professor of Aesthetics, Analysis and Rhythm at the Conservatoire, but it was not until 1966 that he was officially appointed Professor of Composition. Stockhausen, Xenakis, Jolas, Goehr and Benjamin are amongst the long list of composers whom Messiaen taught. The immense power and openness that he possessed reflected on his pupils: he was interested in finding an individual voice for each composer. Messiaen was the antithesis of dogmatic, and refused to impose his musical techniques on any one composer, preferring to make suggestions and ask for something original.

‘Throw away the book I have taught you to read and add a new, wholly unexpected page!’

Messiaen was very impressed with the talents of the pianist Yvonne Loriod, later to be his wife. Her sensitivity to Messiaen’s compositions gave him the incentive to write major works for solo piano and a substantial duet. In fact, the music of the next six years was almost exclusively written for the piano. The pieces for piano were *Vingt Regards sur*

l'Enfant Jésus (1944) and *Visions de l'Amen* (1943). Messiaen also wrote pieces that included the piano (practically as a solo instrument) in the orchestra, for example, *Trois Petites Liturgies de la Présence Divine* (1943) and the *Turangalila Symphony* (1946-1948) a few years later. The piano became a very prominent feature of Messiaen's music at this time: the full range of the instrument was explored with experimental harmonies and remarkable virtuosity and, although the piano has been criticised as not being a suitable substitute for birdsong representation, it is used regularly, and to great effect, to this end. The piano continued to play an integral rôle in the composer's music throughout his career. Before writing the *Turangalila Symphony*, his regard for Wagner (specifically the opera, 'Tristan und Isolde'), human love and the love of God were expressed in the song-cycle *Harawi* (1945), where the relationship between love and death is also explored.

These works established Messiaen as a composer of high repute, although the first performance of *Trois Petites Liturgies de la Présence Divine* on 1 April 1945 caused something of a musical scandal. The critics of the time were either outraged at the music for being tasteless, or delighted with his creativity and new ideas. The avant-garde detested the nineteenth century harmonies that were complemented by a twentieth century instrumentation, tonality/modality and rhythm, while the traditionalists disliked both the instrumentation and the dissonances, and the Catholics did not take to the supposedly vulgar treatment of sacred concepts. Another problem arose: the critics could not even label the piece, as it was neither an oratorio nor a cantata. The text, written by Messiaen himself, is both surrealistic and Christian. Messiaen uses a variety of instruments in the

work, including the ondes martenot which he had used on three previous occasions. In a sense, Messiaen transfers the Church and its liturgy to the concert hall: 'I intended to accomplish a liturgical act, that is to say, to bring a kind of office, a kind of organised act of praise, into the concert hall.' [O.Messiaen with Claude Samuel, 1986, p22].

On the other hand, the performance was a success with the public...

Koussevitsky commissioned Messiaen's *Turangalila Symphony* and made it possible for him to teach composition in Europe and America. This major symphony (of ten movements rather than the traditional four) was first performed in Boston in 1949 under the direction of Leonard Bernstein. The *Turangalila Symphony* is one part of Messiaen's Tristan and Isolde triptych, the other pieces being the *Cinq Rechants* and the song cycle, *Harawi*. The symphony includes a wide variety of dynamics, colouration and melodies, but it differs from later orchestral works because birdsong is not of paramount importance in the compositional form, although it does appear (for example) in 'Jardin du Sommeil d'amour', where it occurs monophonically and is labelled simply 'oiseau' rather than attributed to a named bird, as in later works [ex I/2].

Messiaen decided to explore very different techniques of musical language in the period 1949-1952. He had for some time taught the theories of serialism and the dodecaphonic language of the Second Viennese School, even though his aversion to Schoenberg's tone rows was well-known: Messiaen recognised that Schoenberg did not apply serial techniques to the other elements of composition. *Mode de Valeurs et d'Intensités* (1949) was the result of Messiaen's experiment with organising not only the pitches, but also the

durations, intensities and the timbres, which stimulated a short-lived movement towards 'integral' or 'total' serialism.⁶ The pieces that were influenced by *Mode de Valeurs et d'Intensités* were Goeyvaert's Sonata for two pianos (1950-51)⁷, Michel Fano's Sonata for two pianos (1951), Stockhausen's 'Kreuzspiel' (1951), Boulez's 'Structures Ia' (1951-52) and, much later, Barbara Kolb's 'Apello' for piano (1976). In fact, *Mode de Valeurs et d'Intensités* (1949) is not a serial composition, although musicologists such as David Drew seem to categorise it as 'durchgeordnete musik'. Once again, the piece is based on modes; however, this time it is built up from thirty-six notes divided into three twelve-note groups. Though integral serialism owed much to this revolutionary, if brief work, Messiaen himself cared little for it and did not continue much further with this technique.

After this period, Messiaen's main source of harmonic and melodic material was birdsong. Messiaen was a skilled ornithologist and became able to name the songs of birds as he heard them. Messiaen began to transcribe the songs of birds by hand: he slowed them down and reduced their pitch, making it possible for western instruments to play them. He would go to the woods at daybreak or in the evening to gain knowledge of the differentiation of sound quality between these periods in time. *La Messe de la Pentecôte* (1950), for organ, indicates the return of Messiaen's beloved birds. This work not only shows the effect of years of improvisation on the organ, but it also includes Hindu and Greek rhythms and the technique of 'interversions' which had previously been introduced in one of the *Quatre Études de Rythme* (1949-1950). The fourth movement, 'Communion', includes a wide variety of birdsong. A year later in *Livre d'Orgue* (1951),

Messiaen combines the 'Shamgadeva' rhythms with quasi-serial techniques on pitch. The fourth movement, 'Chant d'Oiseaux', and the last movement, 'Soixante-Quatre Durées', both make extensive use of birdsong. *Réveil des Oiseaux* (1953) and *Oiseaux Exotiques* (1956) derive exclusively from birdsong and calls. By the time of writing *Chronochromie* (1960), Messiaen had already collected birdsong from all over Europe, Japan, India, China, Malaysia, the Middle East, parts of Africa⁸, North America and Mexico. In *Chronochromie* a strict interverson system is applied (see Johnson p159); however, the use of this sophisticated structure seems to give the piece an effect of freedom rather than of deliberate construction. These and other works of the second half of Messiaen's career are surveyed in greater detail later in the thesis.

The sixth movement, 'Épôde', is reminiscent of the total use of birdsong applied in *Réveil des Oiseaux* and consists of a counterpoint of eighteen strings, mimicking the songs of eighteen birds. Messiaen did not wish to create the exact sound of the birdsong but, like a painter, he intended to create a very similar timbre and inflection to that which he had heard in the field.

In 1962, Messiaen and Yvonne Loriod were married. Messiaen began to write works that were on a grander scale. Amongst these works are: *Couleurs de la Cité Céleste* (piano and orchestra), *Et Exspecto Resurrectionem Mortuorum* (orchestra), *La Transfiguration de notre Seigneur Jésus-Christ* (choir, soloists and orchestra), *Des Canyons aux Étoiles* (orchestra and percussion) and the opera *Saint François d'Assise*.

Messiaen at an early age had a considerable passion for the theatre and gradually this developed into a love of opera. In many of his analysis classes at the Conservatoire, a good deal of time was devoted to opera. His own opera *Saint François d'Assise* (1975-85) is a grand work that celebrates the Saint and his love of nature (especially that of birds), people, heaven and angels. The sixth scene 'Le Prêche aux Oiseaux' ('The Sermon to the Birds') is saturated with birdsong as St. Francis is transformed by the angels' music and consequently understands the language of the birds and speaks to them. Messiaen describes this sixth scene as 'organised chaos'. Not only does the conductor have the complex task of beating bars of unequal length, but he is also free to bring in certain instruments in his own time ('hors tempo'): in the words of St. Francis: 'Everything of beauty must lead to freedom, the freedom of glory.'

The next two years Messiaen spent writing the *Livre du Saint Sacrement* (1984), the eighteen movements of which make it his largest work for organ. Smaller works followed, notably *Un Vitrail et des Oiseaux* (1986) for piano and ensemble. Written in 1992, Messiaen's final work, *Eclairs sur l'au-delà...* (for orchestra) has eleven movements.

There are various opinions as to the success of the last work's compositional style. It has been argued that Messiaen's techniques had reached a stand-still and that he had to return to the archaic vocabulary of the earlier works, whereas others state that he had lost the emotional impact of those compositions, although some sections are very moving.

Messiaen's music has had an immense effect on twentieth century musicians. Historians have endeavoured to categorise him: this is an extremely problematic task as the many constituents of which his music is a conglomeration seem to create a unique language. The consideration of Messiaen's relationship to his contemporaries has perhaps been discussed enough. Peter Hill points out:

' Strange as it may seem, we need for the moment to abandon the long view, to step closer to the shimmering colours of the stained glass, to explore its details afresh, and feel again how extraordinary they are' [Peter Hill, Messiaen Companion, 1995, p10].

Notes to Chapter I

¹ Taken from Claude Samuel, Olivier Messiaen Music and Color: Conversations with the Composer, (Portland, Oregon, Amadeus, 1986), p15.

² Although many musicologists would question the term 'impressionist' in relation to Debussy, for Messiaen he embodied certain features of the 'impressionist' style.

³ Michele Reverdy, L'Oeuvre pour Piano d'Olivier Messiaen, (Paris, Alphonse Leduc, 1978).

⁴ For examples, see Technique de mon Langage Musical, (Paris, Leduc, 1944) p1, ex. 1-10.

⁵ The works *Harawi*, the *Turangalila Symphony* and *Cinq Rechants* form a triptych inspired by the myth of Tristan and Isolde.

⁶ For more information on the subject of 'Mode de valeurs et d'intensités' and the influence on Boulez, Stockhausen *et al*, see Toop, Richard: 'Messiaen/Goeyvaerts, Fano/Stockhausen, Boulez,' in Perspectives of New Music, 13, No.1 (1974) pp141-169.

⁷ But at the time of writing this Sonata, Goeyvaerts had left Messiaen's classes a year before and had not heard *Mode de Valeurs et d'Intensités* directly.

⁸ Although African birdsong mostly appears in later works, especially in *La Transfiguration de Notre Seigneur Jésus-Christ* and *Des Canyons aux Étoiles*.

Chapter II: Issues in Messiaen Research

In order to build upon past analytical discoveries, the most notable research findings should be cited, establishing contributions to the subject of birdsong on a theoretical rather than empirical basis.

Messiaen has been a popular topic for musicologists over the years: there is much literature examining the main techniques of his style. Most scholars discuss the early, middle and later years, Hindu rhythms, the modes of limited transposition, Christian/Catholic symbolism, colour and the 'experimental period' (including pieces such as *Mode de Valeurs et d'Intensit s* and * le de Feu II*). Yet only a few books give systematic attention to birdsong - amongst them 'The Messiaen Companion'¹, an interview with Claude Samuel², and the views expressed by Robert Sherlaw Johnson³ and Paul Griffiths⁴. The first task in this research project was to extract the important views of Messiaen himself on the subject of birdsong. The next information needed was the musicologists' analytical responses to the subject. There has been little research into the development of birdsong in his music, but the literature found gives a basis on which to work. The issues I propose to deal with may be categorised as follows:

- 1 The Composer's Personal Insights**
- 2 Trevor Hold and Authenticity**
- 3 Previous Research.**

Each category is, in addition, subdivided.

1 The Composer's Personal Insights

a) 'Technique de Mon Langage Musical' (1944) by O. Messiaen

Messiaen in this book outlines the techniques that he had developed and invented. In the chapter on birdsong, his views on the subject seem to be at an early, undeveloped stage. He has already realized at this point that birds make extremely interesting rhythmic pedals. He also says that their melodic contours, especially that of the blackbird, 'surpass the human imagination in fantasy'. Messiaen deems it 'ridiculous' to copy the sounds of nature exactly, as the birds use untempered intervals smaller than the semitone. The composer has begun to speak of individual species - the blackbird, lark and sparrows. The compositional devices used to notate birdsong are labelled as 'transcription', 'transformation' and 'interpretation'. He cites four ornamental variations of a theme that he says are suggested by the improvisations of the blackbird. The free nature of birdsong appealed to Messiaen as he also incorporated into his pieces the rhythmic freedom and changes of pulse in the Hindu and Greek rhythms and the use of added note values, e.g. the semiquaver. His use of birdsong up to the time of writing this book had been limited to *L'Ascension*, *La Nativité du Seigneur*, *Quatuor pour la Fin du Temps*, *Visions de l'Amen* and any work done on the *Vingt Regards sur l'Enfant-Jésus* so far, but it must be remembered that even the other works up to this period contained elements of 'style oiseau'. For example, in the first movement

of *Trois Petites Liturgies de la Présence Divine* there is much heterophonic counterpoint in the accompaniment that suggests the interaction of birdsong.

b) Almut Rößler - Interviews with the Composer⁵

Almut Rößler has collected a great deal of interesting material in her book: like the conversations with Claude Samuel, these discussions provide an invaluable source of knowledge about the compositional processes and the general philosophy of the working musician. Two examples of these discussions are as follows:

i) Public Discussion with Olivier Messiaen during the first Düsseldorf Messiaen Festival in Honour of his 60th Birthday (December 7, 1968)

Messiaen admitted having to go back home to listen to the tape-recording that his wife had made in order to transcribe the rest of the birdsong that he had been working on that day. There are, according to Messiaen, many difficulties to overcome when transcribing birdsong *in situ*:

‘To begin with: one has to know what it is one is hearing, and one can only know that when the first expedition of this kind is undertaken accompanied by a professional ornithologist⁶.’

He lists the two initial difficulties that one would come across:

- 1 the recognition of the individual singer and the species to which it belongs
- 2 musical dictation and the speed of the bird's voice

Other information given here includes Messiaen's use of the Wagnerian 'leitmotif' in *Réveil des Oiseaux*, and the reduction of long silences to a few seconds (when depicting a whole day of birdsong). He clearly shows a comparison between the recognition of the characteristics of different people with ornithology. That is to say, everyone has a particular characteristic that is individual - the colour of one's hair, eyes, a particular way of speaking or walking. One would recognise a person by any number of these intrinsic qualities. Messiaen says that it is this same perception which enables one to determine the species of bird from its vocalisation.

'For an ornithologist it's much the same.
It's like it is with leitmotives: he recognises
each bird by its style, its themes, its melodic
turns of phrase, its specific rhythms⁷.'

Messiaen states that the real work begins when the songs are to be incorporated into the piece. For example, a song thrush's song will be written from a conglomeration of different manuscripts accumulated by Messiaen over the years. These manuscripts are put together and some phrases are chosen to form the song of the songthrush that typifies its main characteristics.

The reproduction of timbre is a further difficulty. No musical instrument can hope to reproduce the extraordinary number of tone-colours in birdsong:

‘ One needs combinations of instruments, and still more combinations or complexes of pitches... Each note of the melody is furnished with a chord which is intended to reproduce the timbre of that note⁸.’

Messiaen explains that he also uses the leitmotif principle to make sure that the listener recognises each bird song or call. For example, he typically uses the same instruments to portray a certain bird sound, and the compositional devices may also be the same on each occasion. The golden oriole may always be written in octaves, or surrounded by certain sound complexes; or the same musical phrase may simply be repeated.

Messiaen also addresses musical form with regard to the use of birdsong. There are two basic systems, according to the composer:

- 1 Deceitful
- 2 Truthful

The first uses the bird sounds as raw material - the birdsong is altered so much that the original is unidentifiable. Messiaen relates this to ‘musique concrète’. He classes *Oiseaux Exotiques* as a piece that fulfils this criterion, as he has taken birds from India, China, North America and Malaysia and put them together, although they could not possibly have sung with each other in the real world. The second method, according to Messiaen, is better, more original and perhaps ‘more indicative of the future’. He calls it the ‘truthful method’ and describes it as one that conforms to reality. As we have noted earlier, the idea of freedom is an integral part of Messiaen’s philosophy: perhaps a saying of St. John’s in his Gospel sums up this belief - ‘the truth will make you free’ - and perhaps, too, this

freedom is apparent in this 'truthful method'. This approach may be found in *Réveil des Oiseaux*.

To accompany the birdsong, Messiaen integrates the sounds of the natural environment. His synaesthetic approach enables him to suggest the landscapes, fragrances, colours and the passage of time.

' To do any piece of work is always a manifestation of one's self, but to experience the truth is to grow above and beyond oneself and to rediscover one's real self which is above the ordinary self.'

ii) Address Delivered at the Conferring of the Praemium Erasmianum in
Amsterdam (June 25, 1971).

Messiaen says that apart from the cries and calls of the birds, there are three types of song:

- 1 The song indicating possession (territorial)
- 2 The enticing song (mating song)
- 3 The break of day song (dawn chorus)

Messiaen cites three basic types of calls also:

- 1 The mating call
- 2 The feeding call
- 3 The cry of alarm

Similarly, in the Conference of Notre Dame (1977), Messiaen says that each of his sacred pieces belongs to one of three types:

- 1 Liturgical music
- 2 Religious music
- 3 Sound-colour and Dazzlement

Almut Rößler also gives useful information about how to perform Messiaen. Like many who have talked about this topic, she advises a player when confronted with the complex rhythms to subdivide the durations until they are learnt; once they are learnt they should be fluent and perhaps less strict and mathematical:

‘ ..the birds - which in Messiaen’s words populate the mathematically rigid rhythmic structures which progress in a crab-like way - demand their rights for the feeling of their creator. Often enough in typical bird-calls - such as the tapping of the woodpecker - he demands a broadening of the counting unit for the benefit of the bird’s characterisation¹⁰.’

c) Conversations with Claude Samuel.¹¹

Claude Samuel's conversations with the composer give us invaluable primary sources revealing the composer's comments on his compositional techniques. Messiaen points out that each note of the birdsong (in later works) is accompanied by an invented chord:

‘ Each note is provided with a chord, not a traditional chord but a complex of sounds destined to give the timbre of that note¹². ’

Messiaen talks about his problems when transcribing birdsong into his compositions.

When he wanted to re-create the intrinsic quality of a certain bird sound, he needed the exact chordal-complexes to accompany it.

The composer gives some insightful remarks into his experiences of each bird and its song, from a musician's point of view. For instance, when listening to the willow warbler he notices that it,

‘... sings an accelerando [like the finch] on a rolled note, but instead of having the finch's victorious codetta, it has one that dies away, slow and sad...it doesn't learn just one codetta, but ceaselessly invents new codettas..¹³’

This description of the willow warbler is far more revealing to a musician than the descriptions of each bird's voice given in any bird dictionary. Messiaen even goes so far as to claim that,

‘Only a composer could manage to understand it and capture it on paper; in fact, most ornithologists refrain from describing it and merely say “Extraordinary song, impossible to describe”¹⁴’.

Messiaen later talks about the birds in some detail. He mentions the trips that he has made in order to collect certain types of birdsong and he talks about the intrinsic characteristics of certain famous birds. When he mentions the finch it is almost like a musical guide to the songs of birds as opposed to an ornithologist's view. In this same section he mentions the blackbird, the songthrush and the nightingale in as much detail.

Many people have often wondered why Messiaen did not use gramophone recordings to help him capture birdsong. He points out that such recordings are incomplete since they give only a portion of the song,

‘..just as a photograph conveys the snapshot of a single individual¹⁵.’

However, is not a piece of music that is written down with its exact pitches and notations like a photograph? Messiaen's transcriptions are intended as an interpretation of what the bird sings, just as a painting captures the essence rather than the surface of its subject: it is more than a merely mechanical reproduction. It is possible that Messiaen's inherent dislike of machinery and futurism lies behind the statement quoted above.

Messiaen also gives the reader an aesthetic rationale of the *Catalogue d'Oiseaux* by explaining that he tried to depict a particular bird, its habitat, and the other birds that are most likely to be singing before, with or after it. The modifications needed to form this work are touched upon here in the 'Conversations'. These modifications are essential to create the exact timbral quality of each birdsong: this is done by accompanying each note of the bird's song with a different sound complex, thus enhancing its individual timbre. Other modifications include the slowing down (sometimes by four or five times) of the songs and the use of grace notes on the piano to create a portamento effect.

This source helps us to understand the compositional processes involved in producing the kind of exactitude that Messiaen required.

d) 'Traité de Rythme, de Couleur et d'Ornithologie' (1999) by O. Messiaen¹⁶

This second treatise, a vast project, took Messiaen from 1949 to the end of his life to write: the seven volumes are in the course of publication. According to Yvonne Loriod,

Messiaen's faithful assistant and interpreter, each one is over three hundred pages in length and some are very substantial indeed¹⁷. Volume 5, part 1, is of paramount importance to the research as it is devoted to the composer's use of European birdsong. However, the other volumes are also significant, especially (for example) the analyses they contain of *Chronochromie* (volume 3), *Livre d'Orgue* (volume 3) and *Messe de la Pentecôte* (volume 4).

Volume 5, part 1, divides a selection of the most common birds of Europe into fourteen contrasting environments. For example, there is a section devoted to birdsongs in the woods, one to 'the oceans' and 'marine coasts', and another to 'the town'. Each bird is dealt with separately, its habitat, appearance and the song itself being described.

The birds' songs themselves are presented in two distinct ways. First, Messiaen's original transcription of a song in the wild is quoted, without indications of instrumentation or even bar lines, though these original notations are not always included. Secondly, various extracts of birdsong are taken from Messiaen's compositions. A great deal of variety is illustrated in the treatment of birdsong, where birds such as the nightingale or blackbird are concerned, as so many combinations of instruments and contrasting methods of representation are employed. The earlier treatise, 'Technique de mon Langage Musical' (1944), only touches on early 'style oiseau', whereas here Messiaen surveys his own techniques as they evolved throughout his career, focusing upon his use of particular species. Analyses of the birdsongs in Messiaen's own compositions allow him to identify the main melodic and rhythmic features of individual songs.

Occasionally, the composer includes onomatopoeic representations in order to indicate particular nuances of timbre and phrasing in a bird's vocalisation. Although Messiaen rarely marks his compositions in this way, it is nevertheless a useful tool for the performer when attempting to portray certain phrases of the song thrush and nightingale in *Réveil des Oiseaux*. For example, a feature of the nightingale's song, comprising repeated low pitches each preceded by a grace note, and then concluding with a flourish, is described in the treatise as 'tio, tio, tio, tiotiaborix'.

Because birdsong is by nature repetitive, Messiaen is compelled to introduce new terminology to discriminate between motivic characteristics. Just as verse is distinguished from prose by its use of rhythmic patterning, so, in the same way, there are many patterns in birdsong created by stress or accent. Alain Louvier cites the well-known saying 'au commencement était le Rythme' in the 'Avant-Propos' to the treatise: certainly, the composer, with his advanced knowledge of Greek and Hindu rhythms and of added note values, is obsessed by metre. Messiaen here applies prosody to his analyses of rhythmic cells, adapted from Dupré's investigations¹⁸.

'Iambic feet'¹⁹ represent two-note cells, the first note being unaccented and the second accented (U -), while a 'cretic' rhythm is a palindromic cell (- U -), known in English as an 'amphimacer'. Both features are found regularly throughout Messiaen's treatment of birdsong, and are of use when analysing particularly repetitive songs and calls. In the blue rock thrush's song, Messiaen cites the 'dochmiac' rhythm which is an iambic cell followed

by a cretic cell (U - / - U -), while the skylark, amongst many other features, employs a 'cretic' rhythm in two descending leaps (a ninth and a seventh), and many compound intervals using repeated iambic cells. Messiaen employs many of these terms throughout this second treatise: Table II/1 is a compilation of those cited in *Traité*.

Plainchant phraseology is also adapted, describing short melodic shapes of birdsong. For example, 'climacus resupinus', 'porrectus flexus' and 'torculus resupinus' all derive from terms originally applied to plainsong, just as adaptations of chanting appear in *Les Corps Glorieux*. In addition, Messiaen combines these terms when referring to more complex shapes using combinations of the above, and other melodic shapes with Latin names. This can be seen at Table II/2.

It is interesting that rather than his treatise being an argument, tracing the development of 'bird style', it is in fact an encyclopaedic collection of illustrative portraits on the common birds of Europe, presenting their unique songs and calls. This important information provides an essential guide for the understanding of the individual musical characteristics of each species' songs, both in the wild and in Messiaen's works.

2 Trevor Hold and Authenticity.

In his article, 'Messiaen's Birds' (1971)²⁰, Trevor Hold enlightened many musicologists with his views. The footnotes, too, introduced papers and articles from ornithological and biological journals unknown to many musicologists. He challenged the musicologists who

over-estimated Olivier Messiaen's skill at notating the actual sound of each bird, and he pointed out the inauthenticity of some of Messiaen's imitations. Trevor Hold, a musicologist, had not only written articles in musical journals but had also published in an ornithological journal 'Ibis'. He related Messiaen's transcriptions to those of ornithologists. In addition, he criticised the rather naive comments made by music critics on the subject of authenticity and criticised some of Messiaen's claims. At this point it should be pointed out that although at one stage Messiaen claimed that the sounds were extremely true to life, he often changed his mind through the course of his oeuvre and therefore it is difficult to class what he has said at any one moment as the definitive truth. Early in his birdsong writing career, Messiaen said that his songs were authentic, yet later he says the opposite.

The Trevor Hold article drew attention to the many articles on bird vocalisations in ornithological journals such as 'Ibis', 'Auk', 'Biophon' and 'Wildlife Sound'. The musicians' papers on birdsong seemed to be naïve to the ornithologists, just as the ornithologists' papers on bird vocalisations appeared naïve to the musicians. Paul Griffiths claims:

'He [Messiaen] is far more conscientious an ornithologist than any earlier musician, and far more musical an observer than any other ornithologist²¹.'

Trevor Hold talks about general transcription principles in his article 'The Notation of Birdsong: A Review and Recommendation'²². He conflates views from the two sides of the academic literature on the subject, producing a comprehensive overview of the many types of notational processes discovered up to 1970.

In ornithological literature there is much on the transcription of birdsong. First, it is interesting that Trevor Hold wrote the article 'The Notation of Birdsong' [Ibis, 112, 1970] a year before the previous paper, 'Messiaen's Birds'. The later article, concerned with the general notation of birdsong, was submitted to the ornithological journal 'Ibis'. There are three sections on transcription techniques:

- 1 Syllabic notation
- 2 Staff notation
- 3 Other forms of subjective notation

Hold follows the stringent descriptions of these with some speculations on the 'Sound Spectrograph'. The descriptions of the staff notations, however, begin with extracts by Oswald von Wolkenstein (1377-1445), Kircher (1650), through to Matthews (1904) and the highly sophisticated notations of Szöke (1969). Hold then discusses the attempts made to evolve a new notation for birdsong, citing Stadler and Schmitt (1914) as the pioneers of these processes, or at least the first to attempt to make a convincing case for their discoveries.

M.E.W. North's article, 'Transcribing Birdsong'²³ (Ibis, 1950) is important in that it lists the problems of notating birdsong in the field and backs up Messiaen's points of view about representing the unique timbres of birdsong. The technical suggestions made are in some cases simple even for the average musician, but there is some advice given that is relevant and useful for the more proficient. North employs a vowel system that is similar to that of the 'Handbook' (1938 I, 17)²⁴. The vowel-scale shows a gradation from the highest-sounding to the lowest-sounding vowels, and displays an indication of the comparative timbres of the sounds transcribed. North suggests evoking the quality of each sound by using rather rudimentary descriptive techniques. These would include, for example, blowing into cupped hands to create the timbre of the tawny owl. This is a technique that Messiaen often used in describing much of his music. North gives a summary of the field methods needed to form an accurate transcription, and he lists twelve points to bear in mind. Examples include: imitating the birdsong by whistling or singing, estimating the octave and describing the sound quality. He gives useful advice on problems that might be encountered in the field, including the distance of the bird from the hearer. Distance, he says, affects the quality of the timbre, and some of the notes may become inaudible to the human ear.

These articles are very important, not only to the ornithologist wishing to write down the songs of birds, but also for the musician wishing to research the authenticity of Messiaen's transcriptions and the final results in his music.

3 Previous Research

a) Robert Sherlaw Johnson.

Johnson has done a great deal of ground work on bird style, techniques and group-forms. He has also compiled an appendix which lists each species of bird and the works in which they appear. In his book, 'Messiaen'²⁵ (1975/89), he writes about two early pieces, *Réveil des Oiseaux* (1953) and *Oiseaux Exotiques* (1956), while another chapter is devoted to *Catalogue d'Oiseaux* (1956-58). A small section of approximately two pages deals with the development of birdsong in his music. The ideas suggested here became the basis in the present research for a more comprehensive taxonomy of the way Messiaen's treatment of birdsong transcriptions developed. Johnson also listed (as an appendix) all the birds that had been used in the pieces, and indicated which pieces each one appeared in. This information has been an extremely helpful tool for research and ground work. However, he omits (quite naturally) the birdsong that has not been specified by Messiaen in the score. For example, the birds used in the first movement of the *Quatuor pour la Fin du Temps* are, quite obviously, the nightingale and the blackbird, but as they are not written into the score and might theoretically be another bird entirely, they are not included in this table for reference.

Johnson gives the reader outlines of the formal structures employed by the composer in *Réveil des Oiseaux* and *Oiseaux Exotiques*. In *Réveil des Oiseaux* he sees the form as binary: typically, he sees a relatively simple form in what is otherwise a complex work.

The orchestral passages that precede these sections also have an identical structure, according to Johnson. These findings are represented in graphical form, with diagrams which give a strict overview of the layout of the piece. He uses graphical means to show how Hindu and Greek rhythms and their assigned instruments are deployed in *Oiseaux Exotiques*. These graphs demonstrate instantly the processes of the composer.

In the chapter entitled *Catalogue d'Oiseaux* Johnson creates a classification scheme of four groups of bird vocalisations, as summarised below:

- 1 Brief and longer varied calls by birds which otherwise do not sing; homophonic and dissonant
- 2 Short repetitive song-patterns with slight variations
- 3 Varied song patterns, declamatory and often tonal
- 4 Rapid 'chattering' songs, continuous or broken up by rests

He then goes on to list each bird that appears in the *Catalogue d'Oiseaux* and assigns them to their group.

He also classifies the non-birdsong material used in *Catalogue d'Oiseaux*²⁶. The summation of this may be drawn into five groups as follows:

- 1 Mode: twelve-tone. Rhythm: a) Greek or Sharngadeva
b) permutation series
c) free
- 2 Mode of pitches, durations and intensities
- 3 Modes of limited transposition
- 4 Turangalila motives
- 5 Colour-chords (other than the ones in groups I and III)

Johnson also displays a series of diagrams applying his 'group' structure theories to the *Catalogue d'Oiseaux*. He includes information on texture, tonality, timbre, frequency, rhythms, intensity and the relationship of each bird to its group, and a second diagram that shows the formal structure of each piece in correspondence with each bird, animal and its natural habitat.

Messiaen's love of nature in general is exhaustively discussed by Johnson. Aspects of nature, such as waves, cliffs and sea, feature in some of the bird pieces. Like Debussy, he had a special regard for the sea: Debussy wrote 'La Mer', while Messiaen (for example) represented the blue sea, its waves and the general lapping of water in 'Le Merle Bleu' (*Catalogue d'Oiseaux*). In *Catalogue d'Oiseaux*, for instance, Messiaen creates a portrait of a single bird in each piece: he attempts to find musical means to depict the sounds and colours of nature (sunrise, sunset and the sound of the sea), in order to suggest the particular environment surrounding each bird. Johnson also proposes, like others, that Messiaen's disillusioned or even misanthropic temperament may account for his preference for nature to the sounds of cars and the city.

' It is in a spirit of no confidence in myself, or I mean in the human race, that I have taken bird-songs as model²⁷.'

Messiaen says it is in the hours of gloom that he seeks refuge in the birds: perhaps he is like the psalmist who declares,

‘in the shadow of your wings will I take refuge/
until these troubles are past.’ [Psalm 57, v.2].

Johnson’s monograph is an authoritative and comprehensive source of information for the study of all of Messiaen’s music. His studies in birdsong are particularly pertinent: the editor of the ‘Messiaen Companion’, Peter Hill, asked for the chapter on this subject to be written by him.

b) Norman Demuth.

Demuth, in his article ‘Messiaen’s Early Birds’²⁸ (1960) discusses the early transcriptions of birdsong up to *Réveil des Oiseaux* (1953). He talks about the episodic nature of Messiaen’s form as opposed to the symphonic style of many past composers. Demuth points out, quite naturally, that even birds have to take a breath, and that Messiaen writes in ‘block-form’ almost exclusively. The use of separate birdsongs consecutively, as opposed to the superimposition of one upon another, creates an effect of separation rather than continuity. In works that do not include birdsong, Messiaen was writing material that was very episodic in nature, especially in the *Turangalila Symphony*. Pierre Boulez has mentioned that it is a French trait to write in ‘block form’ and that Messiaen’s music was only in keeping with this²⁹. It seems lucky that Messiaen discovered the songs of birds, as they created a nucleus of musical resources akin to his inherent technical style, for use in works after the period of 1941.

Musical notation had developed dramatically since the beginning of the twentieth century: the need to signify complex rhythms, atonality and constant changes of metre became commonplace. Messiaen was thus able to hear and represent birdsong with twentieth century 'ears', using the newly available techniques to create birdsong vocalisations with greater precision and subtlety. It was inevitable that the composer's own musical preferences produced 'subjective' notations of birdsong: compositional procedures necessarily played a part in the transcribing process. For example, throughout Messiaen's career there are many instances where phrases expand or contract, giving the music an improvisatory quality. The 'motivic island' effect, as Paul Griffiths calls it, is produced by the expansion or contraction of phrases and interweaving of motivic cells. It was the evolving musical climate that gave Messiaen the tools to simulate innovative birdsong.

Trevor Hold has drawn attention to the prominent part played by the piano in Messiaen's music, and to the fact that this imposes limitations on the use of glissandi, which are such a strong feature of birdsong. Certainly, Demuth has likened the *Turangalila Symphony* to a Grand Piano Concerto, derived from the concertante principle. Perhaps Messiaen was greatly influenced by Scriabin, not only by his sensitivity to synaesthesia and the importance they both attached to tone and colour relationships, but also by his use of the piano in 'Prométhée (Le Poème du Feu)'. Demuth also suggests that bird music (incorporated merely as fragments by Wagner, Beethoven, Roussel and others) was effectively originated by Messiaen, who eventually used birdsong exclusively in many pieces.

It is not correct for Norman Demuth to say that, 'Messiaen has now completed what is virtually a collection of every kind of bird music³⁰.' Of course, at the time that this article was written he had collected many different kinds of birdsong, but he found many more from all over the world after this date. He also concludes the paper with the comment,

'I do not envisage, however, anything novel in the way of harmony arising from it, since its nature and texture are too mobile³¹.'

Messiaen himself complained that one of his pupils, George Benjamin, wrote the piece 'At First Light' with little use of harmony. Benjamin had to explain that the piece was saturated with harmony, but that the harmony was 'lost inside the form, inside the argument and texture of the music'. It must be clarified that perhaps Demuth views harmony in a more traditional way than the older Messiaen and the young George Benjamin³². Certainly the birdsong was later accompanied by quite exploratory harmonies.

c) Paul Griffiths

Paul Griffiths, in 'Olivier Messiaen and the Music of Time'³³, spoke of the difficulty in linking various birdsongs together in a work. The most significant point is that there must be a consistency in the treatment of variation; however, there is an ever increasing subtlety of transcriptions and colouration that accentuate the intrinsic timbral quality of each bird.

He mentions that the different interpretations of the chaffinch's song, for instance, may either be an attempt to show two different chaffinches - the same bird at a different time of day - or it may simply mark the stages in Messiaen's transcriptions of the ideal way to notate such a birdsong. Messiaen seems to have developed his technique after each piece.

In the early works, 'style oiseau' was infused predominantly with the use of the ubiquitous second mode of limited transposition. The tritone, the fourth, and trills are fairly frequent: many ornithologists comment on the trills being a significant motive in many birdsongs, and also in territorial/mating calls. Trills, fourths and tritones also appear later in a quite sophisticated use of birdsong. Paul Griffiths, however, shows musical examples of some of the birds in *Réveil des Oiseaux* being portrayed musically using the intervals of the fourth and the fifth, plus a tritone particularly. The little owl, robin, whitethroat and the song thrush are examples. These motivic cells are a dominant feature of early material. Griffiths postulates that a substantial proportion of early transcriptions is influenced by the composer's preoccupation with these intervallic relationships. Moreover, Paul Griffiths says that *Réveil des Oiseaux*, *Oiseaux Exotiques* and *Catalogue d'Oiseaux* all suited the present state of the composer's musical style. Like Johnson, Paul Griffiths also demonstrates a formal structure in *Réveil des Oiseaux* and *Oiseaux Exotiques*, but he does it without diagrammatical means.

Paul Griffiths displays musical examples of the nightingale's song, starting with Jannequin, Couperin and Beethoven, and concluding with Stravinsky and Messiaen. He finds that, even allowing for variation in the song of the nightingale amongst individuals, Messiaen

has far more sophistication than his preceding rivals [ex II/3]. Notice, however, that both Beethoven and Messiaen include falling seconds as a prominent feature; six semiquavers with Beethoven and the same with Messiaen, but up a semitone and with the addition of grace notes. Griffiths traces a development in the complexity and sophistication of the chaffinch's song, showing examples from *Vingt Regards sur l'Enfant Jésus*, *Réveil des Oiseaux*, *Catalogue d'Oiseaux* and finally *Méditations sur le Mystère de la Sainte Trinité*. These examples are useful starting points for the understanding of the development of Messiaen's techniques in portraying birdsong.

d) David Morris

David Morris's 'A Comparative Bibliography' lists almost all of the books on Messiaen, articles, the composer's own publications, dissertations, recordings and other information in a systematic format. In addition, Morris's article analysing 'Abîme des Oiseaux', from the *Quatuor pour la Fin du Temps*, uses a semiotic approach. The segmentations reveal many symmetries in the music, enabling the reader to find recurring patterns of intervallic and rhythmic cells. Further, poietic evidence is taken from the 'Technique de mon Langage Musical', in order to form - as far as possible - hierarchies in a 'neutral' analysis.

For example, he divides the movement into separate parts. Part 1 is given a pitch count where only eight pitch classes are used. Morris arranges this eight-note mode into four pairs, each forming a tritone: E/Bb, Ab/D, G/Db and F/B. Using poietic evidence to support his research findings, he cites Messiaen's first treatise, 'Technique', and lists three

intervallic preoccupations of the composer. The first is the tritone, found throughout Messiaen's music. The second is a descending major sixth, and the third is a 'chromatic formula' which involves the rearrangement of three semitones. Morris also points out two predominant melodic shapes: versions of the Boris Godunov theme and 'distortions' of a segment of 'Solveig's Song' from Grieg's 'Peer Gynt'.

Morris states that although the main birdsong works date from the 1950's and the more sophisticated portrayals appear in these later compositions, many rhythmic and melodic features of 'style oiseau' appear in earlier pieces, including the 'Abîme des Oiseaux'. Later, the specific names of the species are included in the score; however, Morris cites certain motivic characteristics in a chart, linking bars from 'Liturgie de Crystal' and 'Abîme des Oiseaux' (movements I and III from the *Quartet*) to the specified birdsong in the *Catalogue d'Oiseaux* (1956-58). Morris deduces that,

'several birds are present in "Abîme", but... at this point in Messiaen's output [1940-1] they are unspecified or the transcriptions insufficiently accurate for identification purposes.'³⁴

Similar poietic evidence is given to Messiaen's frequent employment of Hindu rhythms, various transmutations of rhythmic cells - diminution, augmentation (especially progressive augmentation) - and the use of added note values.

This research is particularly important: as the title suggests, it is an investigation of various semiotic hierarchies. Segmentations are employed in order to produce, with reference to the 'Technique', a 'neutral' analysis, while revealing many motivic patterns.

e)Tenneguy de Quénetain

Tenneguy de Quénetain in his article 'Poet of Nature'³⁵ advises us that Messiaen is continuing the work started by Debussy. When talking about Messiaen's compositional language he says that,

'..[it is] essentially a language of modality; in other words, it makes free use not only of the classic modes - major and minor - but also of the ecclesiastical modes of the middle ages, of exotic modes and indeed, of modes of the composer's own invention. In all this, Messiaen is continuing the work of Debussy'³⁶.

Tenneguy de Quénetain also notices that in Messiaen's music each bird has its own mode. It became essential in pursuing the current research to find basic similarities in the song of each bird rather than to analyse each song with pitch-set theory. De Quénetain also points out that with Debussy and Stravinsky the revolt from the classical idiom had begun:

'with Debussy, the revolt is gentle: he frees the beat completely from time to time... continually varies the tempi and multiplies the pauses. Stravinsky's revolt is aggressive: he shifts the stresses as he wishes instead of leaving them at the same place in each bar'³⁷.

Messiaen, according to Tennesy de Quénétain, began a revolution that was more methodical: as followers might say, he began to capture the rhythmic consciousness by the systematic reconnoitring of the rhythmic possibilities ‘not only of the musical world, but in the universe itself³⁸.’ Moreover, Messiaen sees a rhythmic symmetry of ‘rhythmic canons’ and ‘non-reversible rhythms’ reflected in nature.

‘..in the wings of butterflies, in the veins of leaves, in the branches of a fir tree³⁹.’

f) David Drew

David Drew’s ‘Provisional Studies’⁴⁰ are essential reading for all musicologists who have an interest in any aspects of the music of Messiaen.

This is a good basis for an immediate understanding of the basic principles of Messiaen’s music; however, the group of articles was written in 1954/5 and can only talk about works up to that period, and as a result the opinions inevitably seem dated. He points out that there are certain principles of structure that appeal to Messiaen, governing the rise and fall of pitch, and the line of a complex birdsong, both of which admit a highly chromatic stylisation and rhythmic freedom.

‘The *style oiseau*, like the *style hindoue*, satisfies Messiaen’s desire for the ornamental, and at the same time allows him to avoid any harmonic implications, if he so wishes⁴¹.’

He also states that Messiaen's language is such that counterpoint cannot function in the traditional way, although Messiaen in the *Trois Petites Liturgies de la Présence Divine* combined birdsong with counterpoint, as he did in *Messe de la Pentecôte*. This important group of articles by David Drew is useful more for the general understanding of Messiaen's compositional techniques than, specifically, his use of birdsong.

It is important first to survey the issues related to birdsong and incorporate these findings into a critical taxonomy. It was found that little research had been published on the subject of how Messiaen developed his use of birdsong. Phrases in early compositions are normally labelled simply 'oiseau', and so the analysis of each common bird and its development in transcription will be presented after the early research. A further task will be to look at Messiaen's methodology in his use of birdsong, and the early pieces incorporating the transposition and transmutation techniques.

Notes to Chapter II

- ¹ Peter Hill (editor), Messiaen Companion, (London, Faber, 1995).
- ² Claude Samuel, Olivier Messiaen: Music and Color: Conversations with Claude Samuel, trans. By E. Thomas Glasow, (Portland, Oregon, Amadeus Press, 1986).
- ³ Robert Sherlaw Johnson, Messiaen, (London, Dent, 1976, revised 1989) pp116-158.
- ⁴ Paul Griffiths, Olivier Messiaen and the Music of Time, (London/Boston, Faber and Faber, 1985) pp166-189.
- ⁵ Almut Rößler, Contributions to the Spiritual World of Olivier Messiaen, (Duisburg, Gilles und Francke, 1986).
- ⁶ Almut Rößler, op. cit., p31.
- ⁷ Ibid., p31.
- ⁸ Ibid., p32.
- ⁹ Ibid., p35.
- ¹⁰ Ibid., p149.
- ¹¹ Claude Samuel, op. cit., pp85-97.
- ¹² Claude Samuel, op. cit., p94-95.
- ¹³ Claude Samuel, op. cit., p87.
- ¹⁴ Claude Samuel, op. cit., p89.
- ¹⁵ Claude Samuel, op. cit., p89.
- ¹⁶ Olivier Messiaen, Traité de Rythme, de Couleur, et d'Ornithologie, vol. 5, pt. 1 - Chants d'Oiseaux d'Europe, (1999).
- ¹⁷ See Peter Hill's Conversation with Yvonne Loriod in the Messiaen Companion, op. cit., p285.
- ¹⁸ Marcel Duprè, 'Traité d'Improvisation', taken from vol.2 of Cours Complet d'Improvisation d'Orgue, (Paris, Leduc, 1926).
- ¹⁹ Note that a 'trochee' rhythm is the opposite (- U).
- ²⁰ Trevor Hold, 'Messiaen's Birds' from Music and Letters, Vol.52, no. ii, (April 1971), pp113-122.
- ²¹ Paul Griffiths, op. cit., p168.
- ²² Trevor Hold, 'The Notation of Bird Song: a Review and Recommendation,' Ibis, 112, (1970) pp151-172.
- ²³ M. E. W. North, 'Transcribing Bird Song' from Ibis, 92, (1950) pp99-114.
- ²⁴ 'Handbook.' Witherby *et al.* The Handbook of British Birds, (London, 1938).
- ²⁵ Johnson, op. cit. pp116-127 and pp128-158 (*Catalogue d'Oiseaux*).
- ²⁶ Johnson, op. cit., p136-137.
- ²⁷ Messiaen in Antoine Goléa's book, Recontres avec Olivier Messiaen, (Paris, Julliard, 1960).
- ²⁸ Norman Demuth, 'Messiaen's Early Birds' from Musical Times, ci, (1960), pp627-9.
- ²⁹ Other clear examples of this form can be seen in Stravinsky's 'Symphonies of Wind Instruments' and in Debussy's 'Jeux'.
- ³⁰ Demuth, op. cit., p627.
- ³¹ Demuth, op. cit., p629.
- ³² Messiaen Companion, op. cit. p271.

³³ Paul Griffiths, op. cit., pp166-189.

³⁴ David Morris, 'A Semiotic Investigation of Messiaen's "Abîme des Oiseaux"', Musical Analysis, vol 8, (1989), p142.

³⁵ Tanneguy de Quénétain, 'Messiaen: Poet of Nature' from Music and Musicians, xi/9, (May 1963) pp 8-12.

³⁶ Quénétain, op. cit., p11. However, it is important to note that ecclesiastical modes are not used until the organ work, *Méditations sur le Mystère de la Sainte Trinité* (1969).

³⁷ Quénétain, op. cit., p11.

³⁸ Quénétain, op. cit., p11.

³⁹ Quénétain, op. cit. p11.

⁴⁰ David Drew, 'Messiaen - A Provisional Study', The Score, 10,13 and 14 (1954-5).

⁴¹ David Drew, 'Provisional Study I', The Score, no. 10, (1954), p.44.

Chapter III: Musical Language of Messiaen

The character of Messiaen's music was clearly influenced by his personal inclinations. Messiaen, being deeply religious, chose many subjects which had their roots in Christian - specifically, Roman Catholic - theology. His love of nature is reflected in his sophisticated use of birdsong, and the depiction in music of the landscapes that surrounded these songsters. The religious side of the composer was susceptible to plainsong, sacred texts, intense colours (especially those found in stained-glass windows) and the sound of the organ. However, these aspects cannot be considered in isolation: they merge to form his characteristic style. Messiaen was highly receptive to many styles of classical music. His rhythms were taken from Greek and Hindu classical music, Stravinsky and Debussy; the harmonies from Debussy, Mussorgsky, Dupré, Stravinsky, Wagner and Ravel. Just as his compositional style evolved from cosmopolitan sources of inspiration, so his use of birdsong, too, came from visits to many countries around the world.

With the traditional training that Messiaen received at the Conservatoire, he discovered special formulae of composition, the conglomeration of which formed his unique style. Messiaen preferred a compositional form that was a reaction to the nineteenth century symphonic tradition and more in keeping with the musical language of Debussy¹ - a trend of musical form that had evolved from a strong French ancestry. The harmonic system is rather static in nature, and there is no 'dynamic' formal structure. His reference to a

‘pedal-group’, for instance, is a modern form of ostinato, and his ‘ornamental-group’ refers to a cadenza.

In 1944 Messiaen published the treatise in two parts entitled ‘Technique de mon Langage Musical’². This pair of technical books illustrates the musical sources from which Messiaen had taken his influences, and explains the techniques that he had used in some of his earlier compositions. The entire chapter focuses on this source. The following headings show a brief outline of the fundamental theories of Messiaen at this time, while referring to their inherent connection with a later, more mature compositional style, especially with regard to birdsong.

Harmony

Messiaen begins to address this enormous topic with a chapter in the ‘Technique de mon Langage Musical’, entitled ‘Harmony, Debussy, Added Notes’. The title obviously indicates the importance which is given to Debussy. It is important to remember that Messiaen generally used harmony for decoration rather than for functional reasons: a dominant chord, for example, would be incorporated into a piece, but a chromatic note might be added to this chord for variety. Modal harmonies, too, might often be combined with chromaticism. One of the principles that Messiaen advises is the notion of the ‘added note’, and Messiaen introduces chords that include these ‘added notes’. In the examples he quotes, he is candid about the sources of his musical language. He seems compelled to justify his music by clearly showing a ‘natural’ progression from past composers - just as

Schoenberg's atonality and serialism were shown to be a development from the harmonic fluctuation of Wagner's style. Debussy's use of non-resolving appoggiaturas and passing notes - which do not resolve - is sufficient justification for Messiaen to include these notes in a chord in their own right. Not only do the added notes ('foreign') have the same sonority as the aforementioned appoggiaturas, but they are also notes that are present in the 'perfect chord' [ex III/1]. The chord of the added sixth is the first of which he speaks: this chord is a common feature of the composer's early works,³ yet more justification is needed for other techniques. The overtone series is used to validate a modal and harmonic language. Messiaen states,

'In the resonance of a low C, a very acute ear hears an F sharp [the eleventh harmonic]... Therefore we are justified in treating this F sharp as an added note in the perfect chord, already provided with an added sixth⁴.'

The added 6th, 9th and 11th are also included in this formula. Messiaen shows that the 'normal resolution' from the F# (the augmented fourth) should be a C. This chord and its ubiquitous melodic resolution is an unmistakably characteristic feature of the early compositions. In traditional music the resolution of chromatic notes would be found in a downwards motion - to its neighbour note. Messiaen feels that he needs to justify this too, showing an example from the 'Boris Godunov' theme by Mussorgsky. His argument that the appropriate resolution for the F# is the C is rather strange, as the dissonant note is not only an augmented fourth, but it has no sense of movement. However, the chord does resolve, with the C being the root of the dominant 9th chord. The dissonant or added notes

appear without preparation or a traditional resolution, and without a particular expressive accent: the notes are used specifically for colouration and harmonic interest.

Messiaen's use of invented, contrived and special chords is notable. The chord on the dominant can be displayed in several ways: a chord which contains all the notes of the major scale (with the dominant as a bass note and an inverted position of the other six notes), a supposed resolution, the added notes as appoggiaturas, an array of inversion with chordal complexes in close position in the left hand (the stained-glass window effect), a chord with the appoggiaturas as added notes, and the chord which can be ornamented with added notes. The chord of the dominant can be resolved in the normal way, or appoggiaturas are added to form a complex dissonance [ex III/1].

The 'chord of resonance' is cited with all the possible notes that can be heard by what Messiaen describes as 'an extremely fine ear' [ex III/1]. Messiaen also displays an interest in a chord that is built up from perfect and augmented fourths rather than superposed thirds. Messiaen's chord in fourths uses all the notes from the fifth mode of limited transposition, alternating perfect and augmented fourths above a given bass note: often, the chords and the mode have a melodic formula which involves the interval of the tritone [ex III/2].

Resonance is subdivided into two categories. The first, 'superior', involves generally a quiet chord/note which is played above a more fundamental chord/note. The second, 'inferior', is predominantly built up from loud chords which include softer colours above.

More regularly, this resonance is achieved by a chord or note played loudly in the bass amongst other musical material. In early compositions, Messiaen included actual transcriptions of birdsong into his compositions, and many timbral complexities that are commonly found in birdsong are used. In later works, Messiaen saturated his music with both high and low register resonances, and accompanied these sonorities with colourful birdsong. The 'resonance chords', as one would expect from his general harmonic approach, are used as a timbral device rather than for purely structural purposes. The *Catalogue d'Oiseaux* incorporates many 'inferior' and 'superior' resonance effects; in addition, chords are often left held while new birdsong textures begin. These effects define the later 'hybrid' texture where an 'inferior' or 'superior' resonance precedes or follows a phrase of birdsong.

Often, chords are arranged in close position, and some include dissonant added notes. The 'stained-glass window' effect is perhaps created by the colour that the chord has produced. The absence of certain pitches (out of the total of twelve semitones in an octave) often produces these intense colours. Messiaen quotes an extract from the *Quatuor pour la Fin du Temps* [ex III/3] describing the progression as a cascade of blue-orange chords. He would also, quite regularly in early works, combine dissonant colour-chords with diatonic ones. An example of this is found in 'Le Baiser de l'Enfant-Jésus' from *Vingt Regards sur l'Enfant-Jésus*.

Messiaen continues to develop new approaches to harmony throughout his career. A continuum of invented colour-chords is found in the piano part as early as the first

movement of the quartet (1944) - later, as the composer becomes increasingly preoccupied with recreating the timbre of birdsong, invented chords are attached to many pitches, simulating their unique timbral qualities in the wild. Invented chords, harmonic inflections and colour become synonymous:

‘Messiaen translates colours into harmonies,
for those who have ears to see’⁵.

The Modes of Limited Transposition

Messiaen’s modes divide the octave into between two and six points of symmetry. The modes form a nucleus for Messiaen’s early melodic and harmonic compositional constructions. The points of symmetry limit the number of transpositions that can be made and are based on the equal-tempered chromatic scale. The points of symmetry are subdivided into the same relationship of tones and semitones, the only exception being mode 1 (the whole-tone scale) which divides the octave into six equal divisions. Messiaen rarely uses this mode: as with Debussy, it is incorporated only when concealed amongst other textures. He also combines this mode with others [ex III/4]. Consequently the identity of mode 1 is changed quite dramatically. The pedal part in ‘Les Eaux de la Grâce’ from Messiaen’s *Les Corps Glorieux* involves the continual use of the whole tone scale. The harmony that mode 1 implies lacks a certain tension that the composer requires: the tritone is the only feature that has any inherent importance.

Mode 2 is used more regularly in Messiaen's compositions. Certain harmonies, melodies and cadential formulas are often associated with this mode. The unit is of three notes which involves the intervallic succession semitone/tone. The cadential formula (associated with the first scene of 'Boris Godunov') clearly has a marked significance for the composer as he often, in early works, used this mode incorporating the same melodic intervallic relationships [ex III/5]. Messiaen's interest in mode 2 is due to its harmonic implications. The mode itself does not refer to a particular tonality; however, it can easily be used in relation to one tonal centre, and move into another without an alarming modulation. The modes in general, as Messiaen points out, 'exist in an atmosphere of several tonalities at once, without polytonality - the composer being at liberty either to give predominance to one tonality, or to leave the tonal feeling fluid.' The modes create (and allow) a variety of chromatic chords that are related to a tonal centre. Thus, Messiaen is able to juxtapose chords that have no diatonic relationship with each other, with the result that a formal structure is produced which is coherent without the use of traditional harmonic implications.

Modes 4, 5 and 6 are used less frequently than the others as they do not have so many chromatic possibilities. Messiaen cites each of these modes, pointing out their distinguishable characteristics in some of his early works. They are truncated in form as all of their notes are present in some transposition of mode 7. Mode 3 is a mode of strictly limited transposition, like modes 1 and 2.

Messiaen juxtaposes complex dissonances with consonant tonal harmonies: in the composer's mind, this combination conjures up the colour associations which were very important to him. For Messiaen, Mode 2 suggests shades of purple, blue and violet, whilst mode 3 displays reddish orange, green with spots of gold, and milky-white with iris reflections like opal. Colour remains an important aspect of Messiaen's music: in *Couleurs de la Cité Céleste* the colours are named in the score, in relation to specific chordal complexes.⁶

Occasionally, in the later 'birdsong' works, modes of limited transposition are employed in chords in order to depict the bird's plumage. In 'Le Merle de Roche' (*Catalogue d'Oiseaux*), the principal bird's song is 'bright orange like its plumage'⁷. The term 'mode' is later extended generically to encompass many other features of Messiaen's compositions:

'[Messiaen's work]...is essentially a language of modality; in other words, it makes free use not only of the classic modes - major and minor - but also of the ecclesiastical modes of the middle ages, of exotic modes and indeed, of modes of the composer's own invention'⁸.

It may be said that each bird's song has its own 'mode'.

Melody

Messiaen's melodic style is closely related to his use of harmony. The melodic shapes of many of the phrases, in early works, seem to be derived from past composers, folksong,

Indian jātis and - later - birdsong. As we have seen in the Boris Godunov theme, the resolution of the F# is C, with the descending augmented fourth (tritone) becoming a prominent feature. The composer's use of the major 6th in his 'perfect chord', and the use of this interval in many melodic lines by Mozart prompts the composer to employ this interval regularly. Once again, the opening of Mussorgsky's 'Boris Godunov' is cited, transposed, but nonetheless copied, apart from the first interval which is augmented by a semitone [ex III/6]. Messiaen also mentions three-note chromatic cells (which he associated with Bartok) that span a major 2nd, two consecutive pitches, or a descending whole tone followed by an ascending semitone as well as the inversion of this second figure. This system is really a form of imitation: the three-note cells are subjected to various manipulations but are essentially swapped around. It is interesting to note that by changing the pulse or metre, this effect is produced in many works without strictly adhering to these techniques, but only using an ostinato passage with a change of pulse. Stravinsky provides several examples of this technique, two of which are given here: [ex III/7 a, b]. Although Messiaen employs the melodic principles of previous composers, not only does he completely transform the nature of the melodies by using his own style, but in the same way he is also able to change dramatically the nature of the melodic patterns of birdsongs after transcribing them.

The Indian jātis are used as a basis for melodic material by Messiaen. Many of the rules and traditions of the Raga style clearly influenced some of the composer's melodic structures: the repeated notes at the end of a phrase are a common feature, and Messiaen uses this idea in pieces like 'L'Ange aux Parfums' (ex 113 in 'Technique'), 'Amen des

Anges, des Saints, du Chant des Oiseaux' (ex146, ex142 in 'Technique'), *Trois Petites Liturgies de la Présence Divine* (mov1 and ex168 in 'Technique'). Of course, the added note value, too, is a primary feature taken from this source.

The principles of many plainchant phrases are taken and used by Messiaen in diverse ways. The contours of plainsong phrases often foreshadow the ones written by Messiaen. Most plainsong phrases end on the 'final' (the 1st note of the mode): ex170 in the 'Technique de mon Langage Musical' is an example of this idea taken from Salve Regina [ex III/8].

Some of the phrases that Messiaen uses follow contours similar to those of plainchant, but he transforms them by his melodic style. Even if the melodies were difficult to understand, at the time of composition, the chromatic and added notes were often resolved to a note that was diatonic, making it more coherent to the listeners' ear. Plainchant is used both in original and modified forms throughout the *Méditations sur le Mystère de la Sainte Trinité* (1969). Interestingly, plainchant terminology serves as a form of analysis, used by the composer and during this thesis: the basic shape of many melodic cells in birdsong can be categorised by plainchant terminology.

Rhythm

Messiaen said to Claude Samuel that he is an ornithologist and a rhythmician. The aforementioned disciplines work in conjunction with each other; however, these seem to be the most important traits of the composer:

'I feel that rhythm is the primordial and perhaps essential part of music; I think it most likely existed before melody and harmony, and in fact I have a secret preference for this element. I cherish this preference all the more because I feel it distinguished my entry into contemporary music⁹.'

David Drew points out that the more attenuated the hold on tonality becomes, the more need there is for a force to propel the music forward: this need is indeed satisfied by the use of rhythm.

Messiaen's interest in rhythm dates back to his days at the Conservatoire. It was here that the young composer discovered the Greek rhythms and the 120 decî-tâlas (Hindu), described by the thirteenth century theorist, Sharngadeva. Messiaen mentions these influences along with those of Stravinsky. The common factor between the rhythms of Stravinsky and Indian rhythm is that they are ametrical. Ametricity is a particular focal point for Messiaen's rhythms. Messiaen cites the rhythms of prime numbers (five, seven, eleven, thirteen etc.) in which the notions of measure and beat are therefore replaced by the short values (the semiquaver predominantly). The Simhavikrîdita rhythm shows the technique of rhythmic diminution and augmentation. The bars shown as an example in 'Technique de mon Langage Musical' include two values - A and B. A augments twice and diminishes twice, while the B value stays the same, the result being a nonretrogradable rhythm - this will be explained in due course [ex III/9].

The added note is a short value (normally the semiquaver) that can be added to any rhythm, whether it be a note, rest, or the addition of a dot. The use of the added note is very prevalent in 'Danse de la Fureur' from the *Quatuor pour la Fin du Temps*, where the cells in duration add up to prime numbers when subdivided into semiquavers. In Messiaen's first treatise (1944), a table of possible examples of augmentation and diminution is shown [ex III/10].

The nonretrogradable rhythm is one of the most important rhythmic devices used by Messiaen: the term is inexact as the retrograde is identical to the original form and therefore constitutes a palindrome. The nonretrogradable rhythms contain internal retrogradations, just as his modes contain internal transpositions that prevent multiple transpositions of the whole. Messiaen cites an example from the second part of 'Danse de la Fureur' - each bar is a nonretrogradable rhythm, and a fairly common feature of each bar is the central value whose duration is that of five semiquavers (whether it be a quaver tied to a semiquaver or a group of durations, quaver, semiquaver, quaver, respectively). Messiaen points out the parallel between his modes and these rhythms: the modes are realized in the vertical direction (transposition) and the nonretrogradable rhythms are realized in the horizontal direction (retrogradation).

The superposition of rhythms of unequal length forms the basis of early polyrhythm in the music of Messiaen. The barline therefore loses its rôle in outlining the meter. Instead, the barline helps the performer and the analyst understand where the phrases/rhythmic cells

begin and end. If two irregular groups of rhythm are superimposed the end result is that most barlines have tied durations across them.

In the first song of the cycle *Poèmes pour Mi*, Messiaen makes use of a rhythmic canon. The same rhythmic values are used in the same order in each hand (in block chords), but a crotchet apart. Added note values are also included as a variation. Moreover, Messiaen used the canon technique in conjunction with nonretrogradable rhythms, rhythmic pedals, and with the addition of the dot. The rhythmic pedal is a rhythm which repeats itself consistently and without compromise or regard for the time-signature it may be in, or the other material that may surround it. This seems to be one of the earliest rhythmic ideas that is comparable to that of birdsong: many birds are represented with contrasting rhythmic patterns to the other birds that surround them. In 'Liturgie de Cristal', both the clarinet and the violin are required to play 'comme un oiseau'. The rhythmic pedal in the piano gives the illusion of motion by the use of both a rhythmic and harmonic pedal (twenty-nine chord complexes in order, and seventeen separate durational values in order), while remaining essentially static. The effect is one of explicit heterophony.

Not only do the rhythmic values and the small motives of rhythmic cells lend themselves to the music of birdsong; but so do the melodies.

'Certain principles of structure - governing rise and fall, accent and repetition - appeal particularly to Messiaen, and the "line" of a complex bird-song is such that it admits of a highly chromatic stylization. Bird-song is often microtonal, and Messiaen transforms it freely, sometimes even involving it in an implied harmony¹⁰.'

The 'style oiseau', as David Drew has said, satisfies Messiaen's desire for the ornamental, and at the same time it allows him to avoid any harmonic implications if he deems it inessential. Messiaen had a certain infatuation for a number of influences which he either chose to include in his style or disregarded almost completely. It was a combination of these influences, together with his love of the ornamental and, of course, his individual musical character, which led to his increasing interest in birdsong.

Notes for Chapter III

¹ For more information on this subject see Hsu, Madeleine, Olivier Messiaen, the Musical Mediator: A Study of the Influence of Liszt, Debussy, and Bartok, (London, Fairleigh Dickinson University Press, Associated University Presses, 1996).

² Olivier Messiaen Technique de mon Langage Musical, (Paris, Leduc, 1944).

³ It is interesting to be aware of the fact that although Messiaen was severely opposed to the members of 'Les Six', their supporters and jazz music, the added sixth chord is a common feature in both these opposing styles of composition

⁴ Technique de mon Langage Musical, op. cit., p47 (text version).

⁵ Paul Griffiths, 'Poèmes and Haikai: A Note on Messiaen's Development', Musical Times, (September 1971), pp851-852.

⁶ For a useful source and a wider understanding of Messiaen's use of colour, see Bernard, Jonathan W, 'Messiaen's Synaesthesia: Correspondence between Color and Sound Structure in His Music,' Music Perception, vol. 4, (1986), pp41-68.

⁷ See preface to the score.

⁸ Tanneguy de Quénétain, 'Messiaen: Poet of Nature', Music and Musicians, (xi/9, May 1963), p11.

⁹ Claude Samuel, Olivier Messiaen: Music and Color: Conversations with Claude Samuel, (Portland, Oregon, Amadeus Press, 1986), p67.

¹⁰ David Drew, 'Messiaen - A Provisional Study I', The Score, 10, (1954), p44.

Chapter IV: The Notation of Birdsong.

Today, tape-recorders are used as a matter of course. Messiaen never relied upon tape-recorders to transcribe the sounds of birds: it was only his wife, Yvonne Loriod, who occasionally used a tape-recorder so that Messiaen could finish his transcribing at home. The notation of birdsong is very important to the analysis of the birdsong and each bird's intrinsic sound quality. Messiaen has said that in some pieces he has aimed at depicting the actual sound as authentically as possible. Later he corrects himself and says that of course there has to be an element of personal musical preference in forming the end product. Trevor Hold realises this, as he recognises that many of the early transcriptions use mode 2 of Messiaen's limited transpositions.¹ Authenticity became subordinate to timbral representation and rhythmic freedom.

There are several factors that make it impossible to recreate the exact sound of birdsong. The first point is that man's hearing is inadequate for this task. Even Messiaen, who had a particularly good ear, was able to write only one bird's song at a time. Of course birds sing extremely fast; once one phrase has been notated, the bird is already on to a second or subsequent phrase. Birds sing at a very high pitch: the songs of most Passerine species, for example, average around 4000 Hz (vibrations per second), which is around the highest note of the piano². In fact, in A.R. Brand's researches, the highest pitch of the black-poll warbler has been estimated at 10,225 Hz (E8 plus a quarter tone). Frequencies of other birds have been cited up to 17,000 Hz in the laboratory. That being so, the human ear is often unable to distinguish intervals when very high-pitched sounds are sung. In addition,

individual notes in birdsong frequently incorporate shifts (or bends) in pitch. Messiaen would notate one song at a time and construct the next part of the polyphony at a later date. He would have to rely on memory to create a complexity of sound which resembled that which he had heard in the field. Dart (1954) has summarised the evolution of musical notation, from early alphabetic notation through neumatic and proportional transcription to the present-day form of graphic notation. Reference to a bird dictionary gives a basic (non-musical) outline of the sounds that birds produce, their calls and songs. To a musician these would seem rather facile; however, they are important to the basic understanding of the vocal effect of each bird. By using staff notation alone it is impossible to have a clear understanding of the sound/timbral quality. I suggest that Trevor Hold in 'The Notation of Birdsong'³ has a relevant idea in notating birdsong: he would combine quite pointillistic notation with suggestive and onomatopoeic representation. He lists three main types of birdsong notation:

- (1) musical staff notation.
- (2) onomatopoeic/syllabic notation
- (3) a contrived form of graphic notation

Nowadays, we have quite complicated methods that create graphic representations with the use of the Sound Spectrograph and the Melograph. I propose to concentrate throughout the thesis on musical notation, as Messiaen very rarely complemented staff notation with words. More usually, he would talk about timbral complexities, and about the rhythmic and compositional techniques which he used to slow the speed and to lower the pitch, thus bringing the notes within the range of each instrument.

(1) Musical Staff Notation.

Past composers occasionally used birdsong transcriptions in their compositions. Jannequin used birdsong often as a cadential section in the piece of music. In many pieces Messiaen incorporated birdsong into piano cadenzas, as in *The Turangalila Symphony*, *Oiseaux Exotiques* and even in *Sept Haïkai*. Messiaen was fortunate in adopting birdsong, as it often became a source for motivic elaboration and the basis of a formal structure for his pieces. Many of the techniques discussed in 'Technique de mon Langage Musical'⁴ are present in the music of birds. The timbre became the most difficult and sensitive issue. Birdsong was not only used as an ornamental device, as it had so often been before, but the shape of the phrasing, the sounds and the structure were all incorporated in his music.

Charles Hartshorne⁵ has talked about the 'monotony threshold', which in birdsong is passed over when one discovers and analyses its use of pitched and unpitched sounds, repetition of melodic phrases and rhythmic units, the use of diminuendo and crescendo, ritardando and accelerando and a balance between sound and silence. Birds sing in many different tempi. By using a discrete formal structure Messiaen was unable to create these effects. He realized that birds sing extremely fast and he would always slow them down considerably. Quite often by doing this the sound of the song would become unrecognisable. The birdsong was normally too high for western instruments, and yet by putting the songs down three or sometimes four octaves the song became indistinguishable. Slowing the birdsong down enabled Messiaen to measure the relationship of pitch and speed between the various songs he was using. The high and the low notes would all become possible to play. Messiaen at an early stage was looking at

rhythmic ametricality, and the birds were a very good source for motives using this rhythmic freedom. Of course, the added note values and Hindu rhythms were never consciously used by the birds, but Messiaen wanted to follow their natural rhythmic complexity. Birds never sing as part of an ensemble: the dawn chorus is not heard as an homogenous ensemble, but as a continuous cacophony of individual songsters. A classic example of this is the sixth movement of *Chronochromie*, where eighteen individual birds sing simultaneously. Even in the first movement of the *Quatuor pour la Fin du Temps* Messiaen was already writing music which used a continuous heterophonic effect. The end result of a dawn chorus in a piece like *Réveil des Oiseaux* might be what Norman Demuth calls 'impressionistic verism'.

The problem of the notation of birdsong is that however rhythmically free it may be, its tempo markings and the rhythmic values need to be very strict. A. Rößler advises musicians who start to play Messiaen to subdivide the values; she then goes on to say that it would sound unmusical to continue to subdivide. Once the performer has learnt this, it is important that s/he then plays the music as if s/he were improvising. In just the same way, the birds are naturally responding to the other birds or their own instincts.

The problem of choosing the right instruments for the task is a difficult one. Messiaen has said that timbre is the major difficulty. When using the piano, for instance, the glissandi that are so common in much birdsong become impossible. The only way around this is to use grace notes and appoggiaturas. Of course, as Trevor Hold has pointed out, a piano

will never be able to crescendo on one note, produce a true glissando or play intervals smaller than the semitone⁶.

In a bird dictionary, for example, onomatopoeic descriptions of birdsong are not comprehensive enough for complete understanding of the musical content. They are intended as a simple reference guide and not for detailed analytical scrutiny. These descriptions cannot be reliable: like poetry, one can interpret them in many ways - they are subjective classifications. Timbre is particularly difficult to notate, but one way of doing this is to use a syllabic representation of the bird's voice.

It is necessary to slow birdsong down if the western musician is to understand some of its forms and musical syntax. This process reveals several things. First, some western instruments can play the notes to a fair degree of accuracy, albeit with inaccurate timbre, and the notes of some of the high-pitched sounds fall within the range. Second, the unique form of the song can be comprehended by a musician in this slowed-down version. One can recognise the individuality of some of the phrases and motives produced by that bird. The blackbird, for instance, sings in a virtually strophic form. There is a series of phrases that are practically the same length, but each phrase is slightly different each time. After the slowing down process it is possible not only to transcribe the song, but also to analyse it just as one would any music that is built up from phrases and motivic repetition.

The skylark often sings a phrase that sounds to the human ear like a high-pitched trill. Once slowed down sixteen times (as David Hindley has done), the song of originally fifty

seconds is written in music that lasts for thirteen minutes⁷. The trill no longer sounds like a trill, but other notes are perceivable. The song resembles a through-composed work that is both complex and very different from the strophic form of the blackbird: it seems to include a series of motivic manipulations and varied repetitions.

(2) Syllabic Notation, or The Notation of Birdsong Using Syllables.

There are two basic forms of syllabic notation. The first uses onomatopoeic mnemonics to describe the ‘jizz’⁸ of birdsong, and the second employs staff notation. Onomatopoeia is often found in early English literature. There is much reference to the nightingale: for instance, in Elizabethan work, the ‘jug-jug-tereu’ phrase was often employed when representing this bird in Lyle, Barnfield and others. In a non-literary context, Garstang in ‘Songs of The Birds’⁹ (1922) mainly uses onomatopoeic renderings of birdsongs and phonetics. Stanley Morris’s book ‘Birdsong’¹⁰ (1925) is still a useful resource: his glossary offers the following delineations when deciphering the various accents found in birdsong:

- (a) Unmarked vowels retain their short sound (bad, bed, bid, bot, but)
- (b) Long vowels are marked with a ‘-’ (mate, mete, mine, mote, mute)
- (c) An acute accent over a syllable denotes accentuation cúck-coo)
- (d) i) A dipping slur denotes an upward inflection
ii) A rising slur denotes a downward inflection

The major disadvantage of onomatopoeic and syllabic notation is that each bird varies in timbre and in pitch from one country to another, and also varies from one time of the year

to another. Another problem with Morris's and Garstang's notations is that rhythms and speeds are never discussed. We cannot entirely rely on verbal description - it is far from accurate. Messiaen indicated the timbres of each bird by his orchestration, choice of instrument(s), harmonic colouration and Italian terms of articulation, rather than by adding onomatopoeic or syllabic annotations to each note. Gladys Page-Wood was quite radical (see T. Hold 'The Notation of Birdsong'¹¹) in her efforts to notate birdsong: she tried to imagine a human scale that was in fact broken into microtones. The five-line staff was extended into several other divisions and speeds were illustrated by commas at the distance of every second. She showed timbre by means of colour, a method used particularly by Messiaen for the same purpose. The colours added to some of the scores are inevitably subjective and lend a mystique to the interpretation of the music - as we can see in the articles by Lyle & Wilson (1982) and Jonathan W. Bernard (1986)¹². However, although this method is one of the first attempts to categorise timbre in birdsong (many ornithologists and ethologists¹³ have avoided this topic), the theory would need to be more systematic to work, and a great deal of care would be required in choosing the correct colours for each sonority. For instance, there is no clear reason for using grey and browns to signify sounds similar to that of a soprano, or, indeed, a shade of green to represent the chiffchaff. It might be said, therefore, that the use of colour can be interesting, but it can never be reliable.

The ornithomusicologist Peter Szöke in 1969¹⁴ made some very sophisticated transcriptions of birdsong, adapting the various notational symbols used by Kodaly and Bartok in their Hungarian folk-songs. To obtain the notation he has mechanically slowed

down the songs, sometimes by a ratio of 1:10 or even by 1:25. This process is called 'sound microscopy'. However, Szöke still made no attempt to represent timbre. It is interesting to note that Messiaen, using only a pencil and manuscript paper, could slow down the songs only after he had notated them in the field. He was able to slow them down by doubling or tripling the rhythmic values, but his changes of tempo for different birds seem often to have been based on guesswork. Perhaps at source he attempted to write exactly what the bird had vocalised, but inevitably he both added ideas of his own and made errors based on the intrinsic limitations of human hearing and memory. As Trevor Hold advises,

'Behind the whole question lies this important factor:
the inadequacy of man's hearing.¹⁵'

It is also important to remember that each birdsong often falls into a number of rhythmic patterns that are entirely different from the other songs which are simultaneously audible: as a result, not only is it hard to differentiate one song from another, but it is also difficult to choose a single form of notation which can represent the full range of rhythmic complexity.

(3) Contrived Forms of Graphic Notation.

The problem of birds singing with indeterminate pitch is that western notational methods have difficulty in relaying the information. Stadler and Schmitt in 1914 realized this, and discovered that perhaps the answer lay in the addition of certain symbols (see T. Hold's 'The Notation of Birdsong') to represent the following indeterminate sounds:

- (a) The roller, the shake
- (b) For tones with a strong chattering of non-musical sounds
- (c) Sounds that are non-musical
[ex IV/1]

None of these methods fully solves the problem of timbre yet, as Pierre Boulez says,

‘ on its own timbre is nothing, like a sound on its own is nothing¹⁶’.

In order to suggest the timbre of a particular birdsong, phonetic impressions were often used - this was especially useful in the field, even though precise pitch was not normally represented by this method.

A. A. Saunders¹⁷ used horizontal axes to represent a period of time and vertical axes to represent relative pitch: each line was equivalent to a semitone. The thickness of the line indicated the dynamics, and timbre was shown by descriptive, subjective terms such as ‘buzzing, warbling, flute-like sonorities’ etc. It is interesting that Trevor Hold values highly Saunders’ theories of notation: he recommends these subjective, introspective suggestions, similar to those used by Messiaen himself.

Ultimately, the notation that most clearly describes the unique quality of each bird sound is to be preferred. As mentioned earlier, each bird’s phrases change regularly. The basic phrases that are so characteristic of that bird also need to be customised by means of ‘motivic classification’ tables in order to understand that bird’s particular phraseology.

The methods already described ('syllabic', 'staff' and 'specially invented graph notations') may be classified as 'subjective'. This being so, the sound spectograph may be classed as 'objective'.

Sonagrams.

Sonagrams provide information, in graphic form, about the relative differences in sound pressure between the pitches in a strophe. Unfortunately, the information on stress, accent and rhythm is lost once the results have been 'pruned' - that is to say, when the excess information has been excluded.

This visual representation has its restrictions. The Sonagram displays the song 'objectively', displaying its frequencies. Later (c1970), the 'Melograph Mona' was used. Originally named because of its ability to analyse monophonic birdsong, it gives an 'objective' and easily interpreted graphic display of the main properties of the vocalisations, showing both the frequencies and the pressure levels [see IV/2¹⁸]. This flexible device also covers a large range of pitches. Frequency alterations, attack and silences are continually written as two lines. The most important development from the sonagram is the use of the 'octave' or 'variable' filter which isolates the fundamental melodic line¹⁹. Indeed, Messiaen in the *Catalogue d'Oiseaux* writes many phrases where one voice or part is dominant.

Nowadays, a computer is able to do the same thing. With the help of a sound technician, I have been able to record the song of a blackbird from a CD, eradicating the unwanted, blurred patterns of background noise. In order to make sense of these graphs, it is important to interpret the song and make suitable changes from a musical and objective point of view. To do this, the transcriber should be familiar with frequency charts of birdsong made on a computer programme; one can then make the necessary decisions to be able to interpret the original notation that the Sonagram has produced. For instance, if one records an electronic piano into a midi-interface on a computer and asks for an exact musical notation, each crotchet that is slightly out of time may be written as a crotchet tied onto a semiquaver. Quantization would not be a helpful tool, as the exact durations need to be written down: however, the time-signatures should be omitted and the length of each bar should be chosen according to the specific phrasing and accents of the song. Likewise, glissandi and microtones would not be picked up by this system: these effects would have to be added. Overtones and harmonics might be included if they served a significant part of the birds' timbral expression, while notation might have to be done on a second stave if a particular phrase was overlapped by motives or exclamations. The use of the computer/midi interface represents a further advance in transcribing the songs of birds.

However, it is important to note that 'objective' analysis of this kind reveals the sound that is actually produced and not the sound that one hears. As Brémond points out,

'it has...been shown that frequencies themselves are often not the most essential properties of a vocalisation but the form and length of, or lapses between, its phrase or notes²⁰'.

Perhaps it is more revealing to cite the principal features of birdsongs rather than use complex graphs. It would go against Messiaen's principles to involve such mechanical devices in order to produce more 'authentic' transcriptions, but it is interesting that ornithologists of high repute use similar subjective 'aide memoires' in order to understand the 'jizz' of particular birdsongs. Trevor Hold has decided to use a combination of techniques in the field; in the same way, Messiaen uses staff notation, onomatopoeia, specific articulation, subjective responses and dynamics to capture the character of birdsongs.

Notes to Chapter IV

- ¹ See Trevor Hold's article, 'Messiaen's Birds', Music and Letters, Vol. 52, no. ii, (April 1971), pp113-122.
- ² For more information on the songs of Passerine birds see A. R. Brand's article, 'Vibration Frequencies in Passerine Bird Song,' Auk, 55 (1938) pp263-268.
- ³ Trevor Hold, 'The Notation of Birdsong: A Review and Recommendation', Ibis, 112, (1970), pp151-172.
- ⁴ Olivier Messiaen, Technique de mon Langage Musical, (Paris, Leduc, 1944).
- ⁵ Charles Hartshorne, Born to Sing, (London/Bloomington, Indiana University Press, 1973).
- ⁶ Trevor Hold, 'Messiaen's Birds', op. cit., p116.
- ⁷ See David Hindley's article 'The Music of Birdsong', Wildlife Sound vol.6, no.4 (1990), pp25-33.
- ⁸ This odd term, 'jizz', is used by Trevor Hold throughout his article 'The Notation of Birdsong', op. cit., when describing the 'essential shape' of a particular bird vocalisation.
- ⁹ Walter Garstang, The Songs of the Birds, (London, John Lane - the Bodley Head Ltd., 1922).
- ¹⁰ Stanley Morris, Birdsong: A Manual for Field Naturalists, (London, Witherby, 1925).
- ¹¹ 'The Notation of Birdsong', op. cit., p160.
- ¹² For more information on the relationship between music and colour, see Wilson Lyle, 'Colour and Music: An Introduction,' Musical Review, 43 (1982); and Jonathan W. Bernard, 'Messiaen's Synaesthesia: Correspondence Between Colour and Sound Structure in his Music', Music Perception 4, (1986).
- ¹³ An ethologist studies animal behaviour, especially in the wild.
- ¹⁴ P. Szöke, W. Gunn & M. Filip's article, 'The Musical Microcosm of the Hermit Thrush', Studia Musicologia Academiae Scientiarum Hungaricae II (1969), cited in Trevor Hold, 'The Notation of Birdsong: A Review and Recommendation', Ibis, vol.112 (1970), pp151-172.
- ¹⁵ Trevor Hold, 'The Notation of Birdsong: A Review and Recommendation', Ibis (1970) p151.
- ¹⁶ Taken from Pierre Boulez, 'Timbre and Composition - Timbre and Language', Contemporary Music Review, vol. 2 (Harwood Academic Publishers, 1987), p166.
- ¹⁷ A. A. Saunders Bird Song, (New York State Mus. Handbook 7, 1929); and Guide to Bird Songs (New York, Doubleday & Co., new Ed. 1951).
- ¹⁸ This diagram is taken from I. Hjorth's article, 'A Comment on the Graphic Displays of Bird Sounds and Analyses with a New Device, the Melograph Mona', Journal of Theoretical Biology, vol. 26 (1970), pp6-7.
- ¹⁹ For more information on the 'Melograph Mona', see Ingemar Hjorth's article, op. cit., pp1-10.
- ²⁰ J.C. Brémond's chapter in the book, Acoustic Behaviour of Animals, (New York, Elsevier Publishing Company, 1963), pp709-750.

Chapter V: Characteristics of 'Le Style Oiseau' in Works 1932 ~ 1948.

For the purposes of this research, use of the term 'le style oiseau' is limited to instances of birdsong style in early works, where each appearance of this technique is not affixed with the name of a particular bird. Messiaen frequently did not label passages 'style oiseau', although my contention is that many episodes display birdsong characteristics. The majority of the birdsong material incorporated in early works is written in a single-line texture (monophonic) or in octaves. Many of the techniques described and annotated in Messiaen's treatise, 'Technique de mon Langage Musical', are frequently used in early works, but are also found in sections utilising 'style oiseau'. The added note values, for example, almost immediately give the bird style a sense of rhythmic freedom. Free multiplications are incorporated on many occasions: the birdsong is expanded by the addition of small fragments (of various sizes) to a motivic cell. The use of prime numbers is also prominent in rhythmic groupings of 'style oiseau' phrases, as well as in non-birdsong material.

The first appearance of 'le style oiseau' must be credited to *L'Ascension* (1932-3), where Messiaen does not categorise the passages as such; the melodic lines include trills and repetitions of small fragments, both of which are common features of birdsong [ex V/1 - *L'Ascension* p6, s2, b3]. In Movement II, the cor anglais, oboe, flute and clarinets - in the orchestral version of this piece - play phrases that are interwoven with each other, and the rhythmic freedom of the movement suggests birdsong. The trill played by the cor anglais develops as a result of the same two notes being repeated with a dotted rhythm. This

effect has been used in romantic/classical pieces with quavers that gradually accelerate into semiquavers and finally a trill; however, use of dotted rhythms creates an energetic effect, more akin to birdsong. Many more examples of bird trills can also be found in later works, for example *Réveil des Oiseaux* [ex V/2 - *Réveil des Oiseaux* p7, s2, b1].

Poèmes Pour Mi (1936), a work that musicologists have not previously discussed in terms of birdsong, displays the composer's affection for it in his love of rhythmic freedom. A brief episode in the fourth song of the cycle, 'L'Épouvante', features a Lisztian, 'chattering' sound in the piano part [ex V/3 - *Poèmes Pour Mi*, Book 1, p13, s5, b1], and the postlude to 'Ta Voix' includes a motive that is very similar to the Boris Godunov theme, [ex V/4 - Book 2, p6] which (like the trill) begins with a slower rhythm and increases to sextuplets. A high-pitched group of pitches in 'Les Deux Guerriers' sounds similar to the high chirp of a bird like the sparrow [ex V/5 - *Poèmes Pour Mi*, Book 2, p9, s2, b3]. Even in the work, *Les Corps Glorieux*, Messiaen includes high-pitched grace notes, which are yet again a common feature of many birdsong phrases. [exV/6 - *Les Corps Glorieux* - Book 3 - p8, s4, b1]. There is also the point that slowed down birdsong may often be similar in nature to speeded up plainsong, especially when there are repeated 'anchor' notes.

In the organ work, *Nativité du Seigneur* (1935), brief appearances of 'style oiseau' can be found. In the second movement, 'Les Bergers' [exV/7 - Book 1 - p5, s5, b1], the organ specifications of the Salicional on the Positive and an 8' Bourdon on the Great help depict both the sonority and the melodic effect of birdsong, even though Messiaen may have

done this unintentionally. Robert Sherlaw Johnson cites this movement, as it employs birdsong sonorities; but the main theme of the movement is meant to represent a shepherd playing his pipe¹. The third main theme of the last movement, 'Dieu Parmi Nous', is described by Messiaen in 'Technique de Mon Langage Musical' as being 'a Magnificat, alleluiatic praise in bird style' [ex V/8 - 'Dieu Parmi Nous' (Book 4) p2, s4, b1-2]. This curious adjective 'alleluiatic' is used by Charles Tournemire (1870-1939): indeed, his spiritual nature and experimental approach to organ registration - especially in relation to his monumental 'L'Orgue Mystique' (1932) - show a clear influence on Messiaen's philosophical and musical world.

Quatuor pour La Fin du Temps (1941)

Perhaps it was the composer's situation of confinement, and the fact he had no idea for how long he was to be imprisoned, that led to the title of this Quartet. Certainly, the choice of instruments was due to the musicians available at that time. The title can be interpreted as 'Quartet for the End of Metre'; as Roger Nichols says of this work, 'bar lines are often no more than aids to ensemble and a means of reducing accidentals.'² The title is in fact derived from a passage in the apocalyptic 'The Revelation of St. John the Divine', chapter ten, verses five and six: the Angel lifts his right hand heavenwards, vowing that there shall be no more time.³ The use of four instruments makes it easier for the composer to incorporate an extensive use of polyrhythmic structures. Messiaen also includes quite sophisticated use of rhythmic pedals, Hindu rhythms, added note values, augmentation and diminution, non-retrogradable rhythms and birdsong.

The phrase 'comme un oiseau' is used for the first time in the Quartet. Both the clarinet and the violin in the first movement, 'Liturgie de Cristal', play bird-like phrases: the names are not given in the score but, in the preface, they are attributed to the improvisations of the blackbird and the nightingale between three and four in the morning. The repetitive high-pitched semiquavers (all on the same note) are similar in nature to the more sophisticated rendition of the nightingale in *Réveil des Oiseaux* [*Quatuor* p1, s2, b1 & *Réveil des Oiseaux* p1, s2 b1]. The motives of the violin part (nightingale) are limited, and can be put into four categories, as follows:

- 1 three semiquavers, followed by eight/ten demisemiquavers
 - 2 'scandicus'
 - 3 repetitive high-pitched tritones (demisemiquavers)
 - 4 extended version of 2
- [ex V/9]

The beauty of the nightingale's song is not found in its rhythmic or melodic invention, but rather as a result of its immense power, tone and, as can be seen in later portrayals, its ability rapidly and easily to change tempo, articulation and dynamic. In fact, in 'Traité de Ryhme, de Couleur, et d'Ornithologie'⁴, Messiaen divides the nightingale's song into eight principal motives. The repetitive high-pitched tritones (3) are described as two disconnected notes, creating a 'drumming' effect: as mentioned earlier, this ubiquitous feature may be better referred to as an 'alternator'. The repeated demisemiquavers (1) are here labelled as 'rapid trillings on one note', often described as a 'machine-gun' effect by ornithologists. Similarly, the frequent three-note rhythmic cell (2) in analyses of later works may be classified as the 'quartet' rhythm or scandicus.

The clarinet part (blackbird) is slightly more complex. The first phrase can be regarded as a microcosm of the full gamut of rhythmic and melodic phrases given to the clarinet in this movement. The first three notes are syncopated - this is developed into a longer phrase. The trill, too, can be prolonged into four crotchet beats in length [see p4, s1, b1]. The final two staccato semiquavers are also extended to three [p3, s2, b1], while the triplet semiquavers are often followed by the characteristic use of two staccato semiquavers [p1, s2, b1]. However, there are four other characteristics that are included in the clarinet part:

- 1 four quavers [p1, s1, b3]
- 2 grace notes [p5, s1, b2]
- 3 paired grace notes ('deux en deux') [p5, s1, b2]
- 4 two 'climacus' cells, chromatic ascending flourish [p6, s1, b2]

Not only does the characteristic sound of each instrument help the listener to identify the two birdsongs, but there is also sufficient differentiation between the phrases to make a clear distinction.

The third movement of the Quartet is entitled 'Abîme des Oiseaux'. Messiaen gives the performer no clue as to which bird s/he should attempt to mimic⁵: the clarinet part seems to be an amalgamation of several features of 'style oiseau', and the movement incorporates many birdsong characteristics which express Messiaen's rhythmic, melodic and ornamental preferences. The first section begins with a version of the Boris Godunov theme - F#, Bb, A, C and back to F#. The next bar adds the notes G and A as 'neighbour notes' and again resolves to the first F#. The rhythm is a typical example of Messiaen's use of added note values. The F# is taken up an octave and resolved in the regular Messiaenic way (as in the perfect chord) to the C Natural. 'Le style oiseau' begins at the

'Presque Vif' section. Features of birdsong similar to those in the first movement also appear here:

- 1 two high-pitched staccato semiquavers (with three preceding demisemiquavers) [p15, s5, b1]
- 2 trills (usually preceded by a grace note) [p15, s8, b4]
- 3 semiquavers (the first four slurred and rising, others staccato) [p15, s4, b3]
- 4 ascending/descending flourish [p15, s7, b2]
- 5 trill (slowing down) [p16, s5, b2]
[ex V/10]

Primarily, the third movement describes the 'abyss of Time, its sadness and its weariness'. In complete contrast to this, the birdsong displays timelessness, the desire for light, the stars and heaven's riches. The dramatic changes in tempo mark this difference and give the birdsong even more sense of rhythmic freedom. It is important to note that the trills and the motive of the three semiquavers (followed by two high pitched staccato semiquavers) are often found in Messiaen's scores, even when they are not credited as 'style oiseau'. Contained within the birdsong are durations which are adjusted by adding and subtracting a semiquaver, and a few occurrences of non-retrogradable rhythms. Similarly, in the next movement, 'Intermède', there are many references to:

- 1 trills (preceded by a grace note) [p19, s5, b2]
- 2 three semiquavers, followed by two high-pitched staccato semiquavers [p18, s4, b3]
- 3 ascending flourish [p18, s3, b5]

Movement seven, 'Fouillis d'Arc-en-ciel, pour l'Ange qui Annonce la Fin du Temps', includes a brief suggestion of five 'chirping' sounds, created by five high-pitched notes with preceding grace notes: although written as grace notes, they may be described as

iambic cells [ex V/11 - p49, s2, b2-3]. In conclusion, the blackbird's theme of the first movement - whether these appearances are labelled 'style oiseau' or not - is prevalent throughout the work in an episodic fashion.

Visions de l'Amen (1943)

The duet for two pianos, *Visions de l'Amen*, marks the beginning of a new period in the composer's output, in which the piano is to take a rôle of paramount importance. One of Messiaen's first pupils at the Conservatoire was the pianist Yvonne Loriod (who became his second wife), whose exceptional technique and virtuosic capabilities influenced the composer to write such a demanding, original and exploratory work for two pianos. The duet is on a grand scale, exploiting entirely separate rôles for each part. The first, written for and played by Yvonne Loriod, is both rhythmically and harmonically complex, displaying a decorative nature and featuring the distinctive timbres of bells and birdsongs (labelled or otherwise). The second, originally played by Messiaen, is predominantly lower in register and holds the principal themes, rich harmonies and a sympathetic seductiveness. The two parts complement each other: as Messiaen says, 'I have entrusted to the first piano the rhythmic difficulties, the chord-clusters, everything that involves speed, charm and sonority. I have entrusted to the second piano the main melody, the thematic elements, everything that demands emotion and power.' The themes are cyclic in nature: they recur on many occasions, giving overall unity.

Rhythmic pedals appear on numerous occasions throughout the work. Many appearances of t̃ala or t̃ala-like rhythms are introduced: the first is attributed to Sharngadeva, the second is a non-retrogradable rhythm by Messiaen, and the third is a double rhythmic pedal based on Greek rhythms. The use of asymmetric rhythms and bird style may justify Roger Nichols' comment that the work is a 'celebration of personal freedom', although it may only be a rhythmic freedom.

Visions de l'Amen is another example of a piece where Messiaen uses techniques that in later works would be more specifically associated with named birdsong or 'style oiseau'. As an analyst, one must first exclude passages that simply use added note values, and second, the passages that are high-pitched: although these qualities are both intrinsic to birdsong, they are also regularly used in all of Messiaen's music.

There are many occasions in *Visions de l'Amen* where the composer interrupts the main texture with bird-like calls, phrases so short that they cannot be classified as birdsong. Such examples can be found in the second movement, as follows:

ex V/12 a - p8, s1, b2
ex V/12 b - p8, s2, b3

The same 'call' motive appears at several intervals in this movement, and manifests itself in two separate forms: notably, (1) in close succession using identical chords, and (2) in straight semiquavers, employing very different chordal complexities [ex V/13 & ex V/14 - p9, s3, b1-2 & p19, s2, b2].

The rhythm and grouping of the semiquavers can be likened to the song of the woodlark in *Réveil des Oiseaux* - if we ignore the fact that harmony is used in example V/14. The ostinato dectaplet demisemiquavers in the 'Moins Vif' section of this second movement include grace notes, repetitive B naturals and cretic cells in a section that lasts for thirty-four bars, concluding with the 'Au Movement' which begins with three call motives [p15, s1, b1; p15, s1, b2 & p15, s3, b2].

Even the high-pitched demisemiquaver passage in the 'Très Lent, avec Amour' section of movement four may feasibly be a conscious or unconscious reference to birdsong [p37]. The decorative nature of this top line is similar to that of the whitethroat in *Chronochromie* - although it would be impossible for even a bird to sing, as there are no rests for breathing, only phrase markings. The whitethroat sings many other passages, with the use of varied rhythms and melodic lines; however, the melodic line in V/16 shows twelve continuous demisemiquavers that are high-pitched and may seem to resemble birdsong [ex V/15 & ex V/16].

The fifth movement is specifically intended by the composer to be derived from birdsong - its title is 'Amen des Anges, des Saints, du Chant des Oiseaux'. Most notable in this movement is the use of grace notes: there are several passages that employ this effect, and one example is shown in ex V/17.

The high-pitched, climacus grace notes (in both the piano parts) that occur immediately after the first example above, glisten one after the other: the effect may be said to sound like a conversation between several birds [p51, s3, b1-3]. It can be argued that the earlier motive employing chromatic falling clusters (like a call) is used later in this movement, but in this case with the rhythm: demisemiquaver, double dotted quaver. The first time (in the entire work) Messiaen uses the expression 'comme un oiseau', he includes the words 'clair, libre et gai'/'light, free and cheerful'. The seven motivic features of this birdsong section in movement 5 are:

- 1 four demisemiquavers (with grace notes) [p56, s3, b4]
- 2 syncopation (with grace notes) [p56, s2, b1-2]
- 3 extended trills [p57, s3, b1]
- 4 repeated notes (semiquavers) [p57, s3, b2]
- 5 alternator with four preceding demisemiquavers [p56, s3, b3]
- 6 staccato triplets with four preceding climacus cells [p57, s1, b4]
- 7 the previous 'call' theme [p58, s3]

The previous iambic call theme takes on a life of its own, as it marks the climax of this section [p64, s2, b3] and the final 'resonance' to conclude the movement. These virtuosic representations of birdsong are no more advanced than those in the *Quatuor pour la Fin du Temps*: their use is for symbolic reasons rather than for an effect of precise imitation.

Vingt Regards sur l'Enfant-Jésus (1944)

This epic work consists of twenty pieces for solo piano and lasts for approximately two hours. The complete work is coherent to the listener for many reasons. Messiaen's

distinctive use of harmony, modality, chromaticism, non-retrogradable rhythms and the 'agrandissement asymétrique' technique⁶ (for example) which may seem dislocating to the listener at the time, is counterbalanced by intermittent diatonic passages: in fact seven of the movements have the tonal centre F# major. The cyclic principles are manifested in themes and 'leitmotifs'. Some of the slow movements display a beautiful, reflective tenderness, contrasted with faster sections that exhibit the exuberant virtuosity of the pianist, and the full gamut of timbre, colouration and range. Inspiration primarily springs from the composer's admiration for Yvonne Loriod and religious texts. The word 'regard' literally can be translated as 'look' or 'gaze': the latter is more apposite in this case, as it involves wonderment as well as inward contemplation, and because some of the pieces are inspired by visual art, including a tapestry representing Christ on a horse ('Regard de l'Onction Terrible'), the Virgin kneeling in prayer ('Première Communion de la Vierge') and the child of God embracing St. Thérèse of Lisieux ('Le Baiser de l'Enfant-Jésus'). The work is also influenced by theologians: St. John of the Cross, Dom Columba Marmion (author of 'Christ and his Mysteries'), Maurice Toesca ('Les Douze Regards'), and the four Gospel writers.

In comparison with Messiaen's immediately preceding compositions, a striking transformation is found in the use of birdsong, which instead of a merely decorative function takes on much more of a soloistic rôle. There are a great number of passages that are not only specified as 'comme un oiseau' but also named with the exact bird; therefore, it would be unreasonable to consider all the bird-like sonorities and influences that are not categorised by the composer in such a substantial work. Messiaen does not limit his

symbolisation to that of birds - several other phrases are written into the score, amongst which are: 'comme des cloches', 'comme la foudre', 'le Jardin'.

The first use of birdsong appears in the third movement, 'Regard de la Vierge'. The high-pitched exclamation [p14, s2, b4] or 'chirp' seems to introduce later 'interruption calls' [see p14, s3, b1-2]. There are, however, many other occurrences of a very similar sound quality throughout the piece which are not labelled as birdsong. Such examples include:

p15, s3, b3
 p74, s2, b2
 p160, s1, b2

The second appearance of labelled birdsong is found in the fifth movement, 'Regard du Fils sur le Fils' [p19, s4]. Messiaen on this occasion specifies that the sound of the right hand should be 'like the song of a bird'. For that reason, one may be permitted to interpret the line as soloistic, and not simply decorative - especially as the left hand only accompanies with block chords. The 'song' lasts for twelve bars at a swift tempo and is much more realistic than previous representations, as it includes meticulously marked breaths (rests). The notion of freedom seems to be explored not only by the ametric use of rests, but also by the grace notes and the triplet demisemi-quaver/quaver cells: with the use of both systems, some interpretation is necessary. For analytical purposes, the specific rhythms above will be comprehended by the term 'grace note'. The song is built up from several exact motivic repetitions. The features of the birdsong are as follows:

- 1 grace notes
 - 2 triplets, sextuplets and quintuplets
 - 3 grace notes using the intervals major second, major seventh and minor ninth
 - 4 contrast from loco to up an octave
 - 5 single high-pitched note
 - 6 demisemi-quaver-semi-quaver rhythmic cell (iambic)
 - 7 scandicus
 - 8 'climacus resupinus'
- [ex V/18]

The next occurrence of birdsong is again found in this movement, and it includes the same motivic ideas. However, on this occasion, the use of sextuplets evolves into a frenzy of the same rhythmic pattern [see p23, s3, b1] with the repetition of both the same values and notes to mark the end of the birdsong section. This principle is used again, at a higher pitch, closing the movement [see p24, s3-end].

Movement eight, 'Regard des Hauteurs', begins with the inscription - 'Gloire dans les hauteurs...les hauteurs descendent sur la crèche comme un chant d'alouette...', which can be translated as, 'Praise in the heights...the heights descend on the crib like a song of the lark...'. After a short introduction where a repetition of sextuplet demisemi-quaver chordal complexes is vigorously sounded, a short excerpt depicts a single nightingale. Played in octaves, it is so brief and so dissimilar to any nightingale that it is hard to recognise it as such [see p49, s4, b2-3]. However, the repeated G sharps can be interpreted as a common feature of this birdsong: rapid 'trillings' on one note in the medium treble register. If one listens to a nightingale's song in the wild, one may often hear repeated

notes. The effect is usually much faster than the example cited (sometimes like a machine-gun); however, if one works on the assumption that the nightingale sings many phrases that are extraordinarily fast, and that Messiaen slows the phrases down for his own purposes, then perhaps the second two bars are a credible symbolic rendition [see p49,s4,b4]. An example of this from a version of the nightingale's song, transcribed by David Hindley at a quarter of the speed, can be seen in ex V/19.

Messiaen's larks (the symbol for the heights) are depicted by a two-part invention. The right hand's tessitura is particularly high and has a flute- (even piccolo-) like sonority; the left hand is lower and in comparison sounds like a clarinet. Messiaen contrasts a staccato (right hand) with a legato texture (left hand) - the overall effect is of two larks singing to each other. The technique is a much closer approximation to reality than a symbolic stylization: the songs of the larks display the bird's virtuosity as much as they do the pianist's [ex V/20].

The most important features of the right hand's representation of the lark are as follows:

- a) 'paeon IV' (UUU-) [p49,s5,b3]
- b) E natural/Bb - diminishing the interval (in semiquavers) [p50,s1,b1]
- c) repetitive chirp with grace notes [p50,s2,b1]
- d) repetitive B flats [p50,s4,b1 and extended p51, s3, b1]
- e) varied use of semitones [p52,s3,b1 & p50, s3, b3]
- f) trills [p50,s4, b1-2]

The paeonic cell a) in the first instance uses two notes, namely Bb and A natural. Messiaen, in the next bar, substitutes an A natural for the third Bb and includes as the cell's fourth note an Eb. There are several melodic variants that emerge from this cell

alone. The semitone relationship between the Bb and the A natural paves the way for the e) phrase. There are many instances that incorporate repetitive Bb: we find them in the first a) cell, and the Bb is repeated alternately in phrase b); in addition, d) consists entirely of repeated B flats. Therefore, it is reasonable to conclude that the Bb is a 'reference point', or key note, in the right hand. In the right hand, in fact, if grace notes are not included in this statistic, there are thirty-one B flats out of eighty notes in total on page 52. The repetitive 'chirp' subject c) develops in its second appearance, including not nine chirps (as on the first occasion) but thirteen - notice that, in both passages, the minor third repetition changes for the final two semiquavers (which use ascending semitones with grace notes also a semitone away).

The left hand's treatment of the lark incorporates entirely different motives. The main features of the left hand may be categorised as follows:

- a) three grace notes followed by a quaver D natural [p50,s1,b2 & p50,s4,b3]
- b) repeated semiquaver E naturals, followed by a fifth leap [p50,s2,b3 and with grace notes p52,s1,b3]
- c) trills [p50,s5,b3]
- d) Ab - D - G passage, opening with ionic minor (UU--) [p52,s3,b1-6]
- e) semitone movement with grace notes [p51,s2,b1]
- f) syncopated Ab and descending movement [p52,s2,b3 & p50,s3,b2]

The cell a) is a minor feature, occurring twice and not developing. The early appearance of the passage d) is rhythmically simpler, but nevertheless can be expanded: as soon as some rhythmic coherence is detected, the pulse is disturbed. The motive b) first appears as five notes and eventually is also expanded into the elaborate version with added use of grace

notes, as shown above. Just as in the dawn chorus, the birds may start to sing in an episodic fashion and quite quickly develop many of the original motivic and rhythmic cells.

After the 'Vif' section which consists of twelve sextuplet demisemiquaver colour-chords (the groups being an exact replica of each other), there are two bars with the tempo marking 'Modéré'. Although Messiaen does not credit the two bars to birdsong, they include several features, already cited, that are intrinsic to 'le style oiseau'. The next section has the tempo marking 'Trés Vif'. Messiaen writes, 'Le merle et tous les oiseaux'/'The blackbird and all the birds'. The title is somewhat vague; however, it may be possible to interpret this as birdsong style, with a certain affiliation to the sounds specifically associated with the blackbird. There are several factors that make this section a rather approximate rendition in relation to the earlier depiction of the sounds of the lark. There are no breath marks - perhaps if 'all the birds' are singing then they would overlap, but if this were the case there should be many contrasting dynamics, use of a full range of pitch, and many occasions where notes are sounded at the same time. None of these factors is present in this section; moreover, it is entirely written in octaves. The overall effect is more triumphal than natural.

During the 'blackbird section', Messiaen gives many phrases 'reference' points: there are a substantial number of repeated notes in a group of six or seven semiquavers. A few examples of this device are shown at ex V/21.

On many occasions the two repeated notes are at the beginning of each semiquaver group. These recurrent semiquaver groups dominate the 'blackbird section', and the only variety is provided by the 'exclamations' in between them. These 'exclamations' take the following forms:

- 1 two slurred semiquavers (spondee)
- 2 one high-pitched semiquaver
- 3 two high-pitched semiquavers and preceding grace notes
- 4 one semiquaver (lower range)

The final 'Un Peu Vif' section can be likened to a faster version (with semiquavers underneath) of the 'blackbird section', but with no interruptions as listed above (1-4).

Style oiseau sonorities provide almost all the musical ideas for the whole movement. The non-birdsong material is confined to the 'Vif' section and perhaps the final exclamatory 'inferior resonance' at p54, s5, b2-3.

Movement ten, 'Regard de l'Esprit de Joie', introduces (in its second bar) a violent 'interruption call' [ex V/22a - p58, s1, b2]. Messiaen does not indicate 'style oiseau' here; but exact repetitions of this motive recur throughout the movement. The third emergence of this motive is repeated [p58, s3, b2], and the last appearance before the 'Bien Modéré' section uses different notes which nevertheless create an equivalent timbral effect; this climacus cell is repeated eight times in exact repetition [ex V/22b - p63, s4, b1]. The 'Presque Vif' section makes full use of the interruption call, in this case with an altered colouration; in addition, the music in this section as a whole (although harmonic and yet again not labelled 'style oiseau') employs repeated semiquavers, very similar to a motive

'Noël', movement thirteen, may at first glance seem to have no birdsong element, unintentional or otherwise. However, the 'Modéré, un Peu Vif', which occurs after a short introduction depicting the sounds of bells, introduces a phrase in the right hand that is intended to emulate the xylophone. The phrase is shown in ex V/25. This phrase is repeated exactly at various points in the movement, and a manipulated version is also employed towards the end, involving a reorganisation of the original pitches, as in the later representation of the yellowhammer [p96, s3, b2]. The eight repeated semiquavers are also used in the left hand - on this occasion in major seconds, [p91, s4, b1] and transposed down a tone including three semiquavers before them. [p92, s1, b1] Repeated notes are a common feature of Messiaen's use of the xylophone: in *Chronochromie*, for instance, the 'Strophe II' is saturated by sextuplet demisemiquavers that repeat the same note. In this example, Messiaen is depicting a fragment of the nightingale's song. Perhaps Messiaen had these timbres in mind when writing 'Noël' [ex V/26 - *Chronochromie*, p90, b2].

The fourteenth movement, 'Regard des Anges', features specified bird style in its 'Même Mouvement' section. The 'style oiseau' passages are juxtaposed with a rhythmic canon. This section perfectly displays an intrinsic feature of Messiaen's musical style, often referred to as 'block form': the bird-like textures alternate with the rhythmic canon (which is used in a reduced form), creating an effect of durational freedom. The chords of the rhythmic canon begin to form an accompaniment for the birdsong [p103, s3 & p103, s5, b1-3]. The flourishes themselves also follow a regular pattern: each bar consists of two descending flourishes, the first beginning on a B natural, the second on an A natural. The

first and the last notes have accents. The left hand continues to use these motives until the demisemiquaver interlude that precedes two bars of strident chords of resonance and the final 'Bien Modéré' section.

The right hand part makes full use of many typical features of 'style oiseau'. Being much more complex rhythmically, it complements the left hand; as so often where Messiaen uses a time signature, it is there to assist the performer. Numerous motivic aspects are employed in the right hand: (1) the four staccato semiquavers (with the additional quaver) appear on two occasions in their original form [p103, s2, b3], and many times employing a close derivation [p104, s2, b2; p104, s5, b2; p105, s4, b1-2; p106, s2, b2-3]; (2) the second feature of note is the double-iamb followed by a 'spondee' (--) [p103, s3, b1]. When this cell appears the next time, (seven bars later) the quavers are diminished to semiquavers; yet on both occasions, the two E naturals are followed by an accented C sharp. (3) A grace note often precedes a higher pitch. If one may be permitted to term this the 'chirp' cell, then its use may be divided into several categories, as follows:

- a) ending a phrase (often including a G natural grace note); iambic [p103, s3, b3]
 - b) in the middle of a phrase
 - i) repeated; iambic [p104, s4, b3]
 - ii) three grace notes [p103, s3, b2]
 - iii) two grace notes [as before]
 - iv) higher grace note; iambic [p104, s3, b1]
- [ex V/27]

Predominantly, the grace note is lower than its attached quaver, and produces the effect of a 'chirp' rather than a 'twitoo' sonority. Messiaen balances the bird style and divergent rhythmic canon by varying the rhythms. On two occasions (disregarding the grace notes) a bar is built up from four quavers; yet, the next bar is frantic in comparison [p104, s4, b3-

4]. (4) These faster (frantic) phrases take the form of sextuplets, quintuplets, triplets and septuplets: the effect of using divided rhythms is one of urgency and rushing - birds that are smaller and have quicker reactions may seem to sing very rapidly to the human ear.

[p105, s3, b3] The left hand adds to this state of urgency (see the above extract): its continuous flourishes create an ostinato effect and, therefore, it becomes difficult for the performer not to emphasise any given note more than another. (5) The final motive consists of four demisemiquavers. Three examples are shown below:

1 p103, s5, b1

2 p104, s2, b1

3 p104, s2, b3

Examples 1 and 3 include a whole tone descent from Bb to Ab, and example 2 is a common feature: it uses two notes that alternate between one another several times in one cell.

Both the fifteenth movement, 'Le Baiser de l'Enfant-Jésus', and the sixteenth, 'Regard des Prophètes, des Bergers et des Mages', contain elements of 'style oiseau', although there is no mention of this in the score. The first of the two (the longest of the slow movements) includes many high-pitched trills [p110, s4, b1], repetitions of anapaestic cells [p114, s1, b1-2], grace notes with accompanying high-pitched clusters and short semiquaver 'stabs', all of which may suggest a preoccupation with 'style oiseau' [V/28a, b]. The movement as a whole involves harmonic tension and resolution, screaming chordal complexes and even Chopinesque figurations that lead into long flourishes in the right hand. The middle, 'Modéré', section is entitled 'Le Jardin'; however, the birds in this garden are depicted by

repeated semiquavers [p113]. The second of the two movements includes grace notes to be played like an oboe, perhaps reminiscent of the rôle of the unaccompanied cor anglais at the beginning of Act III of 'Tristan und Isolde' [p123, s2, b1], while the penultimate bar is rhythmically complex and again suggests bird style [p127, s5, b2]. The triplet semiquaver cell is a distinctive feature of Messiaen's later use of birdsong: just one example can be seen in *Sept Haïkaï*. [see Haïkaï p99, b2] The grace notes in parallel only add to the 'style oiseau' effect. [exV/29 - *Vingt Regard sur L'Enfant Jésus* p127, s5, b2].

The seventeenth movement, 'Regard du Silence,' has a number of bird style events, although they are not credited as such by the composer. The first appearance can be found in the form of an interruption call [p129, s4, b4]: it involves a chordal complex and grace notes. This feature saturates the movement. Not only does it manifest itself in the 'Bien Modéré' section as a semiquaver/quaver rhythmic cell (iambic) [p129, s5, b3], but it also occurs regularly in the right hand part, before major seconds [p133, s4, b1 and 2] in the 'Modéré, Presque Vif', and before high-pitched repetitions of the same note [p135, s2, b2]. The 'Modéré, Presque Vif' section uses many semiquaver flourishes that, first, gradually descend [p130, s4, b1], and, second, use an ostinato that involves crossed hands, both of which 'vibrate delicately like spiders' webs'⁷. The main bird style feature is the repetitive C sharps [p132, s2, b2]; however, the coda uses the polymodality of the introduction, in altissimi, chords alternating between the two hands. One can interpret the passage in terms of light; yet the overall effect sounds rather like the chattering of a

chaffinch, especially as it slows down towards the end of the movement, breaking into colourful grace notes.

Two aspects of the eighteenth movement, 'Regard de l'Onction Terrible,' are of notable importance in relation to birdsong. The first is found in the grace notes which produce interesting harmonics in a quasi-glissando [p141, s4, b1]: rapid, ascending notes clash with one another in parallel motion. One can even find the same effect, but in descent, in 'Le Lorient' from the *Catalogue d'Oiseaux* ['Le Lorient', (*Catalogue*) p2, s2, b1], when Messiaen is depicting a certain characteristic feature of the robin. The second feature is found in the composer's repetitive use of white piano keys in chords, which have a machine-gun-like velocity - a phrase often used by ornithologists when describing the song of the nightingale [ex V/30 - p144, s4, b1].

The final epic movement, 'Regard de l'Eglise d'Amour', begins with a 'sheaf' figure in contrary motion. The cretic rhythms which interrupt the three opening flourishes are gradually extended until the first appearance of the 'Thème de Dieu' ('Theme of God') in B major. This announcement concludes with an interruption call, followed by a low, 'rumbling' percussive effect in the lower regions of the piano's register which amplifies the aforementioned high-pitches, creating a colourful resonance. The 'Vif' section that follows is a lengthy transpositional passage: the melodic permutations in the right hand are juxtaposed with an asymmetric expansion in the bass. Although the passage is somewhat clouded by the extensive use of the pedal, a menacing effect is produced, also involving a bird-like quality, especially as the melodic permutations are raised an octave and the leaps

are at a rapid tempo [see p159, s4, b2]. The second appearance of the 'Theme of God' in Db major is interrupted by a very brief 'Bien Modéré' section which includes a flourish, followed by grace notes and alternating major seconds, and finally an interruption call. Later (p161), the 'Très Modéré' section begins with strident chords (like bells), the 'Thème d'Accords' ('Theme of Chords') and chords in 'transposed inversions'. Call-like exclamations appear in each bar, emphasising the power of each chordal complex. When the 'Theme of God' occurs in its complete form, in F# major, it is written in a style that Messiaen describes as 'brass fanfare'. Messiaen also tells us that cymbals, tam-tams, bells and birdsong are included here. Before Messiaen credits the birdsong in the score, the exclamations break up each appearance of the 'Theme of God'. When the composer eventually credits a cell that may be categorised as an 'interruption call', it is non-diatonic and preceded by three bars of complex 'style oiseau'⁸ [p173, s2, b3], in which the left hand begins with a repetition of the triplet cell [ex V/31a]. The triplet is then altered to a sextuplet, where the three notes are transposed up a semitone on two occasions, and the phrase concludes with an ascending chromatic scale. The right hand for the first of these three bars also repeats itself: the phrase becomes more frantic as it plays (in octaves) repeated E flats and accelerates towards the exclamation, which is the interruption call. Later, the diatonic exclamations are repeated one after the other.⁹ The high C sharps are prominent and sound like a 'chirp', and the other notes deepen the quality of their timbre. In addition, diatonic interruption calls break up the repeated 'Theme of God' chords [ex V/31b - p173, s4, b1-2].

The grand coda on the 'Theme of God' displays the triumph of love and tears of joy: as Messiaen might say, all our passion embraces the invisible. The penultimate bar, after a striking F# chord with an added sixth, includes (as its resonance) an interruption call, until a flourish of bass notes that rumble in the distance brings the work to a close.

It should, therefore, be clear that in a comparatively early work many of the general characteristics of later bird style are present. Trills and interruption calls are frequent, but the repetitive nature of many phrases (especially the reorganisation of short motivic cells), the high pitches, and the rhythm of many passages may be seen as building blocks for Messiaen's later birdsong representations.

Harawi (1945)

This demanding work for soprano and piano is subtitled, 'Chant d'Amour et de Mort', and is the first part of Messiaen's 'Tristan' triptych - the other two being the *Turangalila-symphonie* (1946-48) and the *Cinq Rechants* (1949). The subtitle is derived from the title, which is a 'Quechua' word from the Peruvian dialect for a love song which ends with the lovers' death. The poems are of a surreal nature, written by Messiaen himself and possibly influenced by similar writers, notably Béclard d'Harcourt who was in the forefront of the composer's mind at the time.

Messiaen structures the piece cyclically, but arranges the movements symmetrically, with the exception of the opening movement, 'La Ville qui Dormait, Toi', which acts as an

introduction. The piano takes on an immense rôle, and together with the soprano it undertakes an adventure of the surreal. As in the 'Trois Petites Liturgies de la Présence Divine', many devout Catholics may feel uneasy with Messiaen's exploration of the passion of human love: the music's intense spirituality dramatically displays moments of hypnotic sensuality.

The second movement, 'Bonjour Toi, Colombe Verte', reveals the image of the mythical green dove which represents the 'limpid pearl', 'parted clouds', 'interlocking stars', and birdsong. The piano accompaniment in the opening moves in chords in the left hand, and the rapid arpeggio triplet demisemiquavers in the right hand lead onto ten 'tweeting' high-pitched F sharps [p4, s1, b1-2]. The 'comme un oiseau' sign is first shown in the 'Un Peu Vif' section. Above a sustained Eb major broken chord, the song begins with two 'chattering' groups of grace notes, followed by the first main feature [p5, s2, b1]. (1) This feature, in which semiquavers predominate, begins with a D natural and ends with an F: the other four semiquavers are B naturals. The repetitive B's are reminiscent of the high F sharps at the beginning of the movement. This cell is manipulated in various guises, as follows:

- a) using more B's and F's [ex V/32]
- b) in transposition [ex V/33]

(2) The second motive consists of two semiquavers (A natural and B natural) and two quavers (an accented G# and a D#) constituting an ionic minor rhythm [p5, s2, b2 & p5, s4, b1]. At the close of the first birdsong section, the first quaver duration is diminished, leaving an iamb. The G#/D# cell is altered to G#/D natural, and after a flourish, this

rhythm appears again, sounding two C naturals ¹⁰ [p6, s1, b1]. (3) The third motive begins with two demisemiquavers, E and C. Each of these two notes moves up or down two semitones and finishes with a loud high-pitched A natural. With the exception of the first motive, each group of semiquavers or demisemiquavers in this first section begins with a descending major/minor third, three examples of which are shown at p5, s3, b2.

(4) The fourth feature is an accented high-pitched quaver, which breaks up the semiquaver or demisemiquaver flourishes: the quaver may have a preceding grace note [p5, s4, b1].

(5) The next feature begins each group of semiquavers with the notes E natural, C sharp, C natural: two examples of this are shown in the examples below at p5, s3, b2.

The middle group of the semiquavers is very similar in structure to motive 3: the highest note (a D) is repeated twice, and the group begins with a third (in this case a major third); the first C# moves up a semitone to the D natural, and the lower note (the A natural) moves down a tone to a G#. Each of the groups usually moves by step, an example of which is shown below [p5, s4, b1 - 1st group], and begins and ends with a third. The D natural moves to an E and down to an Eb, the Bb moves to an Ab but up an octave. Each can be condensed into a group of pitches in close proximity: the technique is very similar to the 'agrandissement asymétrique' process.

The second birdsong section begins with motive 1. The second phrase begins with a more complex flourish which nevertheless uses no greater interval than a major third. [p7, s2, b1] The D#/E#/G#/Bb/ D and B stand out in the texture, and the top D natural acts as a

prolonged neighbour note to the return of motive 1 which begins this time on a high Eb. The characteristic third that begins each group is altered to an ascending minor third - on several occasions a group begins with the notes C natural and Eb.

[p7, s3, b1 - third group (with three repeated C naturals)]
 [p7, s4, b1 - third group]
 [p8, s2, b1]
 [ex V/33]

(6) The trill is introduced for the first time on a high-pitched E natural [p7, s4, b1]: it acts as a high resonance over the Eb major broken chord that underpins all of the bird sections. The final flourish of the second bird section starts on a middle C and rapidly ascends with a crescendo, finishing with a high-pitched 'call'.

The 'Très Modéré' section employs three textures, as follows:

1 birdsong in the right hand, block chords in the left
 2 the opening ostinato flourishes [e.g. p4, s2, b1]
 3 colourful two-part descending triplet semiquavers

These textures appears one after the other. Birdsong appears first: the phrase is exactly the same each time. It begins with a flourish of four hemidemisemiquavers, followed by both staccato and legato semiquavers, and ends with five repeated C naturals. The next 'Un Peu Vif' section is brief (only two bars long): the birdsong consists of four grace notes and two repeated C naturals, and an exact repetition of the substantial flourish that completes the second birdsong section.

The birdsong in this movement is made comprehensible by Messiaen's compositional technique. The repetition of notes, similar patterns, imitation, hybrid forms and the varied use of articulation (staccato and legato) are essential to its comprehension. The whole movement ends with colourful two-part descending triplet semiquavers and two diatonic versions in Eb major chords.

The onomatopoe, 'Doundou Tchil', the title of the fourth movement, represents the sounds of the Peruvian Indian dancers' ankle-bells. After the title is pronounced by the soprano twenty times, with a left hand piano accompaniment depicting primitive drums, a 'Vif' section acts as a bridge between the introduction and the 'Modéré'. The 'Vif' section represents glass and the 'Modéré' acts as a refrain - the staccato chords like horns and the voice dance-like. After these sections are repeated, the introduction returns in the left hand, as a recapitulation, this time with a right hand part intentionally representing birdsong.

Messiaen creates a balance in texture: the primitive drums, in the left hand, are staccato and the birdsong, in the right, is legato. As in the introduction, the beginning is pianissimo and the intensity and dynamics are gradually increased until a sforzando 'cry' in the right hand. Messiaen uses the phrase, 'comme un oiseau': the phrasing is realistic, as the composer gives the single bird time to breathe with the meticulously marked rests. The word 'phrase' will be used when describing a period of birdsong that sounds before a rest;

however, there are call-like instances that are too short to be labelled as such, especially if the birdsong is slowed down in order to be comprehensible to the human ear and within the range of the pianoforte [ex V/34].

Many phrases end with a high 'chirping' sonority: these chirps are all staccato, and in the only event when the phrase is very long, the short duration makes it plausible for a bird to snatch a breath before the next phrase [p28, s4, b1-2]. In the first phrase of the birdsong section, the high chirp has three preceding grace notes [p26, s4, b1-2], and on other occasions they include four grace notes, [p27, s2, b2] one, [p27, s4, b1] or none at all. From the fourth bar of this section, some phrases have a preoccupation with a rhythmic cell: one bar includes three groups of quintuplets [p27, s1, b1], another three groups of demisemiquavers [p27, s2, b1]. The latter example begins with two repeated notes in the first two sets of demisemiquavers. In an earlier bar there is an iambic rhythm, semiquaver/quaver using repeated C sharps, and toward the end of the movement, two F's become a focal point between two rapid demisemiquaver passages [p28, s4, b1-2]. Messiaen gives reference points to the listener: they might be a specific note, intervallic relationship or rhythm; but they provide the birdsong with a form of coherence to the musician. On page 28, there are three occasions where a rapid phrase concludes with a major seventh interval: two are from C to B natural, (one in inversion) and the other from Eb to E natural. Another feature included here is the use of similar repetition. The two interspersions below, use the same notes in the same order, only the rhythm is slightly adjusted as the A natural is absent in the second version [p28, s1, b1-2]. This 'motivic

island'¹¹ effect is often used by Messiaen, and also by Stravinsky in the 'Rite of Spring' ['Rite', p1]. The end of this birdsong section concludes with a sextuplet flourish and a high-pitched sforzando 'chirp'. The glass-like 'Vif' follows, and the song closes with the 'Doundou Tchil' ostinato in the voice, down a tone and accompanied by three growling bass note clashes [V/35].

The eighth movement, 'Syllabes', makes no specific use of birdsong. There are several interruptions in the texture within the tempo marking 'Modéré, un Peu Vif'. They are not interruption calls, but colourful chord clusters in semiquavers, beginning with pairs of semiquavers and then scattering occasional groups of three and four amongst them, sounding very similar to Messiaen's frequent use of stained-glass window sonorities [p56, s4, b2]. The repetitive B naturals sound like bird style, especially with the words 'Pia' and 'Tchil' that are sounded on many occasions: like the movement 'Doundou Tchil', the effect becomes more and more excited. The final 'Modéré, un Peu Vif' is faster and more energetic. The manic repetitions of 'Pia', in fact, suggest the alarm cries of the legendary Peruvian apes; however, the words are sung so fast that each 'Pia' blends into the next, with the result that the listener may very well hear the 'pee-pee' sonority that is so often associated with birdsong, even if this effect was not intended by the composer.

Once again, bird style is present in the ninth movement, 'L'Escalier Redit, Gestes du Soleil', intentional or otherwise. The first bar features three sets of tribachic triplet

semiquavers, each three-note cell being the same. They are an important tool for the composer: the voice is on a Bb minim, and the piano strikes a chordal complex, using the same duration, therefore the only rhythmic motion is provided by this motive [ex V/36 - p70, s1, b1]. The next bar is exactly the same, apart from the final chord which seems to function as a resolution. The accompaniment in bar four includes three sets of the semiquaver/quaver rhythm (iambic); each set is exactly the same, and the voice sings the notes E and A# using the same rhythm [p70, s3, b2]. The effect is not very similar in nature to a bird-call; yet, motivically, it produces three interruption calls. This added note value cell is utilised throughout the movement. An ascending flourish concludes the first subject of five bars in length. The same five bars are repeated exactly, the only difference being the words. After the flourish is sounded for the second time, an 'exclamation call' precedes a high Ab in the voice part [p72, s1, b2]. The major second grace note clash adds to the timbre of the chordal complex, in altissimo. When the tribachic semiquavers return, they are in ostinato and occur fifteen times: this pattern presents itself regularly using exactly the same pitches, until the 'A Tempo' which uses the notes A natural, Ab and C# [p75, s3, b3 & p78, s4, b1]. This feature also completes the movement, adding to the exuberance of the singer's final sustained Eb.

'Amour Oiseau d'Étoile' (movement ten) is possibly the most gentle and pensive song of the cycle. Messiaen chooses the key F# major, the key of mystical love. The birdsong, the first to be marked as such for some time, acts as an interlude after each brief phrase by the singer, and throughout the movement, without exception, the birdsong excerpts are

sounded over a long sustained F# major chord with an added sixth [ex V/37].¹² The first two birdsong phrases are exactly the same [p84, s1, b2]: the phrase ends with a grace note C natural and a minor third descent to an A natural. The 'style oiseau' phrases in the movement as a whole are either this one exactly (occurring seven times), or a longer, more elaborate song. The most common phrase will be labelled phrase 1. The third 'style oiseau' passage begins with phrase 1's two demisemi-quavers on a B# and C#, only the next E natural is displaced by an octave, and sounded twice. Two repeated F's are followed by two anapaestic cells, and the phrase concludes with the inversion of the final two notes in phrase 1. Straight away one feels an immense space: not only as a result of such a slow tempo, but also with the longer durations which appear after faster rhythmic cells. After three more appearances of phrase 1, a more elaborate birdsong extends the durations between the faster groups [p85, s4, b1]. The grace notes at the beginning of this bar add to the sense of freedom, but it is the full crotchet and dotted crotchet that give the phrase space. Even at such a high register the range of the piano is explored to its full potential, ranging from E2 to G sharp4. The triplet semiquaver pattern in phrase 1 is displayed here on two occasions. The words, 'Tous les Oiseaux des Étoiles' prompt the short phrase which includes the ubiquitous triplet semiquavers and minor third intervals, but with the addition of septuplet hemidemisemi-quavers [p86, s2, b2]. The next bird style phrase includes sextuplets, three simple quavers and two 'chirps' on high B naturals with preceding grace notes. The penultimate phrase begins with the first three notes of phrase 1, using the same durations. It also includes triplet semiquaver/quaver rhythm and the four demisemi-quavers, and in addition, two straight crotchets. This phrase is the only one which does not conclude with a minor third interval, A to C (inverted or not) [p87, s2,

b1]. The song draws to a close with an F# major chord with an added sixth, in a low register, followed by phrase 1.

The eleventh movement, 'Katchikatchi les Étoiles', is a striking contrast to 'Amour Oiseau d'Étoile'. This untamed dance-like movement features many excerpts similar to an interruption call, and repeated chordal complex grace notes which may be construed as sounding like continuous chirping - again, used as an interlude before the next motivic idea or line of the poem [p88, s2, b2 & p89, s3, b1]. The unpitched scream, 'Ahi' occurs on three occasions, each accompanied by an interruption-like call. The final cry ends the movement.

The last movement, 'Dans le Noir', represents death in its eternal finality. The lovers are at rest, but far from human love. The end of the movement is tragic, recalling the beginning of the work without mentioning the word 'Toi', as the lovers are now dead. Messiaen writes the final note for the singer with the instruction 'à bouche fermée', which displays one of the lovers motionless and at peace.

Messiaen combines rhythmic canons, Sharngadeva rhythms and many other characteristic techniques with a sophisticated use of birdsong. The piano takes on a soloistic rôle even in

the depiction of bird style: although the piece credits numerous passages to 'style oiseau', the composer has elsewhere also included many characteristics of birdsong or calls.

The Turangalila Symphony (1946-48)

Commissioned by the Koussevitsky Foundation, the *Turangalila Symphony* was to occupy Messiaen for two years, from 17th July 1946 to 29th November 1948. This large-scale work consists of ten movements and lasts approximately seventy-five minutes. The movements of the work are divided as follows:

I	Introduction	Modéré, un Peu Vif
II	Chant d'Amour 1	Modéré, Lourd
III	Turangalîla 1	Presque Lent, Rêveur
IV	Chant d'Amour 2	Bien Modéré
V	Joie du Sang des Étoiles	Vif, Passionné, avec Joie
VI	Jardin du Sommeil d'Amour	Très Modéré, Très Tendre
VII	Turangalîla 2	Un Peu Vif, Bien Modéré
VIII	Développement de l'Amour	Bien Modéré
IX	Turangalîla 3	Bien Modéré
X	Final	Modéré, Presque Vif, avec une Grande Joie

Cyclic themes are incorporated throughout the symphony, and in addition each movement has a unique character of its own, using separate themes and motives. There are four cyclic themes which reappear on numerous occasions in the symphony and play a significant symbolic rôle. The cyclic themes are given titles by the composer, and have since been adopted by numerous musicologists. The first, 'thème-statue' ('statue theme'), is in thirds and mainly played on the trombones, fortissimo. For Messiaen, this dense

motive indicates the brutality of ancient Mexican monuments. The second cyclic theme, 'thème-fleur' ('flower theme') - is given to the clarinets in two parts, with a pianissimo dynamic. The two parts are opposites: they are widely separated and then move together in contrary motion, 'like two eyes reflecting each other...' ¹³ Messiaen thinks of a 'delicate orchid, a florid fuchsia, a red gladiolus, an excessively pliant convolvulus'. ¹⁴ This theme not only uses opposing notes, but also is the antithesis of the previous theme in character. The third cyclic theme ('thème d'amour'/the 'love theme') is the most important, according to the composer. This theme surges with passion, symbolising the spiritual and emotional union of Tristan and Isolde. The fourth cyclic theme, 'thème d'accords' ('chord theme'), consists of four cluster chords that occur at various points in the work in original, truncated, fragmented or elaborated versions.

Although the cyclic principle is used to its full potential, few elements of traditional symphonic form can be found in the work. The introduction has two parts and states the cyclic themes 1 and 2. The second movement is in two sections (introduction and coda): the first is a hybrid of a rondo/variation design, in which the episodes are variants of the refrain; and the second is a development of the opening motive and the second phrase of the refrain. The ninth movement could also be interpreted as one of variation, while the fourth and fifth movements may also be seen as scherzos, and the 'Final' like a sonata form. According to the composer, the eighth movement is the 'development section' for the whole symphony.

The symphony, in addition, has several 'love themes'. There are four 'love themes' in their basic forms found in the movements: 'Chant d'Amour I' (movement two), 'Jardin du Sommeil d'Amour' (movement six), 'Développement de l'Amour' (movement eight), and the 'Final' (movement ten).¹⁵ Given that each movement is predominantly constructed in discrete sections (with the exception of the eighth), it is the love and cyclic themes, technical procedures and free multiplications that give the music coherence and propel the music in time. The two contrasting tempi of the main 'love theme' of the second movement are described as masculine and feminine, and are derived from the 'statue theme'. In fact, all the movements have elements of love within them: the love is doomed to self-destruction and, as Messiaen puts it, 'irresistible, transcending everything, suppressing everything outside itself, a love such as is symbolised by the philtre of Tristan and Yseult'.¹⁶

'Turangalīla' is a compound word taken from Sanskrit. 'Turanga' denotes movement and rhythm, depicting time. 'Līla' literally means 'play', and is described in terms of the divine action upon the universe. The word also has several polarities in its meaning: Messiaen cites creation/ destruction, and life/death. The word may also mean love. As in *Harawi*, love is confined within life and death, and all are inextricably interconnected. Other opposites can be added to the list, as follows:

rhythm/ametricality
time/timelessness
tonality/modality
tonality/atonality
joy/despair
human/superhuman

In fact, Messiaen describes the whole symphony as a love song and a hymn to joy. It is also a vast pool of rhythmic counterpoints and groups that are manipulated by a full range of compositional techniques.

The immense orchestra needed to perform this symphony consists of triple woodwind, four horns, four trumpets, one cornet, three trombones, one tuba, sixteen first violins, sixteen seconds, fourteen violas, twelve cellos, ten double basses, piano, ondes martenot and a very large percussion section. The percussion section consists of a glockenspiel, celesta and vibraphone which, together with the piano and the metal percussion, form a small Gamelan orchestra.

The solo piano almost acts as a solo instrument, possibly influenced by the rôle that the piano takes in Scriabin's 'Prométhée (Le Poème du Feu)'. There are long cadenzas that often precede a climax in a movement, but above all the piano is the most essential tool when depicting birdsong. Rarely, the sonorities of the woodwind and the violins produce a sonority akin to that of 'le style oiseau'; certainly, on no occasion are these instruments credited as such.

The full gamut of technical procedures described and illustrated in 'Technique de mon Langage Musical' is found in this symphony. Messiaen uses non-retrogradable rhythms, augmentation and diminution, superimposed rhythmic structures and a sophisticated deployment of the chromatic rhythmic series by superimposing tâlas rhythms. The most

authentic bird style yet to appear in Messiaen's output is incorporated in this symphony. More names of specific birds are included in the score: many of the named birds are sharply differentiated in musical character. The birdsong has become not only decorative but also realistic.

The first movement, 'Introduction', consisting of two parts linked by a piano cadenza, introduces the first two cyclic themes. Messiaen makes full use of special orchestral effects. The first is created by the strings in sextuplet ascending demisemiquavers followed by trills, the ondes martenot at the same time playing a glissando from a G# to a D natural, in altissimo: on each occasion the 'statue theme' is to follow [p4]. The second is found in the immediately succeeding section where the piano introduces indeterminate flourishes, playing semiquavers in contrary motion, while the flute and clarinets have demisemiquavers in the figure of a pyramid¹⁷, as do the solo violin and viola who also play glissandi harmonics on the G string and C string respectively. The overall effect is similar to the sonorities of the wind machine in *Des Canyons aux Étoiles* [p6]. The 'flower theme' is introduced moments before the piano cadenza. The second part uses four rhythmic pedals superimposed on Hindu rhythmic cells. The harmonic ostinato interrupts the texture on several occasions and might be heard as a fast ostinato cell of the nightingale's song [p19, b3]. The conclusion is based on the 'statue theme'.

The second movement, 'Chant d'Amour 1' begins with tala rhythms that are superimposed by means of augmentation. The form of the movement is a 'couplet-refrain'. The refrain is divided into two contrasting sections: the first is played by the trumpets and

is strong, passionate and quick; the second is played by the ondes martenot and is slow, gentle and quiet. In the first verse, Messiaen contrasts the sombre timbre of the low oboe, cor anglais and clarinets with light percussive effects from the violins (in pizzicato) and attacks from the piano and the bells. Messiaen also links rapid sections with a warm and densely orchestrated F# major chord [p88-89].

'Turangalîla 1' (the third movement) begins with a conversation between the first clarinet and ondes martenot, which is, as Messiaen puts it, 'punctuated by the bell, vibraphone and double bass pizzicatos'. This section is very reminiscent of the opening of Stravinsky's 'Rite of Spring' [see 'Rite of Spring', p1], not only as it is the opening of the movement, but also because of its continuous dialogue between two parts, its use of two grace notes, a first long note and the repetition of small fragmented cells. The second theme on the low trombones is combined with a unison passage on the celesta, glockenspiel and the right hand of the piano part. The third theme is played by the oboe and flute in a rhythmic canon in retrograde. Messiaen then combines the first and second themes on the brass, and immediately after, he refers to the first and second movements of the symphony with various 'allusions'. A fourth theme, made up of three rhythmic characters played on the maracas, wood-block and bass drum, is introduced and fully developed from the middle to the end of the movement. The bass drum gradually crescendos, the maracas decrescendo, while the wood-block remains constant. The movement ends with a sparse texture very similar to its opening: the clarinet, ondes martenot, bells, double bass (pizzicato) and vibraphone are again present, using identical sonorities, but on this occasion the maracas, piano and wood-block are added. Although the music does not include a style oiseau

element, the combined sonorities of the piano, celeste, bells and vibraphone (p92) foreshadow the xylophone-trio and Gamelan timbres of later works, while the use of percussion, especially the Chinese cymbals and maracas, is an early indication of Balinese inspiration.

According to Messiaen, the fourth movement ('Chant d'Amour 2') can be divided into nine sections, as follows:

- 1 scherzo for piccolo and bassoon in unison, with a rhythmic theme on the wood block
- 2 bridge
- 3 a refrain and the first trio on the woodwind
- 4 a second trio on solo strings
- 5 a superimposition of the two trios (woodwind and strings) with birdsong
- 6 bridge
- 7 reprise and superposition of the scherzos, two trios and the 'statue theme' - every element of the movement is heard simultaneously
- 8 piano cadenza
- 9 coda. The 'flower theme' is played on the clarinets, the 'statue theme' on the trombones, while the refrain is played on the ondes martenot and three solo violins

The fifth section of this movement is of notable importance. The piano anticipates the birdsong passage with occasional characteristic excerpts, specifically an interruption call [p121], an extended trill [p130] and rapid fluttering phrases [p120]. The composer indicates that the piano should sound like the song of a bird [p132]: this solo remains forte throughout the section, with the exception of the final phrase which begins piano and crescendos to a fortissimo [ex V/38]. On the whole, the piano is triumphant: important themes such as the opening scherzo and the passionate love theme of the 'Très Modéré, avec Amour' section appear simultaneously and strongly on other instruments. If it were

not for the fact that the birdsong is generally written in octaves, the piano would not be heard at all; at other times, one-part writing is reserved for tender moments when the texture is both sparse and quiet [p136, b3], while the groups of rapid, widely-spaced notes do not in any case allow for playing in octaves [p136, b3 & p134, b2].

The first four bars consist of three groups of demisemi-quavers, each separated from the other by a single longer note: the first is a dotted quaver D natural and the second is a G sharp, a crochet in length. The G# is a reference point: not only does it feature twice in the first group, three times in the second and alternately with a D natural in the third, but it also separates the second two groups. In fact, the G# features regularly throughout this section, and the D natural is also ubiquitous in these first bars [p132, b3-6]. Each group of notes in the entire section is broken up by a rest, [p133, b6] a single note [p133, b3] or an interruption call [p134, b4]. When the solo strings announce the passionate theme, the piano is rhythmically freer: quintuplets and septuplets are introduced, together with a syncopated cell and grace notes [p133]. At figure 9, the piano plays a single line consisting of sextuplet demisemi-quavers: the G# is heard eleven times, and a top G natural breaks up the texture and forms part of a three note cell (G sharp/C sharp/G natural) on the final quaver beat of the first bar. Two double note cells alternate in the second bar of figure 9 (E/D# and G sharp/D) leading onto a single G and, finally, three grace note interruption calls [p134, b2-4]. The first idea (using eight demisemi-quavers followed by a single longer note) is repeated in the next bar, followed by two interruption calls and a short palindromic rhythmic cell [p135, b3] - semi-quaver/quaver/semi-quaver, which was introduced earlier by the syncopation [p133, b1-2]. The third group of eight semi-quavers

in the first four bars is a tritone alternator, a regular feature of Messiaen's use of birdsong. The composer incorporates this same device in the second bar of figure 10 [p136, b3-4], on this occasion using the notes F# and C natural. This device may now clearly be described as the alternator. Many examples of this can be found in the violin part in the first movement of the much earlier *Quatuor pour la Fin du Temps* ['Technique' p10, s3, b2]. The final phrase of the birdsong section is built up with a triplet, three sextuplets, a septuplet, a grace note interruption call and a final single sforzando E natural: the G# and D natural are again reference points, and the composer also makes full use of the semitone relationship [p139]. The piano part of this section is shown in ex V/39.

The piano cadenza at figure 16, although not labelled 'style oiseau', incorporates many interruption calls. These occur at the 'Modéré, ad Libitum' sections [p160, s5, b1-2], after the ascending dectaplet flourishes (like a glissando), and in the second group of 'Très Modéré' bars, alternating with dark-textured chords.

Movement five, 'Joie du Sang des Étoiles', is a long dance of jubilation, perhaps the first since the 'Alleluia' from *L'Ascension* (1933). Apart from episodic references to the 'flower theme', the entire movement is based on a variant of the 'statue theme', especially in its use of the interval of a third. After a triple exposition-with-variation, there is an extended development section, consisting of a rhythmic canon made up of six rhythmic 'characters'. The first of the three rhythmic characters increases, the second decreases and the third remains constant: the durations of these are reversed, forming six rhythmic characters. A solo piano cadenza ensues, presenting the thirds of the 'statue theme' at a

rapid tempo. The movement concludes with the 'statue theme' played with extremely long durations on the brass. Although there is no intended 'style oiseau' in this movement, the conversational exclamations have an affinity with some of the interruption calls cited on many earlier occasions.

examples include:

[p188]

[p201, fig 24]

[p214, b5-8]

[p231, b1-3]

The 'love theme' is employed throughout the sixth movement, 'Jardin du Sommeil d'Amour'; and is played by the string section and the ondes martenot. This cyclic phrase is expanded upon continuously; for example, after the first phrase is completed, a repetition overlaps and concludes on a major sixth rather than the expected perfect fourth. This cell, consisting of a crotchet followed by a long tied note, is diminished to a quaver/crotchet rhythm in the fourth bar of figure 1. The two temple blocks display a double progression of contrary motion chromatic rhythms (figure 4), while the flute, clarinet and Gamelan instruments add to the block harmony of the strings, punctuating the long sustained chords with a light texture. The celeste has a two-part invention with the use of augmentation of two rhythmic cells.

The birdsong material is played on the piano. Based on the nightingale, blackbird and garden warbler, it is entirely separate from the main themes. The piano is heard very clearly with its high notes and free rhythms which off-set the long-sustained chords of the string section. The first birdsong phrase, and many others, begins with successive

semiquavers [ex V/40 - p239, b1]. These slow repeated notes give the movement a calm and flowing serenity and contentment, and a timelessness as the lovers sleep, while the other instruments add to the intended depiction of shadow, light, the new plants and the flowers in this special garden. Not only are there repeated notes in semiquavers, but certain 'reference notes' are struck, especially at the ends of phrases, giving a sense of modal/melodic coherence. One example can be found in Messiaen's use of mode six: the repeated notes are the B naturals, C sharps and F naturals, and the 'reference' points are the two staccato quaver D naturals. These 'reference' points are often preceded by triplet demisemiquavers. After seven bars of repeated notes (on the same pitch), scattered grace notes, an 'alternator' phrase (always with the tritone interval C natural to F sharp)¹⁸ and an interruption call [p239, b2], a distinctive phrase of birdsong appears. This phrase is repeated exactly on several occasions throughout the movement: it may be labelled the 'serene song'. This song can be divided into four parts. (i) The first four notes make up an 'alternator' cell, immediately followed by (ii) a group of sextuplets, four rising staccato semiquavers (iii), and two grace note 'chirps' (iv) [p240, s2, b2]. This 'serene song' does not always occur at the same point in the bar [ex V/41].

Other segments of birdsong are also derived from the 'serene song'. The second bar of figure 1 features the second cell (ii) of the 'serene song', but as a quintuplet: on this occasion the cell begins on the second note and concludes with the C natural and Eb (the first two notes of (iii)) in augmentation and two tritone grace note 'chirps' using the last two notes of (iii) [p241, s1, b1]. Frequently, there are repetitious semiquavers on the same note, 'alternators' and the 'serene song'; however, a new cell is introduced in the fourth

bar of figure 1. This feature uses the notes, G, D, G#, F# and C#. In a later instance, the rhythm of this motive [ex V/42a - fig 3, b3] is identically repeated, with the pitches down an octave, and two bars earlier it appears with different pitches using a retrograde version of the first three durations, with an additional two semiquavers, and finally the first three durations (of fig. 3 bar 3): this in aggregate forms a non-retrogradable rhythm [ex V/42 b, c - p243, s2, b1-2]. In between these two fragments is another ubiquitous motive. A very similar shape is introduced in the second bar of the movement. Written in demisemiquavers, the first notes are small descending intervals and the others are set very wide apart, concluding with a high-pitched 'chirp'. The overall effect is a group of rapid scattered notes. On the first occasion [ex V/42c - p239, b2], the A, Ab and Eb begin the fragment, and conclude with a high-pitched quaver D natural; on the second occasion the same three notes are employed, but they are followed by four demisemiquavers which contain two high-pitched D naturals and end with a high-pitched F# quaver instead [p243, s2, b2]. This shape is used frequently throughout the movement, but it is altered, transposed and expanded dramatically. On each occasion in this motive, a few important notes are given emphasis, and put in the left hand part. Two examples can be seen on page 244, where the majority of the notes are in the right hand part and the phrase concludes with a comparatively high-pitched 'chirp' [see p244]. Immediately preceding the second appearance (described above) is a fragment of music that uses the same notes as the cell in bar two, but this time a B natural is incorporated (the repeated note in bar 1) at the beginning, and grace notes are added after the high-pitched D natural.

At figure 4, Messiaen uses features from the 'serene song': entirely different notes are written in a similar shape but not in exact transposition. The first phrase [p245] begins with an 'alternator'; the second part of the 'serene song' ensues in a manipulated form, followed by two high-pitched 'chirps'. The next bar repeats the last five notes: there is a short rest followed by the two notes of the 'alternator' and then a continuation. This same pattern is utilised again on page 248, where new pitches are introduced in almost exact transposition of the previous example on page 245. The final two notes are the same: in fact, the repetition of two notes is found in many instances in the movement.

The birdsong becomes frantic and excited for two bars at the successive 'Ralentir Peu à Peu' and 'A Tempo' bars [p252, b1-2]. Although the speed is rather slow, there are no rests, and grace notes add to its state of urgency: these grace notes are followed by groups of demisemiquavers and finally sextuplets (also demisemiquavers). Apart from the major second/minor second grace notes, the two bars are built up from the notes B, A, D, G and an alternation between the final high Ab or Bb. These groups of notes begin at several places within the two bars. A second frantic section occurs on page 261: once again written in octaves, the two bars open and finish with the B, A, D, G, Ab cell as cited above, with grace notes attached to recurrent semiquavers in between them. At the immediately ensuing 'A Tempo', the second part of the 'serene song' is played, starting with the second note (D natural) and ending on the C natural (the first note of the third part of the song), and is repeated twice, with the first phrase of the 'serene song' immediately preceding the second repetition. The next bar, with its use of rising staccato semiquavers, is very similar in nature to the third and fourth parts of the 'serene song' (see

below). The movement concludes with five repeated B naturals and the demisemi-quaver motive that was originally introduced in the second bar.

The characteristics of the birdsong in the piano part of this movement may be simplified as follows:

- 1 repeated pitches (in semiquavers)
- 2 'alternator' (tritones used in isolation)
- 3 'serene song' (and fragments from it transposed or not)
 - i) alternator consisting of four notes
 - ii) sextuplets
 - iii) four rising staccato semiquavers
 - iv) two grace note 'chirps'
- 4 G, D, G sharp, F sharp, C
(with rhythms in original, retrograde and non-retrogradable orders)
- 5 scattered demisemi-quavers (transposed and considerably extended)
 - i) short extracts, a triplet and a finishing high-pitched note¹⁹
 - ii) extended and elaborated phrase
- 6 frantic two bars

Messiaen in this movement makes full use of the technique of 'free multiplications', where a fragment from a phrase is repeated, put in isolation or added to another segment, giving the birdsong an improvisatory quality. An example of this can be found in the blackbird's cadenza in the fourth movement of *Livre d'Orgue*.

The episodic seventh movement, 'Turangalila 2', begins with a piano cadenza. The first section ensues with the ondes martenot chromatically descending in groups of four crotchets, and three trombones and a tuba (in close position) chromatically ascending in groups of three. Messiaen describes the ondes martenot phrase as gentle, full of pity and

going down towards the depths; the muddy bass of the trombones and the tuba is summarised as a slow advance like 'monstrous dinosaurs'. The rhythms that use the 'chords theme' are terrifying, and symbolise a pendulum knife relentlessly approaching a prisoner, as in Edgar Allan Poe's story 'The Pit and the Pendulum'.

In the piano cadenza, Messiaen includes several birdsong characteristics. As in previous 'style oiseau' episodes, the music is mainly in octaves [ex V/43]. This section contains high-pitched grace notes, repetitive machine-gun-like semiquavers (on the same pitch), ostinato staccato groups [p264, s2, b2] and interruption calls [specifically when closing the first cadenza - see p264]. Similarly, the 'Bien Modéré' sections at figure 1 and 6 contain several high-pitched interruption calls in the piano and even in the celesta and woodwind instruments [see p265]. At the 'Modéré un Peu Vif' (figure 3), both the clarinet and the piano play repetitive semiquavers on the same pitch, the flute has very occasional high-pitched 'chirps' with preceding grace notes, and the piano, on its own, has frequent 'alternator' passages, flourishes and interruption calls [see p270]. The movement closes with an exclamatory interruption call on the piano and a single sforzando quaver from the maracas. At no point in the movement does the composer classify these fragments as 'style oiseau'.

In a symphony of ten movements which, up until now, has been without substantial evolution and expansion, Messiaen sees the need for a development section for the entire work. Movement eight, 'Développement de l'Amour', is dedicated to this task: the title of the movement has both a musical and symbolic significance. According to the composer,

couples like Tristan and Isolde have drunk a love potion that unites them for ever. All the cyclic themes are used in the movement, but it is the 'love theme' which is the main subject of development. The 'love theme' is employed on three occasions in full glory, like explosions. The ecstatic 'Lent' explosions represent the climactic moments of the whole symphony: Tristan and Isolde are transcended by Tristan-Isolde. The ABABAB pattern and intermittent 'love theme' episodes and three-chord ostinato toccatas are contained within an introduction and coda.

The only conceivable bird style in this movement can be found in the colourful use of interruption calls [p298; p311, b3 & p316, b2] and the fast 'chattering', perhaps, in the short piano cadenza at the 'Presque Vif' (figure 49). Messiaen does not label these passages as such [p339-340].

Turangalîla 3 (movement nine) sets out a number of choruses on a theme announced by the clarinet and ondes martenot, and a chromatic rhythmic mode of seventeen durations arranged in an irregular order. These rhythms appear on the wood block, tam-tam, suspended cymbal, maracas and Provençal tabor. Thirteen solo strings underpin each tâla, the result being that the harmony is governed by the rhythm. On the first statement of the tâla, each duration has a preceding semiquaver, and in the second instance - two semiquavers. On the third occasion, each duration has a trill of five semiquavers in length: the tâlas finish, and continuous trills occur, closing the movement. The movement ends suddenly when the variations have been completed.

At figure 6, the piano begins with four bars of continuous music. The first and third bars use an extremely similar pattern to the fifth birdsong characteristic of the 'Jardin du Sommeil d'Amour' movement, as categorised above. The second and fourth bars display four groups of triplet semiquavers, thus forming two tritone 'alternator' series [p348]. The fifth bar of figure 6 continues the scattered semiquavers with many common notes.²⁰ The next four bars are two ostinatos of two bars in length, while the remaining fifty-two bars are slightly altered, with occasional alternators and two winding descending and ascending chromatic scales in between them. The other birdsong sonorities can be found in the grace notes of the celesta [p362] and the staccato semiquaver exclamations (with rests) in the piccolo and flute (at figure 12) [p362].

The epic and triumphant 'Final' focuses on two main subjects. The first subject is a fanfare played by the trumpets and horns, while the other instruments of the orchestra emphasize these sonorities. The second subject is the 'love theme' and is, as Robert Sherlaw Johnson points out, 'transformed into the scherzo rhythm of the movement'.²¹ The various groupings of the 3/16 bars of semiquavers give the movement a considerable impelling force. The first subject returns as a recapitulation: the three groups of instruments (woodwind, brass, strings) intensify each other, giving the brass a ceremonious and intense power. The version of the 'love theme' in the sixth movement makes a dramatic appearance in the coda. The movement being well-established in its original key of F# major, the symphony concludes.

Looking at the symphony as a whole, it is the piano that has the 'style oiseau' music, as well as passages that may suggest birdsong characteristics, even though Messiaen has not labelled them as such. The gamelan and strings, on occasions, add to the various birdsong sonorities that are so difficult to produce with western instruments. Many musicologists are interested in the reasons why Messiaen chose the piano as the main, and almost only tool, to depict 'le style oiseau'. The piano, for example, cannot glissando like a violin or some other instruments; nor can it play in quarter tones: both familiar attributes of birdsong or calls. The foremost reason for using the piano is its range: the piano also has a percussive effect and a crisp brilliance at the top of its range. Nevertheless, the composer on every occasion in this work states that phrases should sound 'like the song of a bird': the bird style is not only decorative but representative, at this stage of the composer's development. The only attempt at rendering particular species, however, may be found in the sixth movement, 'Jardin du Sommeil d'Amour', where the nightingale, blackbird and garden warbler are imitated, albeit less accurately than Messiaen was later to achieve. Perhaps Messiaen's lack of confidence in this task made him hesitate to name the species of the birds in the score, just as the nightingale and the blackbird were left out of the score in the *Quatuor pour la Fin du Temps*, and only mentioned in the preface. The credited birdsong is usually in octaves: when it is not, it is to achieve a tentative sound, if the orchestra allows it, or because the widely-spaced intervals make it impossible for octave playing. Messiaen incorporates this monophonic and explicitly linear technique to comprehensive effect as small motives/cells are put through many compositional processes, all of which are also applied to non-birdsong material. The birds obviously do

not use these techniques themselves, but many forms of imitation, manipulation and extensions of motivic cells may be detected in birdsong. The *Turangalila Symphonie* paves the way for the exploratory and naturalistic work (written some five years later), *Réveil des Oiseaux*, where thirty-eight named birds are used, and where the piano is again the instrument of paramount importance. In this work the entire orchestra devotes itself to the depiction of birdsong, as opposed to the *Turangalila Symphonie* where the piano plays all the credited 'style oiseau' and most of the uncredited bird style, while the rest of the orchestra plays voluptuous harmonic textures, cyclic and principal themes.

Notes to Chapter V

- ¹ Messiaen Companion, ed. Peter Hill, (Faber, 1995), p250.
- ² Roger Nichols, Messiaen, (London, Oxford University Press, 1975, revised 1986).
- ³ Both the Jerusalem Bible and the King James Authorised version use the word 'time', but the original Greek version (written towards the end of the first century A.D.) might be better translated 'delay'.
- ⁴ Olivier Messiaen, 'Traité de Rhyme, de Couleur, et d'Ornithologie', (Paris, Leduc, 1999), pp423-427.
- ⁵ In this instance, Messiaen writes the phrase 'comme un oiseau': no particular birdsong or call is intended.
- ⁶ This technique is used in a passage with many repetitions, involving the transposition of some groups of notes up or down a semitone, while others stay the same.
- ⁷ Taken from the record sleeve notes in Malcolm Troup's realisation of *Vingt Regards sur l'Enfant Jésus*, Altarus Records Ltd, 1986. The notes were written by Messiaen himself and translated by the pianist.
- ⁸ Perhaps one can categorise the diatonic arpeggio grace notes as the cymbals, and the crashes at the bottom of the piano - the Tam-Tam. See page 173, system four, bar two in the score.
- ⁹ This is a regular occurrence in Messiaen's oeuvre: an interruption call is defined and then later repeated again and again in one bar.
- ¹⁰ The same notes of the syncopated rhythm are repeated straight after, in simple semiquavers.
- ¹¹ This term is employed by Paul Griffiths in his book, Olivier Messiaen and the Music of Time, (London, Faber, 1985), p147.
- ¹² It is interesting that all the birdsong in this song is in altissimo.
- ¹³ See CD notes from Myung-Whun Chung's recording with the Orchestre de l'Opera Bastille, Stereo 431 781-2. Messiaen's own words, translated by Paul Griffiths, p10.
- ¹⁴ Ibid, p10.
- ¹⁵ See Paul Griffiths, op. cit., p 134.
- ¹⁶ CD notes, op. cit, p10.
- ¹⁷ The description of the figure of a 'Sheaf' that is found in *Harawi* is referred to by Messiaen on one occasion. However, the contours of this flourish of rapid notes feature regularly in the music of Messiaen. It seems to me that this shape is like a circumflex. An ascending group of notes that cannot be described as a melodic, harmonic or chromatic scale or mode is like an acute accent, while a descending one resembles a grave accent. The use of the word 'accent' for this purpose would be confusing, and therefore the best terms might be: pyramid flourish, ascending flourish, descending flourish.
- ¹⁸ All the 'alternator' phrases in this movement use the tritone interval, a very frequent interval in much of Messiaen's melodic writing.
- ¹⁹ This is a 'reference' note on most occasions.
- ²⁰ As in the fifth birdsong characteristic in the sixth movement, 'Jardin du Sommeil d'Amour', there are several notes that stand out in the texture, and there are many notes that are used regularly and other notes that are transposed up or down a semitone. The

sixty bars which follow use this same texture with a very similar technique to that of the 'agrandissement asymétrique' system.

²¹ Robert Sherlaw Johnson, Messiaen, (London, Dent, 1976, revised 1989) pp116-158.

Chapter VI: The Experimental Period 1949 ~ 1951

The years 1949-1951 mark an experimental period in which Messiaen explores new compositional procedures which, with the exception of the 'Interversion' system¹, he does not return to in later works. The compositions of this time are a direct result of the following circumstances. Some of his more illustrious pupils had gone to see René Leibowitz, himself a follower of the Schoenbergian principles of composition, in an attempt to discover extensions to dodecaphony. Messiaen had already introduced his pupils to various works by the Second Viennese School: it was at these classes that, according to Goléa², the composer stressed his disappointment that the aforementioned composers had not embodied new ways of representing timbre, intensity, articulation and duration in their highly organised serial compositions. According to Boulez, in an article a few years later, it was the more cerebral third member of the Second Viennese School, Anton Webern, who was the 'threshold'³ and the path for the future, as he organised the other four elements of music in a highly methodical manner. Richard Toop states that the 'rise' of electro-acoustical music and integral serialism occurs between 1948-1953,⁴ highlighting the significant advances taking place at this time.

While Messiaen was teaching at Tanglewood and Darmstadt, he began to write three short pieces for piano: *Cantéyodjavâ*, *Neumes Rythmiques* and *Mode de Valeurs et d'Intensités*. It was the final piece that influenced his pupils to write such complex and sophisticated integral pieces, such as 'Kreuzspiel' by Stockhausen (1951), 'Structure 1a' and 'Polyphonie X' by Boulez (1951-2) and both Fano's (1951) and Goeyvaerts' (1951-2)

Sonatas for two pianos. *Mode de Valeurs et d'Intensités* is the first western composition to introduce numerical procedures to pitch, dynamic, duration and timbre. The pieces *Ile de Feu I* and *II*, *Neumes Rythmiques* and *Mode de Valeurs et d'Intensités* collectively form the *Études de Rythme* (1949-50). The final three pieces of this period, *Messe de la Pentecôte* (1950), *Livre d'Orgue* (1951) and especially *Le Merle Noir* (1951), are of most importance to this study: the former two make significant use of identified birdsong, while the latter is an entire piece dedicated to the songs and calls of the blackbird.⁵ *Le Merle Noir* and perhaps the 'Chant des Oiseaux' and 'Soixante-Quatre Durées' (fourth and seventh movements from the *Livre d'Orgue*) anticipate the predominant significance of birdsong material in the works to come.

Messe de la Pentecôte (1950)

The *Messe de la Pentecôte* is written in five movements as follows:

1 Entrée	(Les Langues de Feu)
2 Offertoire	(Les Choses Visibles et Invisibles)
3 Consécration	(Le Don de Sagesse)
4 Communion	(Les Oiseaux et les Sources)
5 Sortie	(Le Vent de L'Esprit)

This work is intended to be integrated into the service, specifically the low Mass of Pentecost. Messiaen has described the composition as a résumé of all his collected improvisations⁶. He improvised at all the services in the church of La Sainte Trinité on

Sunday, with the exception of the eleven o'clock, where a piece of classical or romantic repertoire would be played. A conglomeration of all the styles of improvisation that Messiaen had an especial regard for was deployed in this work. Such devices would include: invented and medieval plainsong, serial techniques, irrational values, original registrations, Greek and Hindu rhythms, religious symbolism, Turangalîla motives and birdsong.

The first movement has no birdsong element: it would be wise to start by looking at the next movement. 'Offertoire' begins with three Sharngadeva rhythms in 'personnages rythmiques'. The first (tritiya) remains constant, the second (caturthaka) augments by three demisemiquavers at each repetition, and the third (nihçankalîla) diminishes by one demisemiquaver. The legato 'Modéré' that ensues is a unison section, perhaps reminiscent of 'Subtilité des Corps Glorieux', the first movement of the organ cycle *Les Corps Glorieux* written over a decade previously. It features short semiquaver phrases that are extremely discrete in nature. The 'Presque Vif' incorporates the 'durées chromatiques' technique. The right/left hand and the pedal are treated as separate entities, and serialised by duration. The right hand (top stave) augments by a sixteenth for each duration until the duration has reached the unit 5, where the pattern repeats itself. The left hand begins with the unit 5 duration and follows the pattern: 5, 4, 1, 2, 3, and other permutations supervene. The pedal part is organised in an ostinato. The textures are broken up by two simple crotchet C naturals in the bass. The 'Modéré' follows using the exact pitches and rhythms from the previous section with the same title, except that a left hand part is added

which, with its frequent use of grace notes, prepares the listener for the bird style at the 'Un Peu Lent'.

The pedal part in the 'Un Peu Lent' section (p11) is an augmented version of the unison 'Modéré' melody, only in transposition and slightly modified. The right hand part is divided into two separate groups. The first group, with its detached and spiky texture, represents droplets of water, and the second, bird style [ex VI/1]. Both groups have entirely independent sonorities: the droplets of water are all staccato forte and the bird style is always piano, and only near the end of the section is there one solitary staccato phrase. Moreover, the registration (given specifically to each group) accentuates this differentiation, as shown below:

R: gambe et voix céleste
 Pos: flûte 4, piccolo 1, 3^{ce}
 (water drops), forte
 G: bourdon 8
 (bird), piano
 Ped: flûte 4 seule

It is significant that Messiaen relinquishes the phrase, 'comme un oiseau' used in previous pieces, and plainly labels each phrase 'oiseau': in this section, the real focus of interest is to be found in the birdsong and water droplet representation - this is a change from the rôle of bird style or birdsong in Messiaen's earlier works. Nevertheless, as Messiaen does not specify any particular bird, these excerpts must be referred to as bird style. The birdsong can be divided into seven sections in order as follows:

1 two 'alternators'	legato + E natural
2 exact repetition of 1	legato + E natural
3 first half of 1	legato + E natural
4 repeated notes	a) staccato and mostly in threes and twos b) divided into three parts, the first two are identical
5 irrational value flourish	with the characteristic high note 'chirp' to finish
6 B flat, A natural	using the two notes of the 'alternator' 1
7 augmentation of 6	plus an E natural

[see p11-12 - VI/1]

The 'Un Peu Lent' returns at the end of the movement. In this instance, the section is in one hand and one part. The final nine bars take the following format:

- 1 Modéré - first bar of the original section (page 4 in the score)
 - 2 two bars of repeated low C's (as originally found on page 5 of the score)
 - 3 two 'alternators' as 1 above
 - 4 one repeated low C natural
 - 5 first and third parts of the repeated note motive as 4 above
 - 6 two clarinet and nazard chordal complexes
 - 7 final semibreve chordal complex
- [see p13]

The fourth movement, 'Communion (Les Oiseaux et Les Sources)' involves a specific use of birdsong. As in all the other movements, it begins with an epigraph or quotation, in this case:

'Sources d'eau, bénissez le Seigneur; oiseau du ciel, bénissez le Seigneur'.

The epigraph above is Messiaen's version of part of the 'Song of Creation' so often read in church after the communion has taken place. The bird style in this movement is either given the indication 'oiseau', or on two separate occasions - 'rossignol' (nightingale) and 'chant de merle' (blackbird).

The opening three bars of this fourth movement are labelled 'oiseau'. The listener may immediately find a new sense of rhythmic freedom [ex VI/2a]. The bars are all at a moderate tempo: the first two consist of long durations, while shorter notes are used in the last bar with the specific indeterminate marking 7:8 on the final hemidemisemi-quaver flourish. Unfortunately, the grace notes and the disregard of any sense of beat are the only features of these bars that sound like bird style. It certainly does not sound like birdsong, which may be the reason why the composer does not include the word 'chant' at the beginning of the section. The sounds are bird-calls rather than birdsongs. The two slow bars represent the bird singing distantly in the woods, and the faster flourish displays the agitation and fluttering of its wings, startled on a tree [see p17]. The calls of two other birds occupy the next two tempo markings. Groups of chordal complexes appear rather statically: the first two 'Lent' bars are exact repetitions and very similar in nature to the calls of the cuckoo which, although not labelled as such, mark the end of this section. A contrast emerges for the next five bars as the nightingale's song is written with three separate registrations [ex VI/2a]:

Pos: flûte 4, piccolo 1, 3ce
 G: bourdon 8
 R: flûte 4, cymbale

The characteristics of the nightingale's song are as follows [ex VI/2b]:

- 1 repeated quavers (B natural or F natural)
 - 2 interruption call (grace note(s) and high 'chirp')
 - 3 repeated semiquavers (C#)
 - 4 staccato 'alternator' (tritone)
 - 5 torculus resupinus
- The order for these terms is: 1, 2, 3, 1, 2, 5, 2,⁷ 2, 4.

The use of birdsong style here is no more innovative than in Messiaen's previous works: the only notable change is in his exploration of different timbral effects, which is achieved by modifying the registrations. The nightingale in this section is very reminiscent of the birdsong in the piano part of 'Jardin du Sommeil d'Amour' (*Turangalila Symphony*). The repeated quavers/semiquavers are used in the *Turangalila Symphony*, and the 'alternator' series is an exact replica of its most common use of the tritone interval C-F sharp. In fact, Messiaen's first representation of the nightingale's song, found in the violin part of the first movement of the *Quatuor Pour la Fin du Temps*, also includes tritone 'alternators' and regular use of repeated demisemiquavers.

The ensuing 'Modéré, Librement' (moderately, freely) makes full use of irrational rhythms [ex VI/3]. The above indication of tempo is contradictory: on one hand, the performer is asked to be free, and on the other hand, (s)he is required to observe the specific complexities of the rhythmic durations.⁸ However, Messiaen may be suggesting that the

organist should refer to the customary French saying, 'libre comme l'air' ('free as a bird'). The song, on this occasion, is accompanied in the left hand by staccato pitches (mostly semiquavers) that represent drops of water, whereas in the second movement the drops of water and the birdsong were separated. The most important bird style features in the right hand may be characterised as follows:

- 1 four ascending hemidemisemiquaver thirds and a high chirp
 - 2 two low pitch sustained notes (1st occasion: C#)
 - 3 three intermittent dotted quavers (occasionally with grace notes) (3:2)
 - 4 two irrational flourishes
 - 5 two intermittent dotted quavers (3:2)
 - 6 long D natural (with grace notes)
 - 7 three syncopated quavers (E♭ - G natural - E natural)
 - 8 exact repetition of 1
 - 9 prolonged/augmented version of 2 (2nd occasion C natural)
- [see p18]

Messiaen specifies the song of the blackbird in the ensuing bars. He marks the change by the use of a 4' flute stop on its own, and the use of a staccato texture. These phrases and calls also incorporate a principle from the aforementioned Turangalila movement: many groups of notes end with a 'reference point'. These 'reference points' are the notes G sharp, which is sounded six times in the first phrase, B natural and C#. It is important at this point to define the word 'phrase' in relation to its function as an integral part of birdsong: the blackbird's cadenza is broken up into separate phrases. A 'phrase' is defined as a group of notes that appear continuously until a rest is marked, and a 'call' is a short rhythmic cell that appears either side of rests. However, Messiaen's use of birdsong cannot always be analysed in terms of calls and phrases: in some cases other characteristics such as melody, rhythm and timbre may provide more insight into the

structure and motives of the song. The meticulously notated rests create a realistic effect, as they signify the spasmodic texture and breaths of birdsong. Using the above terminology, the following form can be found:

Blackbird Section of 'Communion' (right hand part).

PHRASE/CALL	MOTIVES	INFORMATION	FINAL 'REFERENCE POINT'
1	three G#s, two semitone 'alternators'		G#
2	syncopated phrase	ends with a scandicus cell	G#
3	four semiquavers		B natural
4* call	'pitch palindrome' ⁹ , (porrectus shape)	using G-C# interval	C#
5	staccato semiquavers and grace notes	includes G-C# interval	C#
6	long phrase	using an indeterminate flourish	B natural
7* call	two semiquavers	grace note on 2 nd	G#
8	extended flourish	indeterminate	B natural
9	syncopated rhythm	+ grace notes	
10	syncopated rhythm	the last three notes of 9	
11* call	two semiquavers	grace note on 1 st	
12	four semiquaver group, sounded three times	the third group is altered, begins and ends on the ref. point G sharp	G#
13	C-A-C + G-C# repetition		C#
14* call	Eb + long C natural	iambic	
15* call	G-C#, derived from 7 & 11	iambic	C#

* Denotes a cell that is a call rather than a birdsong phrase.

The structure of the whole movement can be simplified as follows:

Bird Song Structure: 'Communion' Movement 4 of *Messe de la Pentecôte*.

SECTION	LENGTH	TEXTURE
Modéré	3 bars	oiseau
Lent	5 bars	chord clusters and cuckoo
Un Peu Vif	5 bars	single-line: nightingale
Modéré, Librement	a) 6 ½ bars b) 7 ½ bars	oiseau and drops of water, blackbird and drops of water
Lent	5 bars	chordal complexes and cuckoo (as the previous Lent)
Un Peu Vif	1 bar	1 st bar of earlier nightingale texture
Vif	12 bars	chordal/modal chords and added note values + solo line ¹⁰ (not labelled)
Un Peu Vif	2 bars	earlier nightingale texture
Très Lent	3 bars	modal chordal complexes, dim 7ths + ascending droplets using the highest piccolo 1 stop, 32' on the pedal

As mentioned earlier, the cuckoo-type calls are similar in nature to the chordal complexes two and three bars before them [see p17, s3, b1-2]. The final 'call' of the blackbird in the right hand uses the notes G natural and C sharp, which correspond exactly to the top note of each cluster chord, and the cuckoo calls employ the other two 'reference' notes B natural and G sharp.

The bird style in this movement is innovative with its frequent use of irrational values. The section where the blackbird is accompanied by the droplets of water (although the second part is not birdsong) suggests the possibility of a counterpoint between two separate birds. In fact, this section is the first move towards a two-part birdsong like that of a 'Très Vif' section in the second movement ('Le Lorient') of *Catalogue d'Oiseaux*.

The fifth movement, 'Sortie (Le Vent de l'Esprit)' contains a long passage of birdsong which represents a chorus of larks. This 'Vif' section can be divided into three simultaneous parts. The first is the birdsong, while the second and third parts use the 'interversions sur durées chromatiques' technique. The second part, written in chords in the bass clef, begins with a duration that adds up to twenty-three semiquavers in total; the next chord is diminished by one semiquaver, and this process continues until it reaches a single semiquaver, where the use of continuous semiquavers (in chords) concludes the section. The third part acts in the opposite manner: the first duration lasts four semiquavers in length (a crotchet), and gradually augments to a duration worth twenty-five semiquavers.

Vocalisations of larks are included in this movement. In Messiaen's entire output, a number of different types of lark are represented, and the composer has made a clear differentiation between them. Types used include the calandra lark, short-toed lark, skylark, wood lark, Japanese skylark, shore lark (African), hoopoe lark (African), horned lark (North USA) and two types of meadow lark from the North USA. Messiaen is less specific in this instance: the indication in the score simply states 'Chœur des

alouettes’/‘Chorus of larks’. However, the larks are chosen because they fly much higher than most other birds, and so they symbolise an immense freedom. The sense of freedom is enhanced by the precise complexity of the chromatic rhythms that negate any sense of metre or regularity, although the bird has no conception of these human ideas.

The ‘chorus of larks’ may be analysed in the following manner. The characteristics will first be defined, and then the form of the section outlined [ex VI/4].

Main Characteristics.

- a) four repetitive D# semiquavers, three quavers
- b) four semiquavers, two ‘cretic’ sets (added note values)
- c) cell: Bb grace note, Ab semiquaver (in twos or fours)
- d) anapaestic cell: two demisemiquavers and a semiquaver
- e) two crotchets (C# or C natural)
- f) ‘alternator’ E/F#, Ab/E natural, Bb/Ab (derived from c)
- g) ‘alternator’ dramatically changed by ‘agrandissement asymétrique’
- h) four repeated dotted quavers
- i) repeated Eb semiquavers

The structure will be examined bar-by-bar, as opposed to phrase-by-phrase. Each birdsong phrase (and on occasion a mere cell) is written within a bar, while the chromatic durations seem to be entirely separate, as many ties are used. The ‘interruption call’ is not included as a characteristic since only two appear in the whole section [see p23-26].

Bar	Labelled Characteristic	Variation/Qualities	'Reference' Points/Notes
1	a	-	D# repetition
2	a'	extra two slurred quavers	D# repetition
3	b	using major 7 th and minor 9 th in a 'cretic' rhythm	outer parts: E-Eb-D & Bb-D-Eb
4	c (& d)	plus two groups of three notes, 1 st uses the major 7 th	-
5	e	-	C#
6	a'	extra two slurred quavers	D# repetition
7	c, f (Ab and E) & d	long passage of 'alternators' with grace notes, d	E and Ab
8	e	-	C natural
9	a'	extra two slurred quavers	-
10	b	long passage - extended version of b	-
11	a	new 'reference note' for a, opposite direction for final two quavers	A natural repetition
12	a (+ a')	two quaver and three quavers	A natural repetition
13	f (E-F#)	'alternator', two G# quavers, repeated F#s, two G# quavers, 'interruption call'	F# in 'alternator' and repeated cells
14	g	'agrandissement.' ¹¹ D-Bb 'alternator', broken up by 1 st a quaver & 2 nd two quavers	-
15	g	version of 14, broken up by 1 st a quaver & 2 nd dotted quavers	-
16	-	'interruption call' (iamb)	E natural
17	-	four preceding grace notes, many 'reference notes' and subsidiary notes	E natural
18	-	continuation of 17 (paeon IV)	E natural
19	reference notes and f (Bb & Ab) ¹²	extended phrase i) using reference point (E) & subsidiary notes ii) two grace note 'chirps' iii) Bb-Ab 'alternator' iv) two quavers (E)	E natural
20	f (Bb and Ab) & h	i) Bb-Ab 'alternator' ii) four repeated E's as dotted quavers	E natural
21	d	three groups of d and a spondee on E naturals	E natural
22	-	i) 'reference note' (Bb) ii) 2 climacus cells iii) two semiquavers E and Eb	Bb
23	i	twenty Eb semiquavers	Eb

[p23-26]

This work is the first in which Messiaen simultaneously incorporates birdsong, irrational values and the 'interversion' system. Divergent and startling variations are found in his use

of registrations, even when depicting birdsong. More regularly, the composer uses the actual name of the bird in an attempt to create its unique timbre.

Livre d'Orgue - Sept Pièces pour Orgue (1951)

Messiaen's strict organisational procedures reach their apogee in *Livre d'Orgue*, the second organ work of this period which acts as a conclusion to the immediately preceding piece, *Messe de la Pentecôte*. Sharngadeva rhythms, interversions and various audacious serial techniques display a synthesis between them, and timbre, note-lengths and intensities are as important as pitch. The work has seven movements, as shown below:

Livre d'Orgue Movements

I	Reprises par Intersion
II	Pièce en Trio
III	Les Mains de l'Abîme
IV	Chants des Oiseaux
V	Pièce en Trio
VI	Les Yeux dans les Roues
VII	Soixante-Quatre Durées

The first and last movements are the only sections in Messiaen's output for organ which forgo any element of the spiritual or theological. The second and sixth movements are also linked together, as they incorporate the same pitch-series, in the same way that the third and fifth do, while the fourth movement is the nucleus of the entire work - a fantasy of birdsong. The composer uses three Hindu rhythms in the first movement, which become

'rhythmic personages'. This monodic writing is repeated but in the form of a 'closed fan'/'éventail fermé': the first note is followed by the last, the second with the penultimate, until the centre note has been reached. Similarly, the overall structure of the movements is a palindrome: I-VII, II-VI, III-V, IV (centre movement). The utilisation of retrograde and palindromic forms is essential to the work as a whole.

The day is divided into two in the fourth movement, 'Chants des Oiseaux'. Messiaen includes a characteristic epigraph at the beginning of the piece:

'Après-midi des oiseaux: merle noir, rouge-gorge, grive musicienne -
et rossignol quand vient la nuit...'
(‘Afternoon of the birds: blackbird, robin, song thrush -
and the nightingale when darkness falls...’)

The birdsong in this movement has become indisputably the centre of attention. No longer are these sonorities embedded amongst other textures. In fact, all the passages in this movement monophonically display birdsong in isolation, uncontaminated by western compositional techniques as far as possible.

Two passages of birdsong seem to act as conversations between the blackbird, nightingale and song thrush. The first is principally a vocalisation of the blackbird, with two short episodic interjections by the nightingale and song thrush.¹³ The second uses the song of the song thrush as the main voice, as it sings alternate passages with the flamboyant melodies of the blackbird and a short call from the nightingale. The other three sections are birdsong cadenzas: the blackbird, robin and nightingale each in turn exhibit several of

the intrinsic virtuosic elements of their vocal repertoire. Five separate parts may be distinguished in the birdsong:

- 1 Conversations: blackbird, nightingale, song thrush, blackbird
- 2 Blackbird's cadenza
- 3 Conversations: song thrush, nightingale, song thrush, blackbird, song thrush, blackbird, song thrush, nightingale, blackbird
- 4 Robin's cadenza
- 5 Nightingale's cadenza

Each bird in the first passage is separated by a very brief 'Un Peu Lent' bar on the pedal (violoncelle 8) which contains the ubiquitous grace note so often associated with short interjections, often categorised as an 'interruption call'. As Messiaen does not label this as birdsong of any kind and the register is very low in comparison to the conversational vocalisations, it may be unwise to describe them as such. However, in later works, Messiaen notates numerous birdsongs in a low register because he has transposed all the birdsong down several octaves so that the very high-pitched sounds are both audible and playable on the desired instrument. The overall effect of this method is to represent the birdsongs exactly in relation to each other. In this case, it is more probable that these interjections serve the purpose of giving the listener a chance to differentiate between each species' song. In fact, each song has its own tempo marking: this is a further element that divides the birdsongs from one another, besides the articulation, comparative dynamics and motivic styles. Moreover, each birdsong in the whole movement has its own specific registration, three of which appear in the first section:

blackbird	Presque Vif (et Fantaisiste) ¹⁴	Pos: flûte 4, nazard 2 2/3, tierce 1 3/5
nightingale	Très Modéré, Tendre	R: flûte 4, octavin 2, bourdon 16
song thrush	Bien Modéré, Autoritaire	G: plein jeu, clairon 4
robin	Vif	G: flûte 4 seule

[see p13 and top of p14]

The first of the blackbird's songs is written in one lengthy bar. It can be divided into five parts. The first is built up of five demisemi-quavers that end on a high accented A natural, and the third is written in the same vein, except that it concludes with a high B natural. The second and fourth parts conclude with a high accented pitch, but they are not marked with an accent, only a staccato sign. The fifth cell is an F# and two 'interruption calls', forming a dactylic cell. Ornithologists have frequently mentioned that the blackbird regularly concludes with a very high-pitched 'chuckled' declamatory sonority. These two E naturals (with preceding grace notes) typify this unique quality, as they are comparatively higher than the preceding pitches: the nazard 2 2/3 and the tierce 1 3/5 exaggerate this. The nightingale's bar can only be described as a 'call'. Only the two notes C and B are used, forming a thirteen demisemi-quaver major 7th staccato 'alternator' - 'o, tiotio, tiotio, tiotio'. The overall sound is far more calm and reserved than that of the blackbird: the dynamic is a dramatic contrast in itself (f-pp). The nightingale seems to be in the distance. The song thrush makes an exciting entrance with its fortissimo marking. It should also be described as a 'call' rather than song, as it is made up of two motives, both of which are 'interruption calls', and the entire bar only makes use of a few notes. The first motive uses the notes G-A flat-F# with an accompanying grace note, and the second

involves an 'alternator' (B flat-A natural) where each semiquaver in the group of two notes acts as a grace note, thus forming three iambic cells. The second of the blackbird's appearances is written in four bars of unequal length. Each bar displays an entirely different characteristic and style. The range of the blackbird's song is conveyed by using a top Eb and a C natural in the bass clef. The first two bars are exact repetitions. More importantly though, the most common feature of the four bars is the use of 'double' notes. The first bar begins with an anapaestic cell - two B naturals and an F natural. The third bar has two A flats before another 'chuckled ending'. The endings of the third and fourth bars are similar: they both include three notes in common (although the fourth bar uses octave displacement), end on a high-pitch and use the rapid demisemiquaver pattern with widely-spaced intervals. The fourth phrase of the blackbird's second song in the 'conversations' also uses double notes (G and A natural) which act as 'reference points'. The first four notes also use the same augmented interval: the first two notes are transposed down a fifth. The song ends with a huge leap from a bottom C natural in the bass clef to a high-pitched B flat.

The blackbird's cadenza [ex VI/5] may be described as a section of birdsong which uses the principle of 'continuous motivic islands'. Paul Griffiths originally coined the expression 'motivic islands'¹⁵ when summarising short phrases of music that frequently use many of the same pitches. This section epitomises this theory, with the additional use of transpositions which incorporate many of the same intervallic relationships. The cadenza may be divided into several parts; since the music cannot be segmented into phrases as there are so many isolated single-note 'chirps'. However, it is of paramount importance to

define how a 'part' is separated. In this case, a 'part' is a section of music before a rest. Whether a rest represents a period of time when the bird takes a breath, pauses, or not, it is the simplest way to visualise and analyse the birdsong. If this section were to be sung, the performer would lengthen the time after a staccato note at the end of a slur; however, as this is to be played on the organ, the durations should be observed as accurately as possible. Taking this into consideration, a staccato note at the end of a slur does not constitute the end of a part, although a comma (pause), which appears in several instances, is the only other feature apart from the rests that divides one part from the next. The section can therefore be broken up into thirty-two parts of varying length: music between rests or pauses, whether it is built up of one note or many more. The birdsong cannot be broken up into bars as there are only two in the whole section; however, it may be reasonable to delineate two separations by the two bar lines. The 'motivic islands' effect can be very similar to the 'alternator' if only a few notes are used in a section of music: the difference is that a pitch may be repeated and three or four notes included. Examples of this technique can be seen in most of the parts. Part 1 uses the notes A flat, D natural and G: both the beginning and the end have the tritone interval A flat-D natural. Out of the eight notes before the unexpected C#, the Ab is sounded twice, the G natural once, and the D natural five times. These same pitches are the only notes used in part 3; once again the group of pitches concludes with a staccato semiquaver. Part 7 uses the two notes G and C#: the effect is similar to an 'alternator', only the C# is repeated once before the other note is sounded for the second time. For the purpose of this immediate study, the use of the notes D, G and Ab is so regular that they will be labelled motive 'x'. There are occasions where two of the notes of 'x' are used and the third is missing: examples can be

found in parts 5 and 28. Many of the parts conclude with a high-pitched staccato 'chirp': these notes stand out of the texture not only because they are higher in pitch, but also because they are all staccato. These higher-pitched sounds with their preceding flourishes may resemble the characteristic 'chuckled ending' so often referred to by ornithologists. The last two notes of a group of notes, in several instances, form a tritone. In addition, if a final 'reference point' is introduced, nearby parts or groups of pitches often conclude with the same pitch. For example, the single D natural is presented at part 14; parts 15-16, 18-20 and many others also conclude with this pitch. In fact, the D natural is the most frequently used 'reference' point: the discrete nature of the birdsong gives the final pitch more impetus. The grace notes are scattered at various points in the section; however, they are used sparingly, enriching the birdsong rather than drawing attention to themselves. The parts vary in length, which gives the birdsong a sense of coherence and freedom: if it were not for this, the music would stop and start without developing the true nature of the blackbird's creative flexibility.

Rhythmic features include repetitions of durations. Part 15 displays two groups of three demisemiquavers, while part 24 can be divided into two identical groups (two demisemiquavers and a semiquaver repeated in a scandicus melodic shape). These groups are broken up by a grace note, while a three-note pattern and 'reference note' finish the part.

The following table simplifies the use of rhythmic and melodic structures in the blackbird's cadenza. The digits signify the number of notes that are grouped together, the single notes not being included unless they are a part in their own right. The symbol 'x' is used when describing the notes G, Ab and D natural. For example, in part no. 1, the 'x' in the 'Pitches' column indicates that only the notes G, Ab or D natural are used; '2x, 4x' in the 'Groupings..' column shows that there are two groups which both use notes drawn from G, Ab and D; while 'low C#' in the 'Final Reference Note' column is self-explanatory [p14-15].

Part No.	Pitches	Groupings/ Characteristics in Order ¹⁶	Final 'Reference Note'
1	x	2x, 4x	low C#
2	x + C#, C	3, 4 (paeon IV), 2 (ends with scandicus)	low D
3	x + C#, B, A	3x (paeon IV), 4x, 3x, 4, 6x	D
4	x + C#, B	3 (torculus resupinus), 5, 4	Ab
5	x (missing G) + Eb, E	3 (climacus resupinus), 2 + cretic cell	D
6	x + C#	3x (paeon IV), 4	G
7	G and C#	6 (like an alternator)	C#
8	x + C#, Eb (and B)	9, 5x, 5	Ab
9	x + Eb, C#	3x (paeon IV), 5x, 4, 8x (alternator at end)	C#
10	x	7x	Ab
11	A natural	single note	A
12	11 notes of chromatic scale	extended phrase 6, 7, 3 (climacus resupinus), 6 reference note: D natural	Eb
13	C #	single note	C#
14	D natural	single note	D
15	Eb, E, D	2 tribachic cells + cretic cell	D
16	Eb, E, D	2 + cretic cell	D
17	C#	single note	C#
18	D natural (Eb grace note)	single note	D
19	x + B natural	5	D
20	x (total of 9 notes of chromatic scale)	extended phrase 5x (incl. Climacus resupinus), 7, iamb, 3x (climacus resupinus)	D
21	Eb	single note	Eb

22	x + B natural	3 (torculus resupinus)	D
23	x + Eb, C, F# and C#	5. 4+1 (climacus resupinus). 5+1	C#
24	x (total of seven notes of chromatic scale)	2x (scandicus), 2 (porrectus). 2x (scandicus), 2 (porrectus). 3x (climacus resupinus)	D
25	x + B and C#	↓	Ab
26	x + B and C#	↓	G
27	C natural	single note	C
28	x (missing G)	iambic interruption call	Ab
29	D and C#	iambic interruption call	C#
30	x + Eb, D, Ab	extended phrase: 3 (climacus resupinus). 3 (climacus resupinus), 5x, 3 (climacus resupinus). ↓	D
31	C natural	single note + grace note	C
32	x + E, Bb, F#, C	2, 3x (climacus resupinus), 4 (incl. torculus resupinus). 6	C#

The second conversational passage (p16) involves sounds of the song thrush, nightingale and blackbird. The order is as follows:

song thrush - nightingale - song thrush - blackbird - song thrush - blackbird - song thrush - nightingale - blackbird.

The song thrush's vocalisations are intrinsically repetitive. The first excerpt is four bars in length: each bar is exactly the same, both melodically and rhythmically, and the tritone is the final interval. The second excerpt uses two motives. The first bar begins with the tritone F sharp/C in a three-note anapaestic cell, while the remaining bars use the rhythm of the first vocalisation, only with different pitches. The third appearance uses a short dramatic anapaestic call which is repeated twice, while the final involves two motives, the second of which is an 'iambic' 'alternator' G/A - 'touhitte'. The nightingale has two brief extracts. The first is a short and rapid pianissimo 'alternator' call, the second is a group of successive demisemiquavers on an F# that gradually fade into the distance. The blackbird's

vocalisations can be described as songs or phrases as they are slightly more varied. Its first appearance uses three motives. The first two use a small cell and are repeated exactly (two paeon IV cells and two anapaestic cells), but the third sounds like the characteristic 'chuckled ending'. The second phrase is reminiscent of its own cadenza: the use of groups of demisemiquavers which are followed by higher-pitched staccato 'reference notes' and the Eb/D grace note make this clear. The blackbird's third song in the conversations is much more vibrant and lively than the immediately antecedent phrases. The Eb/D grace note cell is taken up and repeated, more flourishes are used with higher pitches, and Messiaen includes a far wider range than before. Huge leaps are found: the music is scattered as if the bird had been startled. The phrase is continuous - there is only one rest [see p16-17].

The robin's cadenza is also continuous and is built up of demisemiquavers, very occasional grace notes and single note semiquaver interruptions [ex VI/6]. These three high-pitched semiquavers once again break up the texture and act as pauses: the notes used are F natural, E natural and E flat, in that order. Variety is also found in Messiaen's use of repeated notes. There are many groupings that have two successive pitches. If the section is divided into sets (a number of durations grouped together), then the following can be found:

set 3: A natural 6 times

set 5: F# twice

set 8: Ab twice

set 9: E natural twice

set 10: E natural twice, D natural twice

set 11: Eb four times

set 15: A natural three times

set 18: Bb twice

set 21: A natural twice

Moreover, the A natural grace note and the G appear later in set 12, but as two regular demisemiquavers, immediately followed by a short tritone 'alternator' in set 13. The same principle seen in set 12 is incorporated in sets 6 and 19: two notes remain constant, while the other pitches change [see p17].

The nightingale's cadenza begins with exactly the same major 7th 'alternator' as its first vocalisation in this movement [ex VI/7]. This is straight away followed by the minor 9th interval and rapid repeated F sharps, as displayed previously in the nightingale's second call of the second conversation of this movement. Other successive repeated demisemiquavers are incorporated into this section on different pitches (sets 17 and 14), and again on the F sharp, but at a much slower tempo (sets 5 and 10). The slurred minor 9th leap at the beginning of set 3 is developed into a compound major 7th at set 15: this is the interval used in most of the 'alternators', only here octavely displaced. The following table may be deduced from the nightingale's cadenza. The sets are divided; the general principles of separating phrases and sets are adhered to; however, a degree of subjectivity is inevitable.

The Nightingale's Cadenza

Set	Features	Dynamics
1	'alternator' major 7 th	pp
2	single F#	mp
3	(minor 9 th) repeated F#s	mf>ppp
4	three iambs (major 7 th)	mf
5	slow version of 3 (fewer notes)	mf>ppp
6	repeated C#s (as 3)	mf<f
7	'interruption call'	pp
8	tritone 'alternator'	pp
9	five high-pitched 'chirps'	pp/mf/pp
10	slowed down version of 3 (on C natural)	f>ppp
11	major 7 th 'alternator' (as 1)	pp
12	spondee ¹⁷	mf
13	anapaest	f
14	repeated C naturals + major 7 th B-C	f>
15	two spondaic cells	f
16	'alternator' (as 1)	pp
17	repeated A flats (as 3)	(pp)
18	C# + three Bbs	pp
19	E natural 'chirp'	(pp)
20	three repeated F#s	(pp)
21	2 anapaestic cells + porrectus	mf/pp
22	repeated A naturals	f>
23	torculus resupinus	pp
24	spondee + repeated F# (as 3)	p>ppp

[see p18]

In the final movement, 'Soixante-Quatre Durées', Messiaen takes sixty-four chromatic durations and arranges them into groups of four, forming the effect of a 'closed fan'. This is simultaneously counterbalanced by a retrograde order which is like the opening of a fan.

The following displays the opening bars:

Closed Fan (top line, Manuals) 61, 62, 63, 64, 4, 3, 2, 1...

Open fan (Pedal) 29, 30, 31, 32, 36, 35, 34, 33...¹⁸

Even the birdsong is superimposed or combined with the rhythmic series: the vocalisations of three new birds, the great tit, great spotted woodpecker and blackcap are included.

The tempo marking remains the same for the whole movement; therefore, the most practical method of referring to certain aspects of the section is to provide page numbers. Pages 33-37 consist of the aforementioned interversion systems in the top line and the pedal; however, it becomes immediately apparent that the middle line has a distinct freedom, and includes within it 'style oiseau' characteristics. Although much of the writing is at a lower pitch than one would expect, it nevertheless includes repetitive semiquavers on the same pitch, flourishes, an 'alternator', grace notes and contrasts between staccato and legato, and yet at the same time it is discrete in nature and rhythmically clearly distinguished from the concurrent interversions. On page 34, the middle line takes over the 'closed fan' series from the top line: this part becomes 'freer' for a few bars. In fact, throughout the movement there are predominantly two parts adhering to the 'fan' interversion series, while the remaining part is wholly distinct. Messiaen's introduction of brackets for each bird vocalisation is extremely helpful in discriminating between the various songs and calls.

The great tit makes its first appearance in Messiaen's music on page 38 [ex VI/8a]. This succinct excerpt may be characterised as three anapaestic calls: each identical cell uses the tritone interval D natural-A flat, and the rhythm consists of two demisemiquavers followed by a semiquaver. The great spotted woodpecker also makes a brief appearance with its

slow repetitive C# semiquavers [ex VI/8b]. The three tritone calls of the great tit are soon heard again, which preface a short-lived tritone 'alternator' comprising staccato triplets, and labelled the nightingale [ex VI/8c]

The single-line texture of bird style changes at page 41. Shortly after four high-pitched 'chirps' with preceding grace notes, the song thrush continues with two 'interruption calls' with a subsequent bird style line that has the label 'oiseaux divers'/'various birds'. The first call is a porrectus and the second a torculus resupinus. Although Messiaen does not specify which birds he is representing in this middle line, it is nevertheless an important development in his use of birdsong. Two birdsongs, or possibly more, are heard at once: each part is entirely individual [ex VI/9]. The 'various birds' continue until the named bird style has concluded. The blackbird has one concise call which somewhat overshadows the 'various birds' for a split moment: it is a major 7th 'alternator' with a final F sharp, contained within a sextuplet. The blackcap is also swift and brief: the excerpt consists of four notes: G sharp, A, E and D. The first group of four notes is practically organised into retrograde order for the second four. The nightingale begins with the characteristic long seamless note, which falls a minor 9th to a pitch which is repeated like a machine-gun, only on this occasion it is much slower than in previous interpretations. The repeated notes are written as semiquavers rather than the usual demisemiquavers found in the fourth movement, 'Chant d'Oiseaux'. The nightingale's vocalisations conclude with a sextuplet demisemiquaver flourish, as the chromatic durations (interversion series) draw the piece to its close [see p40-43].

As can be clearly seen, this work incorporates counterpoints between two birds' vocalisations, and a bird style that is occasionally juxtaposed with an interversion system. The birdsongs and calls are mainly placed in the foreground rather than used simply for decorative purposes. Messiaen introduces new birds' names into his stylistic repertoire, and only on one occasion uses an ambiguous term, 'oiseaux divers'. Messiaen's preoccupation with the sounds of the blackbird may be reflected in his concentration on this species in the next work, *Le Merle Noir*, which is dedicated to the unique vocalisations of this bird.

Le Merle Noir (1951)

Messiaen was commissioned to write a piece for the final flute 'concours' at the Paris Conservatoire of 1952. This is the first of Messiaen's works that most musicologists regard as being exclusively based on birdsong. It may be plausible to suggest that Messiaen was here substituting the unique sounds of the natural world - specifically, birdsong - for the explorations into musique concrète and electronic music with which he had previously been experimenting. This work heralds a substantial epoch where birds become of chief concern and, in many cases, the single most important nucleus for musical inspiration. Perhaps Messiaen felt that a world dominated by mechanical devices, science and war, was only too eager to regard music as a clinical and intellectual discipline, rather than one of emotion. It may have been a conscious decision on Messiaen's part to move away from musique concrète and related compositional theories, and write a piece of

music solely based on phrases and other characteristic vocalisations of the ubiquitous blackbird, a bird that Messiaen had used to an increasing degree in recent works. *Le Merle Noir* has been kept in the 'Experimental Period' first because it was written in the same year as *Livre d'Orgue*, and second, as it still includes elements of a quasi-tone-row, on occasions employing eleven of the possible twelve semitones in the octave. Moreover, there is a dramatic shift from this solo piece to the chorus of thirty-eight birds in the following work, *Réveil des Oiseaux* (1953), which is to be discussed in the following chapter. Nevertheless, *Le Merle Noir* is the apogee and synthesis of his early approach to the sounds of the loquacious blackbird, even if the sounds he created were more inspired by memory than actual transcriptions.

The movement can be divided into subsections: the table below has been adapted from Roger Nichols' original analysis. The basic form of the piece according to Roger Nichols is 'bar form' (A - A' - B); however, it may also be described as A - A' - Coda Form. The form of the piece is shown below:

SUBDIVISION	TEXTURE	BAR NOS.	
1	'rumbling' piano (sustained)	1-2	A
2	blackbird's cadenza	3-8	
3	piano/flute conversation	9-26	
4	octaves	27-28	
5	chromatic chords & silent bar	29-35	
1	'rumbling' piano	36	
6	trills (staccato on flute)	37-43	A'
1	'rumbling' piano	44-45	
2	blackbird's cadenza	46-53	
3	piano/flute concurrent canonic conversation	54-71	
4	octaves (each part 1 quaver apart)	72-74	
5	colour chords & silent bar	75-82	
1	eight semiquavers (higher than 1 and not sustained)	83	CODA
6	trills (staccato on flute)	84-90	
7	'Vif' section	91-125	

N.B. Sections marked in bold are idiomatic renditions of the blackbird's song.

Generally the A' section is an extended version of A. Roger Nichols described the piano/flute conversation as a 'combined song'; however, the regularity of the rhythms, using only one added note value per bar, makes the overall sound very unlike birdsong of any kind. Roger Nichols does not specify that it is birdsong, but the mere fact that he uses the word 'song' implies this. The only idiomatic representation of birdsong seems to appear in the two cadenzas marked 'Un Peu Vif, avec Fantaisie' (2), the two sections of music where staccato semiquavers are played by the flute as the piano plays continuous trills (6), and in the final 'Vif' section (7). In these sections, birdsong is only found in the flute part, although the piano atmosphere enriches the sonority of the flute's tone, especially with the wide diversity of register that Messiaen has used.

The first cadenza, from bars 3-8, may be analysed in a slightly different way [ex VI/10]. In previous structural representations of birdsongs, the entire section has been divided into phrases, calls and bars; however, if the birdsong has been transposed down several octaves and is therefore significantly slower, the frequent use of quaver rests may symbolise pauses rather than breaths or the end of a phrase. Moreover, if a phrase of the blackbird on most occasions concludes with a high-pitched 'chuckle', then the musical notation that creates this effect may signify the end of a phrase. For the sake of clarity, each of the blackbird's cadenzas must be divided into bars, but this first song in addition will be described in relation to the 'chuckled ending', as shown below:

- (1) 'Chuckled' ending structure
- (2) 1st phrase: 3-6 flatterzunge
- (3) 2nd phrase: 6 flatterzunge-8 flatterzunge

Taking this principle into consideration, the final five chromatic semiquavers cannot be part of this blackbird's song: perhaps these notes resemble a blackbird in the distance with its ppp dynamic, and possibly that 'chucked ending' is inaudible in real life. On the other hand, the blackbird's phrase may not necessarily have come to a conclusion.

The 'chucked' endings are signified by the two flutter-tongue effects, first on a C sharp² and secondly on an E flat². This special effect produced by the flute creates a harshness, especially in a high register. As Roger Nichols mentions in the aforementioned article, the notes A, E flat, D and G# are the main pitches used. The 'motivic islands' effect can be seen once again in a table form, dividing each group of notes tied together, and relating all the pitches to these four notes. The notes A, E flat, D and G# will be labelled 'x'.

BAR	GROUPS	OTHER FEATURES
3	3x (scandicus), 7x + C# & B, D and neighbour note alternator	includes final B
4	single note D, 5x, iamb, 5x + C	-
5	5 ¹⁹ , 3	includes final B
6	4x, 4x, flutter-tongue, 7x + 'chirp'	-
7	5x, iamb (minor 9 th 'call'), 5 (staccato), 2 longer durations	repeated F natural
8	5x, 4, iamb, 8x + C# & C, iamb, 3, flutter-tongue, five chromatic demisemiquavers	- repeated F natural

[see p1]

The iambic cell occurs on four occasions: it becomes a feature because on the penultimate appearance it uses a tied F natural, and immediately preceding this the version in rhythmic augmentation uses the same note.²⁰ Features generally become coherent with the use of small cells that appear in the same order while expanding. An example of this can be found in the first bar: the A, Eb and D used in the first set are utilised again in the same order, but with additional pitches. The very high fortissimo G natural and F natural in bar four is diminished to a single G natural in the sixth bar. As can be clearly seen, the methods of expansion and diminution are very frequent traits in the movement.

The twenty-eight continuous semiquavers that occur in bars 37 to 41 also circle around a few pitches [ex VI/11]. The first four bars are practically an ostinato: each bar uses the same rhythm and pitches, apart from the third note which interchanges between a Bb and a B natural, and the final two notes are transposed up a major 2nd alternately. The first bar begins on the third semiquaver beat, missing out the first two notes of the series. The second and third notes of each bar are always marked with a slur, while the other notes are staccato. The pitches of the four bars are displayed below:

bar 37	-	-	Bb	A	F#	G#	(i)
bar 38	D	A	B	A	G#	A#	(ii)
bar 39	D	A	Bb	A	F#	G#	(i)
bar 40	D	A	B	A	G#	A#	(ii)

The fifth bar (41) employs the four notes of 'x' (D, A, Eb and G#), followed by an F sharp, Eb and a long sustained D natural. The bird style qualities are enhanced by the trills in the piano accompaniment, but it can only be realized if one imagines the phrases recreated at least three octaves higher and therefore several times faster.

[see p3]

The blackbird cadenza (b46-53) in the A' section is conceived in a similar fashion to its earlier counterpart [ex VI/12]. Apart from the continuous use of the 'motivic islands' effect, the special features are as follows:

- a) iamb (also in retrograde: trochee)
- b) flutter-tongue
- c) scandicus
- d) 'alternator'
- e) 'rhythmic palindrome' (cretic)
- f) high-pitched 'chirps' (usually repeated iambs)

Bars 46-53 (the blackbird's A' cadenza) can be structured in the same way as before, as shown in the following table. However, in this instance, six other letters are initially included, signifying the features of the birdsong which are not related to the 'motivic islands' effect. The first letters in the alphabet are designated to these other motivic features, while the later letters are reserved for Messiaen's preoccupation with certain pitches. Generally, the two groups of symbols are separated from each other in the table: the use of the same pitches is, however, also found in the subsequent music. The music

that is not in the list above (a-f) is always a large group of slurred demisemiquavers - sometimes up to nine notes in a set. In the next table, the figure 'x' again can be used to describe the notes D, A, G# and E flat, and the groups of pitches which contain three-note-cell repetitions are labelled 'y'. These three-note repetitions only occur on two occasions: in the first instance the third note is altered. An additional cell may be labelled 'z' when it includes three repeated pitches within the group. The approach described above will be referred to as the 'motivic classification'. The blackbird's cadenza in A' will once again be divided into bars; however, the bar numbers in the left hand column refer to their position in the piece as a whole. The pitch characteristics are as follows:

x: D, A, G#, E flat

y: includes repeated three-note cells

z: three repeated pitches

[see pp3-4]

The overall structure of the blackbird's A' cadenza is shown in the table below:

Bar No.	Groupings/Features
46	2x, a, b (torculus, trochee + fluttertongue)
47	9x, d, c (flourish, alternator, scandicus)
48	8 + 1 quaver (z), 8y, 6, e + 1 quaver (3 flourishes + syncopated cell)
49	a, 9y, z + 1 quaver, c, e (iamb, flourish, paeon IV, 2 scandicus cells (2 nd in a cretic rhythm)

50	f, f, f, a (grace notes, iamb)
51	9, c, f, f, f, f (flourish, scandicus, grace notes)
52	a, f, a, f (4 iambic cells)
53	8, 8, b, descending chromatic scale, 2 (2 flourishes, fluttertongue, extended climacus, and spondee)

[see VI/12]

The use of dynamics in bar 52 demonstrates an echo of similar motives. The dynamics of this bar are mf-ff-mf-ff, which can be seen as an intensity version of an 'alternator'. This ABAB subset form can be also seen in the previous section (bars 37-41), where each alternate bar uses the same pitches.

The second section, which uses trills in the piano and staccato semiquavers in the flute, occurs between bars 84 and 90. It is exactly identical to the previous version except that the whole section is transposed up a perfect 4th, the articulation, dynamics and durations remaining the same.

The final 'Vif' section is the last component which can realistically be regarded as birdsong. The piano accompaniment is continuous until the last five bars where the interlocking and overlapping give way to a discrete texture. The piano takes on a strict twelve-note row over the thirty bars from 91 to 121. The flute part consists entirely of staccato semiquavers, syncopated quavers and sextuplet semiquavers. The entire song oscillates around the notes A natural, G natural and a high G sharp. Bars 91-96 only use three notes, while 97 includes the next most commonly employed pitch, D sharp. The first bar of the 'Vif' section (bar 91) displays the motive in its original form. As in previous

instances, the most frequently used pitches that appear in close proximity are collectively labelled 'x'. The motive 'x', in its original state, comprises nine semiquavers: the first four notes are repeated in the same order, with a final ninth note at the end. The first and last notes have an attached grace note. Although bars 91-94 only use 'x' in its original form, the overall sound is not monotonous as the middle version begins on the second crotchet beat of the bar, thus making it possible to fit three versions of 'x' into four bars without overlapping. The third version is extended. Bar 95 uses the first four notes of 'x' in retrograde order²¹, as it starts with the fourth note, and is followed by the third, second and first: this small phrase concludes with the last two notes of the original 'x', while bar 96 is an exact repetition of 95 [see p6]. Messiaen employs the 'open fan' effect in the birdsong as well as in his 'interversion' systems. The rearrangement of intervals can be shown in bar 97, where the A natural and G natural are swapped around and a D# is included. Bar 98 introduces a new motive, 'y', which begins with semiquavers, syncopated C sharps and ends with a descending sextuplet flourish. Motive 'z' consists of the notes A natural and G natural, with intermittent 'double' grace notes: predominantly they use an 'alternator' form, but in a few instances they use 'double notes'. These alternators are heavily disguised by the frequent grace notes that are applied rather arbitrarily. In 'z', the notes G# and D# are added; however, the phrase is separated from 'x' by the numerous 'double' grace notes. These grace notes are the main aural constituents that differentiate 'z' from 'x'. The 'motivic classification' of the flute part in the 'Vif' section is as follows:

x: A natural, G natural, G# (see bar 91)

y: semiquavers - syncopated C#s - descending sextuplet flourish

z: 'double' grace notes with many A naturals and G naturals

It is important to note that although the section can be subdivided with the help of the above classification, each motive uses the notes A and G, and bars 91-121 evolve around these notes, with the addition of the 'reference' notes D#, G# and C#. The C# occurs in 'y' as repeated syncopated pitches, while the D#s and G#s regularly spring out of the texture. These 'reference' notes help to give the blackbird's song its unique character, and it is precisely for this reason that one cannot analyse birdsong in terms of set theory. As Johnson explains²², the use of pitch classes cannot account for the features of birdsong. These 'reference notes' or 'points' are described by Johnson as 'anchor points', which have a pivotal function for the various compositional processes that promote their development. Moreover, the inversions and compound sets of certain intervals cannot be related to each other. The table below gives a sense of the audible coherence and structural framework of the flute part [see pp6-8].

Bars	Features
91-94	x, x, x
95-96	retrograde version of four note cell in 'x' (twice)
97	x + D#
98-100	y
101	z
102	double-iamb. fragment of z
103	four unidentified semiquavers
104	double note z + grace notes and trochee

105	z
106	z. double note z + G#
107	z. + D# and G#
108	porrectus. z fragment
109-113	use of notes G, D#, C#. G# with and z fragments
114	'high-chirp'. x
115-116	x. x
117-121	extended version of y + syncopation
122-123	rests
124-125	sextuplet flourish (as in y, but ascending) + two high-pitched 'chirps'

The wide range given to the flute part also enables it to display a significant contrast in its timbral effects. The final phrase may be described as a 'chuckled ending', especially with the *fff* dynamic which produces a harsh and even 'un-pitched' quality. The birdsong in the 'Vif' section is made more idiomatic with its repetitive language; however, with the piano overlapping the rhythms and the pitches, it is hard to decipher this style in comparison to its counterparts in the two earlier cadenzas.

However surprising it may seem, Messiaen's abandonment of electronic music and many forms of serialism was inevitable. His aesthetic and deeply religious philosophies were integral to his life and music: both inextricably interconnected. Where Messiaen might have used microtones and indeterminate rhythms, instead he favours glissandi and the process of proportionate augmentation: with the semitone as its fundamental unit, the durations and pitches of the bird's original vocalisations are transposed, making the music 'to scale', aurally perceptible and in the range of the desired instrument. As Messiaen has proudly pointed out:

'I chose the birds - others, the synthesiser'²³

In the following work, *Réveil des Oiseaux* (1953), Messiaen rediscovers the ability of the orchestra and the piano also to produce a highly sophisticated, contemporary, forward looking and exploratory music. Birdsong is to be used for its own sake, rather than for decorative purposes; but it was *Le Merle Noir* that was the first piece to be entirely dedicated to bird style.

Notes to Chapter VI

- ¹ The 'interversion' system is a form of permutation: by addition or subtraction, rhythmic values gradually increase or decrease. Examples of this method can be found in 'Regard des Prophètes, des Bergers et des Mages' and in 'Regard de l'Onction Terrible' from the *Vingt Regards sur l'Enfant-Jésus* (1944). This system can be used in retrograde order or by dividing the total group of durations into subsets. The 'interversion' system, using chromatic rhythms, is present throughout the experimental work, *Île de Feu I and II* where the systematic permutations of the twelve note series in *Mode de Valeurs et d'Intensités* are extended to the durations in what Johnson calls a 'wedge' shape. This 'wedge' shape is also employed in *Livre d'Orgue*, but on this occasion it is described as a permutation of an 'open fan'.
- ² Antoine Goléa, Rencontres avec Olivier Messiaen, (Paris, Julliard, 1960).
- ³ See Pierre Boulez's article, 'The Threshold', taken from Die Reihe, Vol. II (1955), p40.
- ⁴ Richard Toop, "Messiaen/Goeyvaerts, Fano/Stockhausen, Boulez," Perspectives of New Music, 13, No.1 (1974) pp141-169.
- ⁵ There is another minor piece, *Timbres-Durées* (1952).
- ⁶ For more information about the improvisatory quality of *Messe de la Pentecôte* see Claude Samuel, Olivier Messiaen: Music and Color: Conversations with Claude Samuel, trans. E. Thomas Glasow, (Portland, Oregon, Amadeus Press, 1986), p25.
- ⁷ Derivative of 2, demisemiquavers being used instead of the grace notes.
- ⁸ Moreover, Messiaen includes the markings 'poco rubato', 'rall.', and 'A Tempo'.
- ⁹ The pitches used signify the same forwards and backwards, just as a 'rhythmic palindrome' is a group of durations used in the same manner.
- ¹⁰ The sixth chords and resolutions are very reminiscent of the love themes in the *Turangalila Symphony*.
- ¹¹ This bar of music incorporates the 'agrandissement asymétrique' system to the pitches, thereby causing the 'alternator' to be unrecognisable.
- ¹² The 'alternator' Bb-Ab is derived from c, the Ab-Bb grace notes.
- ¹³ The nightingale's song is particularly beautiful and drawn-out in the early evening, but it still vocalises during the afternoon.
- ¹⁴ On two occasions the '..et fantaisiste' is omitted from the tempo marking.
- ¹⁵ Paul Griffiths, Olivier Messiaen and the Music of Time, (London/Boston, Faber, 1985), p147.
- ¹⁶ The 'x' that appears in the characteristics column denotes a phrase or group of notes that only use the three notes of this motive.
- ¹⁷ This simple scandicus motive produces a 'swooping' effect.
- ¹⁸ The information here is only relevant for the first page of music in 'Soixante Quatre Durées': the interversion system moves from one stave to another later in this movement.
- ¹⁹ Each interval from the 'x' cell is augmented by a semitone, while the whole group of notes is transposed.
- ²⁰ When the iambic rhythm does not use the same pitch, major 7th and minor 9th intervals are employed.

²¹ Motive 'x' is built up of two four-note cells, followed by a final note: this bar can be classified as being 'inside-out', or the retrograde of the first four-note cell.

²² See Messiaen Companion, ed. Peter Hill, (London, Faber, 1995), p260.

²³ This quotation is taken from Almut Rößler's compilation of various discussions on topical issues in Messiaen research, Contributions to the Spiritual World of Olivier Messiaen, (Duisburg, Gilles und Francke, 1986).

Chapter VII: *Réveil des Oiseaux* and *Oiseaux Exotiques*

In this chapter, the comparison of these two works is strongly emphasised for many reasons. First, the two works reveal a notable transition in Messiaen's output, specifically with regard to the importance given to birdsong: the sheer variety of species, and their melodic and rhythmic interpretations, disclose a more consistent and complex treatment of bird vocalisation. Secondly, both pieces are of manageable length, compared to, for example, the epic *Catalogue d'Oiseaux*, which comprises seven substantial books. Thirdly, these two works are comparable for many compositional reasons, and for the fact that they were written about the same time. The information in this chapter should be read with a full score to hand. As before, bar and figure numbers are included as guidelines.

At this point, however, it is necessary to define a number of different categories of texture that may have appeared throughout the composer's oeuvre, but are more frequent from this point onward. In his dissertation, Philips (1977) has identified six kinds of texture with which birdsong is depicted in the *Catalogue d'Oiseaux*¹. Shu-Wen Sun adds a further type to this list². These divisions may be used when discussing most of Messiaen's music with birdsong. Similarly, Johnson (1975) has listed more detailed classifications in four separate groups³. A composite of these ideas may be applied when analysing birdsong; nevertheless, the following categorisation is chiefly an adaptation of Philips' codification. Examples of textures from both *Réveil des Oiseaux* and *Oiseaux Exotiques* are specified here, extending a modified form of Philips' system to these orchestral works.⁴

The first type is the 'single-line texture' (monophonic). This is found in even the very early works. Apart from the ubiquitous octave writing in *Réveil des Oiseaux* that falls within this category, a true example may be found in its 'un peu vif' and preceding 'un peu lent' bars before the final piano cadenza [ex VII/1 - *Réveil des Oiseaux* p58, s4, b1-3]. This texture is most appropriate for piano solos and cadenzas, since it is very rare that another solo instrument plays one line, on its own: it is more likely to be superimposed upon, or juxtaposed with, at least one other instrument.

Type two is 'two-voiced homophony' in which two voices are emphasised equally. There are frequent examples of this device in *Oiseaux Exotiques*. The depiction of the olive-backed thrush, for example, demonstrates a two-voiced homophonic effect, in which both right and left hands play triplet staccato semiquavers synchronously [ex VII/2 - *Oiseaux Exotiques* p25, b3 & p26, b1]. Of course, when the orchestra is employed, more parts may be used in homophony.

Dynamic differentiation creates the third type, which is also two-voiced homophony, but where only one voice or part is dominant. There are no true examples of this in *Réveil des Oiseaux* or *Oiseaux Exotiques* though many examples may be found in the following work, *Catalogue d'Oiseaux*. In 'L'Alouette Calandrelle' (eighth piece), the representation of the title bird - the 'short-toed lark' - contains numerous instances of this type of texture [ex VII/3 - 'L'Alouette Calandrelle' p7, s1, b3].

The fourth type arises when chords are used and all the voices are given equal weight. This type is named 'chordal' or 'homorhythmic'. An illustration of this can be seen in *Oiseaux Exotiques*, where the composer depicts the sonorities of the Indian shama. The piano part, taken in isolation, is written in block chords clearly exemplifying this type of texture. Messiaen also represents the Himalyan white-crested laughing thrush and the shama with this texture, but using orchestral ensembles [ex VII/4a, b, c - *Oiseaux Exotiques* p40, p31, p16]. 'Harmonic ostinato' and 'harmonic litany' are used to great effect (see glossary).

The fifth group is exactly the same as the previous type, except that one voice or part is given importance through dynamic differentiation. Once again, there are no such examples to be found in the two works dealt within this chapter: it is not until the ensuing *Catalogue d'Oiseaux* (1958) that the use of dynamic differentiation in birdsong is employed. An example of this can be seen in 'Le Courlis Cendré' (thirteenth piece), where the redshank's chords give prominence to the left hand's single note [ex VII/5 - 'Le Courlis Cendré' p9, s1, b1]. This technique can also be found in *Cantéyodjaya* (1949), although here it is not intended to depict birdsong.

Type six is a hybrid texture in which any of the above forms may manifest themselves in juxtaposition with a chord of resonance, commonly used to depict non-birdsong material. This is frequently used in the *Catalogue d'Oiseaux*; however, the American wood thrush is depicted by resonance effects in the first piano cadenza of *Oiseaux Exotiques*. Here, a

resonance is set up and followed by six insistent chords (chordal/homorhythmic: all voices equal) in this example [ex VII/6 - *Oiseaux Exotiques* p5, s4].

The final type is 'two-voice polyphony', in which two birdsongs appear simultaneously. A fantastically complex and varied sample of this type is found in the counterpoint of, or conversation between, catbird and bobolink in the fourth piano cadenza of *Oiseaux Exotiques* (p62). Of course, orchestral works allow for a greater number of parts to be included in a complex tutti of polyphonic birdsong.

These textures, along with many more exotic melodic/rhythmic characteristics, occur frequently throughout the music of Messiaen from this work onwards. However, at the time of *Réveil des Oiseaux*, only a single-line texture (albeit mostly in octaves), homorhythmic and many-voiced polyphonic textures are employed. The additional categories listed here are included in order to establish analytical terminology to be used with respect to later pieces. Although these types were originally intended to be applied to analytical research in relation to *Catalogue d'Oiseaux*, a modified form is otherwise useful when analysing orchestral works⁵ where - by definition - there must be so many more opportunities for multi-voiced textures.

Here is the list of textures/notations originally categorised by Philips and added to by Sun:

- (1) Single-voice texture (monophony)
- (2) Homophonic texture: coequal emphasis
- (3) Homophonic texture: one voice dominant
- (4) Homorhythmic/chordal texture: coequal in parts or voices
- (5) Homorhythmic/chordal texture: one voice or part dominant
- (6) Hybrid texture: juxtaposition of 1-5 or 7 with a chord of resonance⁶
- (7) Polyphonic effect: counterpoint/conversation⁷

Réveil des Oiseaux

After a brief exploration of numerous experimental forms involving new rhythmic and modal procedures, Messiaen wrote *Réveil des Oiseaux*, a work for piano solo and orchestra. The piece, which lasts approximately twenty minutes, is dedicated to the ornithologist, Jacques Delamain, whose knowledge of identification was of invaluable use to the composer; to Yvonne Loriod, who assisted him in the reworking of the piano parts; and to the blackbirds, thrushes, nightingales, orioles, robins, warblers and all the birds of the French forests. This piece is perhaps a reaction against the many complex musical forms that he had used in the past few years. Roger Nichols suggests that in this work ‘birdsong speak[s] for itself with a minimum of compositional interference’.⁸ Certainly, this is the only piece by Messiaen to make exclusive use of birdsong. Messiaen describes it as a ‘truthful work’, since both the melodies and the rhythms are left untouched (apart from the transposition processes); however, the choices of instrumentation, order and

proportional transposition together reveal the compositional intervention. *Réveil des Oiseaux* (*The Awakening of the Birds*) describes, in twenty minutes, a cycle from midnight till noon. Similarly, the first movement of Debussy's 'La Mer' also represents the passing of time. Messiaen divides the piece as follows:

Midnight
 Four o'clock in the Morning
 Dawn Chorus
 Morning Songs
 Noon

There is an overriding arch form. Alternating piano cadenzas and orchestral ensemble lead up to the grand dawn chorus in tutti. The following table is an adaptation from Robert Sherlaw Johnson's interpretation of the basic structure of *Réveil des Oiseaux*, using rehearsal points rather than timings⁹:

	17-28 DAWN CHORUS	
16-17 Cadenza: Robin		28-29 Cadenza: Blackcap
7-16 Early Morning		29-34 Late Morning
6-7 Cadenza: Whitethroat		34-35 Cadenza: Blackbird
3-6 Early Morning		35-42 Late Morning
0-2 Cadenza: Nightingales		42-End Cadenza Fading

There are two profound silences in the work: the first occurs after the dawn chorus, while the second appears immediately before noon. The importance that the composer attributes to birdsong is nowhere more apparent than in the list printed at the head of the score, which gives all the thirty-eight birds used in the music. The birds are catalogued in order of appearance, and their names listed in five different languages.

At this point, Messiaen has become much more methodical in the score. Most phrases are labelled with the species' name, although occasionally Messiaen labels a phrase simply, 'thrush', without stating whether it is a 'song thrush' or a 'mistle thrush'. Certain phrases are also provided with onomatopoeic examples of the suggested sound: for example, on the first page of the score, the second nightingale (played in the right hand piano part) has a fortissimo major 7th alternator which is also subtitled 'tikotikotiko'. These examples give the instrumentalists - in this case the pianist - an idea of the way the bird vocalises.

At the time of writing, Messiaen said that he was very proud of the accuracy of each bird's vocalisation. He claimed that every song was transposed proportionally, the end result being that each instrument chosen should represent a close approximation of a certain birdsong, while remaining safely within its range. Furthermore, the characteristic microtonal interval structure of birdsong in the wild is expanded in order to conform with the tempered system, while the frequent use of grace notes often gives the impression of glissandi and intervals less than a semitone. Since this work is so closely focused on the depiction of a French forest and its birdsong, it achieves greater realism, in certain

respects, than the later *Oiseaux Exotiques*; but with all the compromises made to suit a twenty minute duration, the piece is inevitably more interpretative than purely realistic. Respighi's 'The Pines of Rome' uses an actual recording of a nightingale's song: this was not the sort of realism that Messiaen had in mind.

The piano represents many birds. The majority of the piano's cadenzas are written in octaves, with the exception of certain instances where more than one birdsong is being played. In this latter case, the song is still monophonic, but one song is superimposed upon another: each song has distinct melodic and rhythmic characteristics, and often one is played more softly than the other. There are two examples which Robert Sherlaw Johnson (1995) cites as being the only uses of birdsong with added harmonic inflection in this piece: the first is the harsh homorhythmic crackling chords and harmonised climacus cells of the carrion crow [p58, s3, b1-4] and the second is the serin, with its delicate high-pitched chordal complexes (also homorhythmic) - p57, s1, b1]. It could be argued that there are further examples to be added to this pair. In the same part of the work, before the final piano cadenza, the starling repeats the same chord (A, D, Ab, Bb) in groups of threes and twos, and the similarly homorhythmic cries of the nuthatch repeat another chord (C, F, A, Bb), using varied rhythms and with the addition of separate chordal complexes [p57, s5]. In addition, the greenfinch and the blue tit are also represented in chord clusters, the former having open fourths in the left hand piano part, giving the impression of a glissando [p56,s2,b3-4]. Furthermore, the 'pi-pe-rè-re' exclamations of the song thrush [p12, s2, b1-2] in an ionic minor metre (UU--), preceding the dawn

chorus, are played in octaves by the cor anglais, clarinet and trumpet and lightly accompanied by elaborate chords on the strings [ex VII/7a, b, c, d, e].

Réveil des Oiseaux opens with a piano cadenza, in altissimo, representing the song of the nightingale. The basic form of this cadenza is as follows:

- 1 1st nightingale's song (octaves)
- 2 Counterpoint: 2nd & 3rd nightingales (short phrases)
(two-voiced homorhythmic)
- 3 1st nightingale's song (octaves)

In the first part, several features occur frequently. The G# grace note and the F# appear in a group of four: this iambic formula recurs on the third line, but on this occasion the tritone is used. The notes D, A and Ab are the anchor points: the A natural is useful to the composer, as it splits up the tritone interval and produces an atonal effect with the following Ab. The reference point F# appears frequently in the first passage in the 'machine-gun' repetitive demisemiquavers that, by this stage of Messiaen's career, are definitely associated with his depiction of the nightingale. Amongst intermittent 'machine-gun' effects are major 7th alternators (Ab-G), the D-Ab-A motive (often as a short flourish to end a phrase) and numerous grace notes. The length of each phrase is slightly varied.

The counterpoint section (figure 1) begins with the second nightingale. The second and third nightingales overlap with each other in the manner of a conversation: they both have

long and short breaks (rests), giving the counterpoint a varied fluidity. The third nightingale is separated from the second by its use of dotted semiquaver beats that slow the music down and accentuate the F natural and the Bb. Both parts frequently have grace notes and alternators on an Ab and G natural with the 'tikotikotiko' sonority. The second unison passage continues in the same vein as the first, when suddenly there is a dramatic pause. At figure 3, there are short passages from separate birds: the little owl (solo violin) sings three scandicus cells based on the major 7th and tritone, the wryneck (piano) has a harmonic ostinato pattern finishing with two staccato chords in the bass, and the little owl's motive reappears, followed by a short phrase from the Cetti's warbler (Eb clarinet). Next, the woodlark (piccolo) plays extremely high pitches that are grouped in twos. The woodlark's sonority is very similar to that of the chiffchaff found later in the piece and in 'Le Lorient' from *Catalogue d'Oiseaux*. ['Le Lorient' p8]. The ensuing few bars introduce the first blackbird (played on the celeste), until 4, where three blackbirds sing, accompanied by strings and tam-tams playing continuous trills. Birdsong is gradually introduced to the polyphonic texture: each song has entirely unique qualities. Often the short calls that represent the woodlark and chiffchaff use exactly the same rhythms and pitches. The chiffchaff is played on the xylophone, as shown in ex VII/8 - p4, s1, b1-3.

The woodlark is very similar, and gives the effect of an answering call to the chiffchaff. Meanwhile, the little owl continues its scandicus cells (demisemiquaver-demisemiquaver-semiquaver): each slurred motive has the middle note as its highest point. The robin's song (played on the piano) consists of an Eb and three A naturals, two B's, a flourish, a C#-G alternator, A natural 'anchor' point, grace notes and a concluding flourish. The chordal

rhythmic motive of the song thrush is striking and well-defined: the three anapaestic cells (é-di-di) are followed by the 'tioto, tioto, tioto tou-hitte' figuration [previous ex VII/7e].

At figure 5, the three blackbirds seem to be competing with one another, while the second violins, violas and cellos, cymbals and tam-tams accompany with atmospheric pianissimo trills, representing the nightjar. This polyphonic trio is reminiscent of the heterophonic counterpoint in the second section of 'Antienne de la Conversation Intérieure' from *Trois Petites Liturgies de La Présence Divine*. It is not made quite clear why these songs are accompanied by trills on the strings. Perhaps the clusters represent bustling leaves or even birds in the distance, although the most plausible reason for this scoring is to counter-balance the high-pitched sonorities with a warmer, lower texture. It is, however, rather difficult to believe that Messiaen is attempting to depict a single nightjar with these chordal trills.

The whitethroat's song, at figure 6, is played in octaves by the piano. Each phrase begins with the extremely strong 'anchor' point Bb. This high Bb stands out of the texture throughout the song: certain phrases begin with repeated Bb's. Every phrase (a number of notes between rests) begins with at least one such note; indeed, the first few phrases include three Bb's, while the later bars incorporate groups of two. Within phrases, most subsets also begin with a Bb. The minor 9th (or augmented octave) is a very common feature: the interval between the A natural and Bb is frequent; but, on many occasions, this interval is interrupted by an E natural which forms the motive Bb-E-A [see p6, s2, b4].

The song may be broken up into nine phrases as follows [ex VII/9]:

Phrase	No. of opening Bb's	Pitches and Characteristics
1	3	Bb, E, A, G, C, F#
2	3	Bb, E, A, G, C, F#, A, Bb
3	4	Bb, E, A, Eb (double-iamb)
4	1	Bb, B, A(x2), Eb, F#, F
5	1	Bb, B, A(x2), E, C#, B, A + interruption call
6	2	Bb, A, F# G A Bb E Eb (2 semiquavers + 3 dactyls)
7	2	Bb, A, Bb, A, interruption call using an added value (2 anapaests, grace notes + cretic)
8	2	Bb, A, Bb (A, G, Eb)
9	2	Bb, long phrase - including the same notes + Db + interruption call

As is immediately noticeable, the first two phrases are almost identical, the second finishing with a final A and Bb. Many of the phrases are closely related: this gives the music an improvisatory quality, while retaining a coherence derived from certain reference notes, most notably the Bb. The pivotal note or anchor point (Bb) is taken over by the second chaffinch at figure 7, and raised by the first chaffinch to a B natural. The 'syncopated' durations of the first chaffinch are also played at 11 by the first clarinet, representing the nightingale: repeated pitches are played in longer rhythms which give stability to an otherwise busy texture; however, if at any point the faster durations of a passage are monotonous, the longer durations help to vary the pulse. From figures 7-9, the two chaffinches introduce a sparse texture. Messiaen creates this effect by representing one bird call in short snippets before another song succeeds. The effect is of a short conversation between two chaffinches, a cuckoo (in the distance), great spotted woodpecker and a nightingale. These short calls will be familiar to the Messiaen listener: the ubiquitous tritone alternator, for example, is but one of Messiaen's nightingale motifs in an extensive vocabulary. The lead-up to the beginning of the Dawn Chorus may be simplified as follows:

Figure	Information
9	whitethroat and blackbird counterpoint
10	nightingale, robin (extensive song)
11	robin - extensive continuous song with celeste effects
12	nightingale - fl and cl (and timbral effects)
13	imitative melodious warbler sings
14	five-part homorhythmic call of hoopoe, counterpoint robin (3/4-voiced polyphonic), two dunnocks and several sparrows
15	authoritative chordal song thrush 'pi-pe-rre-re'

The introduction to the Dawn Chorus is strikingly confident, using the high anchor points E natural and the lower F natural. The robin redbreast is represented in octaves by the piano. There are no bar lines: the music is mostly continuous, with intermittent semiquaver rests. The immense authority of this song is partly created by the repeated pitches. The fast tempo gives one the impression that there is no hesitation and, therefore, the robin is proud of what he is singing, presenting, as he is, this new period in the Circadian time-scale. The robin's cadenza may be categorised as follows, dividing each phrase from one rest to another [ex VII/10- p14].

Phrase	Groups	Characteristics
1	4,1,6	E anchor, maj 7 th
2	3	porrectus
3	4,1,3,6	E and F anchors + alternator
4	2,3,1,5,1,6,1,1	E anchor, aug octave + interruption call
5	3,4,6,4,1,5,3,1,5,1,3,1,1,8	anapaest, climacus E anchor, alternator, dotted semiquavers, machine-gun effect
6	2,2,3	double-iamb, tribach
7	6,1,2,2,4,4,3,1	double-iamb
8	5,3,1,3,1,4,1,4,1,5,1,5,1,2	F#'s and G#'s, repeated E and D's
9	5,4,5,2,4,2	longer groups

One can quite easily see that many of the longer groups are divided by a solitary staccato semiquaver: these take the place of, or add variety to, the many interruption calls and grace notes which previously had been the predominant musical material serving to break up continuous note values.

The blackbird, represented by the first violin, joins the texture at figure 17. The violin gives contrast to the sound world. This is particularly expressive and creative compared to the three blackbirds' songs at figure 4: the first was displayed on the celeste, and the second and third on the two piano staves. Although the third blackbird has slurred and staccato motives, its counterpart, at figure 17, is in a quite different style. Perhaps Messiaen is introducing a greater fluidity as opposed to the more tentative, uneasy songs and calls of midnight. At first, the phrases sound as tentative as before; however, each phrase is meticulously marked, alternating between the loudly exclamatory and the softly exploratory. The staccato sound (phrase 2) of the violin is very different from that of the piano. Phrase three, incidentally, can be found almost exactly in the violin part of the first movement of the *Quatuor Pour la Fin du Temps* with its scandicus motive. Phrase 4 displays a glissando effect, which possibly mimics the chattering at the end of many blackbirds' songs in the wild.

At 18, another blackbird and robin now appear creating a quartet, with the pianist playing continuous demisemiquavers. Occasionally, added note values or grace notes emerge in the robin's song, but the anchor points E, F# and G# and the tritone relationships hold it

together. The piano is extremely important: it imposes a unity on the music at this point, both rhythmically - due to the simple continuous semiquavers - and in terms of pitch, with its many reference/anchor points. In addition, the song of the golden oriole (after fig 20) acts like a cyclic theme as it recurs several times on the horns and cellos: the strings (four second violins & four violas) add to its distinctively dense harmonic sound. The calls of the song thrush, played on the woodwind, strings (seconds and violas) and trumpet, also occur regularly throughout the Dawn Chorus section and the whole piece. This 'anapaestic' rhythm is normally semiquaver-semiquaver-quaver or demisemiquaver-demisemiquaver-semiquaver, as in the cry of the hoopoe, but without the additional grace notes [see figure 14 and 20]. The song of the oriole uses exactly the same rhythm: it is quiet but harmonic and rather dense, while the second trumpet accents this rhythm with the tritone interval E down to Bb [p19]. Intermittently, the listener might hear the sextuplet semiquavers of the great spotted woodpecker; the effect is of a bird in the distance amongst louder, higher and more obtrusive birds singing at peak time. In fact, many birds' sounds here are lost in the overall polyphonic texture: yet, if one or two were missing the sound would be changed quite considerably. Moreover, every bird is heard several times throughout the piece as certain phrases or higher pitches are brought out of the texture at regular intervals. Messiaen has not yet reached the stage where he marks all the phrases that should stand out, (equivalent to the Hauptstimme/'chief voice' and Nebenstimme/'under voice' markings in a serial composition), but many important moments are marked forte.

The fourth bar of figure 20 displays the song of the chiffchaff. The first bar consists of Bb-A-Bb and Ab, if the grace notes are excluded. The use of grace notes and high-pitched semitones is almost identical to the composer's depiction of the chiffchaff in *Catalogue d'Oiseaux*. In this version, however, rests are included. Messiaen accurately portrays the chiffchaff's decidedly restricted song. More densely-scored chords, producing cascades of colour, are found in the string section, while the golden oriole (horn 2) plays numerous porrectus flexus melodic shapes. The polyphony is held together by the occasional anapaestic rhythms on the strings and horns and the dense chords.

The busiest bars are the fourth and fifth of figure 21: all of the already labelled birds are singing at this time, and there is a higher proportion of forte markings. It is interesting that Messiaen chooses to incorporate complex invented chords in the strings (divisi) but with a pianissimo dynamic. The effect is strikingly subtle and rich rather than obtrusive. At the end of the third bar of figure 22, the second violins (1-4) and violas (1-4) play complex chordal complexes [ex VII/11]. From the bottom, the chord is as follows: G#, A#, B#, D#, F#, - Bb, D, E, G. This chord then 'glissandos' to form a chordal complex almost built from mode 2. The complex chords that follow consist of separate divisi parts that move step-by-step (up or down) forming exciting chordal sonorities that complement the linear horizontal movement of all the other instruments. The harmony here features many perfect fourths. The first chord (fourth bar of 22), for instance, includes the intervals A-D and Ab-Db played on the second violins (5-8), while the violas (5-8) play B-E and Bb-Eb. This is followed by a sequence of similarly 'quartal' chords, although the distinctive sound quality of such chords is partly reduced by two of the intervals between pairs of fourths

being tritones [see 4th bar of fig 22]. Harmonies built on fourths are also found in the calls of the golden oriole (p19), where each chord is based on four sets of perfect fourths [ex VII/12a, b]. The characteristic sonority of the violin and viola parts is created by blocks of sound arranged in two groups, thus:

2nd violins 1-4

2nd violins 5-8

violas 1-4

violas 5-8

The first violins, however, are set out in four staves as shown below:

1 st violins 1 & 2	robin	demisemiquavers, occasional added note values
1 st violins 3 & 4	blackbird	complex and varied song
1 st violins 5 & 6	chaffinch	syncopated B's, long B trills, flourish
1 st violins 7 & 8	chiffchaff	semiquaver + semiquaver rest, semitones

[4th bar of fig 22]

The high-pitched celeste, xylophone, snares and Chinese blocks give the overall sound a tingling quality. The celeste has such a high metallic resonance that the listener often feels that the pitches are far beyond reach. The piccolo and flute contribute to this combined effect, adding a silvery quality to the overall collage of the dawn chorus. Each instrument continues in the same vein: some of the birdsongs become more frantic, while others take a less prominent rôle. For example, in the fourth bar of 23, the second violins (5-8) and violas (5-8) predominate, each split into two groups playing grace notes with semiquavers

[p29].

The second climax of the dawn chorus is found just before its completion (p41). At this point, the double basses play semiquavers revolving around a D natural, the 2nd violins/violas (5-8) play chords based on perfect fourths, the 2nd violins/violas play modal chordal complexes in syncopation, while the first violins are all playing their specific motives without a break [see p41]. At the same time, the woodblock has relentless sextuplet semiquavers and the bassoons triplet chords, while all the other instruments are playing ff.

Suddenly at figure 28, Messiaen creates a pause in the texture, introducing the morning and its songs. The piano plays a cadenza - much shorter than the previous two - in which the blackcap is portrayed. The song is less regimented than previous cadenzas: there are many rallentando markings and moments where the tempo is increased by a flourish ending [p42, s3]. When the whitethroat, song thrush and first turtle dove appear, the three flutes creatively imitate the harsh sounds of the latter's song with a three-part flutter-tongue effect. A gentler version of this can be found in the two bars before figure 30 where the second turtle dove is represented by three-part trills. Messiaen obviously has found that the guttural sonority of this particular bird's song/call has to be created by more than one note at a time, and with effects that blur the actual pitches. The polyphonic texture at this point is sparse. The aforementioned effects are much more noticeable because of Messiaen's choice of orchestration. The liveliness of the whitethroat's song at this time is produced by the particular sound of the celeste, the interval leaps, the phrases

ending on high pitches, and the many dance-like grace notes that are included at certain moments. At 32, the thrush, Cetti's warbler, wood lark and little owl join in as before, using the same motivic features as at the beginning of the work (midnight to 2 am). Two blackbirds and two robins add to the texture, until yet another break at 34 for the blackbird's cadenza. The blackbird's cadenza may be broken up into twenty-two phrases as shown in the attached musical example [p51]. Each phrase may be categorised as follows [ex VII/13]:

Phrase No.	Characteristics ¹⁰
1	quasi-alternator, high-pitched G, 2 repeated C#'s
2	4-note group, single C# and high-pitched anchor G
3	5-note group (Ab, D, high E, Ab, A), single C#, porrectus ¹¹
4	scandicus (as triplet), porrectus
5	4-note group (same pitches as 3), single G, porrectus flexus
6	7-note group: double Ab's, grace note, triplet, 6-note group, single C#
7	3-note group, triplet, single G, repeated Ab's, triplet, porrectus flexus
8	2 dotted quavers (spondee)
9	alternator D-C#, high G and staccato Ab, ending with 2 G anchors
10	2-group, cretic, short flourish ending with 2 repeated G anchors
11	porrectus flexus, 3 repeated G anchors with grace note
12	7-note set (note of 3), 5, single C#, alternator, 2 tribachic cells, climacus resupinus, flourish
13	Bb-Ab set, grace notes, E anchor
14	2 repeated G's
15	3-note flourish, single Ab
16	5 single quavers
17	2 flourishes ending with anchor G
18	dactyl
19	3-note ascending set, preceding grace notes, high G
20	4-note ascending flourish, porrectus, grace notes + trochee
21	5-note set, single Ab, 3 G's (+1 Ab)
22	flourish, single Bb and flourish, single C#

The whole of this cadenza is based around the notes Ab, D, E, Ab and A natural with the anchor points G natural and C#. The many groups of demisemi-quavers revolve around the five aforementioned notes: the improvisatory quality is produced by these pitches occurring so regularly. The anchor points C# and G natural break the rapid groups using a quaver or two repeated pitches, usually including a rest or a staccato marking signifying a break in the song. In addition, these reference points are included in the demisemi-quaver groups. The flourishes may signify the ubiquitous chattering ending of the blackbird in the wild. Although a limited number of pitches is chosen, variety is found in articulation, rhythm and length of phrase. It is also noticeable that climacus resupinus and porrectus flexus melodic shapes are predominantly used to conclude birdsong phrases.

At figure 35, the blackbird, wren, chaffinch and magpie join together, shortly followed by a robin, two further blackbirds and, later, two garden warblers and a willow warbler. As one bird drops out, another enters: this exchange reacquaints the listener with many of the sonorities found in the dawn chorus. The superimposition of various birdsongs suddenly changes into a conversation between many species: several birds sing a small section of music, in which each has its say before giving way to another species. This pattern lasts until the final piano cadenza at figure 42. In this discrete section, several occurrences of birdsong are represented in harmony. They are as follows:

- (1) green woodpecker [p56, s1, b2]
- (2) green finch [p56, s2, b3]
- (3) blue tit [p56, s2, b4]
- (4) serin [p57, s1, b1]
- (5) nuthatch [p57, s5, b1]
- (6) starling [p58, s1, b2]
- (7) carrion crow¹² [p58, s3, b1-4]
- (8) great spotted woodpecker [p58, s3, b5]

All of the harmony in the above music is written in block chords (homorhythmic). For instance, the green woodpecker's harsh laugh is created by four simple demisemiquavers using the augmented octave. The green finch displays the closest equivalent to a glissando effect possible on a piano. The slurred marking creates this special colourful sound effect using perfect fourths in the left hand and tone and semitone clusters in the right. The latter effect is also employed by the blue tit, only the continuous staccato semiquavers produce an almost whimsical quality. Rhythmically, the serin uses many of the same features as are found in the piano cadenzas. Groups of demisemiquavers are played, broken up by single note lengths. Chordal complexes alternate with chords built on wider intervals: these intervals are centred on the tritone, specifically between the Bb and E natural. The starling, however, sings only one chord (A, D, Ab, Bb) in short bursts of twos and threes.

Noon is represented by the final piano cadenza. First, the redstart appears with an F natural in every group of notes, this note and the F# often breaking up the line. At figure 43, there is an extensive duet between blackbird and robin using motives from the introduction of the dawn chorus, but here in counterpoint. A first and second chaffinch with a blackbird bring the piece to a close. A great spotted woodpecker's sextuplet is heard, followed by a solitary cuckoo in the distance.

It is interesting that the piano cadenzas all work according to the same principles.

Continuous semiquaver or demisemiquavers are often broken up by flourishes, common reference points (usually with a staccato attack), grace notes or rests. If the piano is not playing in octaves then, typically, a simple counterpoint between two birds begins. In this work, the limitations of the piano are evident, although the glissando effects can be simulated by chord clusters and slurs. In its cadenzas, the piano acts in part as a structural agent, providing reference points for the listener in a piece which does not rely on traditional tonality or form. These piano cadenzas also change the mood and create interludes before new periods in the Circadian time-scale. The overriding arch form may also help an audience to comprehend this piece, especially as one has become so accustomed to the piano being used to represent Messiaen's birds. Harmonies are employed to create specific timbres, while counterpoint has, by this stage in Messiaen's development, become the norm in bird ensembles.

Another feature of the piece which enables the listener to grasp some kind of structure is the fact that birdsong appears in various parts of the work using very similar rhythmic patterns and evolving around the same pitches. Moreover, particular birdsongs are often given specific instrumentation. A listener is able to identify the sonorities of a birdsong by its designated instrument(s) as much as by its motivic characteristics. Sections are also unified: certain groups of birdsongs or calls are sometimes associated. For example, the little owl, ten bars before figure 4, is immediately followed by a wood lark and blackbird. These same birds are put together in the 'un peu vif' section of 32, with the addition in this instance of the nightingale [p46]. Messiaen does not duplicate exactly, but short motivic cells are used in the birds' songs at regular intervals. Yet it is the 'rôle de diamentation'/'diamond-studded rôle' of the piano cadenza that makes sense of the whole work's arch form¹³. Birdsong is no longer used for decoration: this piece focuses only on the songs of this particular French forest as imagined by Messiaen.

Oiseaux Exotiques

Oiseaux Exotiques was commissioned by Pierre Boulez for the 'Domaine Musical' series of concerts at the Petit Théâtre Marigny. The piece was composed between October 5th 1955 and January 23rd 1956, and first performed on March 10th 1956. Yvonne Loriod played the piano.

Oiseaux Exotiques is also a piece for piano and orchestra, but it demonstrates a number of changes from its predecessor. The choice of instrumentation is less varied than in the

earlier work: there are no strings in the orchestra, but many unpitched percussion instruments are included. It is these latter instruments that evoke more innovative sonorities of birdsong. Perhaps the composer was trying to avoid any suggestion of the symphonic tradition in this interpretation of birdsong, where the only non-birdsong material found in the score is the use of Greek and Hindu rhythms. On the other hand, the absence of strings may be solely due to the fact that the timbres of these 'exotic' birds, for Messiaen, do not lend themselves to stringed instruments. The instruments chosen are as follows:

woodwind: 1 piccolo, 1 flute, 1 oboe, 1 clarinet (in Eb), 2 clarinets (in Bb), 1 bass clarinet (in Bb), 1 bassoon

brass: 2 horns (in F), 1 trumpet (in C)

pitched percussion: glockenspiel, xylophone

piano solo

unpitched percussion: 3 temple blocks, wood block, side drum, 3 gongs, tam-tam

In the preface to the score, Messiaen provides a plan showing the position of the instruments for a concert performance [ex VII/14]. This plan is divided into separate orchestral blocks. The compositional processes are often equally block-like, dividing the music into these groups. To the far left of the conductor are the unpitched percussion, straight ahead are the woodwind; the piano and xylophone are either side of the conductor, with the clarinets also at the front. The Bb clarinet, piano and xylophone are

also positioned at the front as they are intended to play the most important rôles in the piece. The piano has three short cadenzas and two longer ones: Messiaen describes the piece as like a piano concerto. The use of the piano in *Réveil des Oiseaux* was predominantly monophonic and in octaves, whereas here the piano has many harmonies built from complex invented chords; there are also resonance effects, many superimposed solo lines and counterpoints. The Bb clarinets play a chief part in the central tutti, representing the America robin. The xylophone is also used as a solo instrument. However, in the preface, Messiaen states that each and every instrument should be audible: the orchestration itself displays the soloistic rôle of each part, as there is only one instrument to a part, with the exception of the two Bb clarinets. This select instrumentation looks like a small chamber orchestra on the podium. The positioning of the instruments is essential for the conductor's balancing of all the complex sonorities. In order to create an approximation of all the timbres and colourations that Messiaen intends, the composer helps the interpreter with numerous markings in the score. The pedal parts (for the piano) make a tremendous difference to the sound quality; but, more importantly, the character of each birdsong and the meticulous dynamic markings help the conductor to create the correct acoustic balance. Furthermore, the many footnotes describe the elements that need to be emphasised. Each new phrase has an attached dynamic, while the articulation of the notes is always specified. In addition, the tempo changes are so frequent that the birdsong seems especially free and unregimented.

Messiaen describes *Oiseaux Exotiques* as a work that contains only birdsong. In fact, *Réveil des Oiseaux* is the only work of Messiaen which can be described in this way: in the

later work, the composer links non-pitched percussion with woodwind, xylophone, brass, glockenspiel and piano, the percussion constituting a strophic support based on Hindu rhythms, verses and Greek metric feet. The unpitched percussion (strophic form) is realised independently from the birdsong. In fact, the music is generally created by juxtaposing blocks of materials and occasionally superimposing them on one another. The form is effective due to the balance of similarities and contrasts.

Messiaen's own ornithological research from around the world has here come to fruition. The work may be immediately labelled 'unrealistic' as so many compositional processes have been used in order to give prominence to birdsong; nevertheless, the homogenisation of so many exotic birdsongs from such diverse countries creates an evocative and varied collage.

There are forty-eight birdsongs incorporated here, the majority of which are taken from North America, while others are from South America, India, Malaysia, China and the Canary Islands. Messiaen lists them all in the preface to the score, putting each one in its country of origin. The birds that have had the most effect on Messiaen as a listener are listed with information about their colouration, size and, most importantly, a short characterisation of their songs or calls.

The form of the piece comprises six tuttis with five piano solos - the Circadian time-scale is redundant here as Messiaen is not attempting to represent a time period. However, the piece may be divided into three defined sections as follows:

Introduction

Sequence (Piano Cadenzas and Instrumental Interludes - 2 long Tuttis)

Coda

A more detailed breakdown of the form is given below:

SECTION	FIGURES	PAGES
(1) Introduction	1-2	p1-p3
(2) 1 st Piano Cadenza	3	p4-p5
(3) 1 st Tutti	4	p6-p8
(4) 2 nd Piano Cadenza	5	p8-p9
(5) 2 nd Tutti	6	p9-p12
(6) 3 rd Piano Cadenza	7	p13
(7) <i>Central Tutti</i>	8-23	p14-p61
(8) 4 th Piano Cadenza	24	p62-p65
(9) <i>Final Tutti</i>	25-30	p66-p83
(10) Final Piano Cadenza	31	p84
(11) Coda	32-end	p85-p86

Although the main tutti is very complex and incorporates many different birdsongs, the other sections, as in *Réveil des Oiseaux*, use fewer songs: they help the listener to locate a sense of formal structure in the piece as a whole - see below:

Introduction: common mynah, Himalayan white crested laughing thrush (pp1-3)
1st Cadenza: common mynah, red-billed mesia, American wood thrush, veery (pp4-5)
1st Tutti: leafbird, Baltimore oriole, red-billed mesia, Californian thrasher (pp6-8)
2nd Piano Cadenza: cardinal (pp8-9)
2nd Tutti: leafbird, Baltimore oriole, red-billed mesia, Californian thrasher (pp9-12)
3rd Piano Cadenza: cardinal (p13)
Central Tutti: (pp14-61)
(i) opening - prairie chicken
(ii) main section - many birdsongs & rhythmic strophes
(iii) a) introduction - common mynah timbres
b) as beginning of central tutti
4th Piano Cadenza: bobolink, catbird (pp62-65)
Final Tutti: rhythmic strophes, many birdsongs (pp66-83)
Final Cadenza: wood thrush, cardinal (p84)
Coda: common mynah, Himalayan white crested laughing thrush (pp85-86)

It is important to note that several of the sections are very closely related. Not only do the smaller sections (such as the first and second tutti) use the same birdsongs as one another, but they also employ similar instrumentation, rhythmic and melodic motives, to represent each of the bird's songs.

There is a strikingly consistent use of Greek and Hindu rhythms, played on the following unpitched percussion instruments, in both the central and the final tutti:

Side Drum
Wood Block
Gongs
Tam-Tam
Temple Blocks

Messiaen also takes rhythms from the Karnatic system of Indian music. In fact, all of the rhythms are in their original forms, with the exception that the Hindu ones are subjected to diminution. The exotic rhythms (Greek and Hindu) in this piece are listed below:

Hindu Rhythms

(1) Decî-Tâlas from the Sharngadeva system:

Nihçankalîla, Gajalîla, Lakskmîça, Caccari, Candrakalâ, Dhenkî, Gajahampa

(2) Karnatic Theory:

Matsya-Sankirna, Triputa-Mishra, Matsya-Tishra, Atatâla-Cundh

Greek Rhythms

(1) Composed Feet or Metre: Dactylo-Épitrite

(2) Lines of Composed Metre: Iambélégiac

(3) Logoaedic Lines: Asclépiad, Saphique, Glyconique, Aristophanien, Phalécien,

Phérécratien

The Main Tutti's framework (figures 10-22) is provided by four rhythmic strophes. Each strophe is identical in format: the thirteen Greek and Hindu rhythms appear in the same order four times. 'Strophe Rythmique' I, II, III and IV are in the following order:

- 1 Asclépiade (Logoaedic)
- 2 Saphique (Logoaedic)
- 3 Nihçankalîla (Tâlas)
- 4 Glyconique (Logoaedic)
- 5 Adonique
- 6 Gajalîla
- 7 Lakskmîca (Tâlas)
- 8 Iambélégiaque (Line of Composed Metre)
- 9 Aristophanien (Logoaedic)
- 10 Matsya-Sankirna (Karnatic)
- 11 Caccarî (Tâlas)
11. Groups of semiquavers¹⁴
- 12 Candrakalâ (Tâlas)
- 13 Dactylo-Éptitrite (Composed Feet or Metre)

(Note that the Indian rhythms are subjected to gradual/chromatic diminution)

These rhythms are all played on the unpitched percussion instruments listed above. The appearance of four successive rhythmic series provides the central tutti with its form, while birdsongs occur randomly throughout.

A few of the Greek and Hindu rhythms found in the central tutti recur in the final tutti; however, other rhythms are mostly employed in this later ensemble. The most common instrument here is the woodblock, whereas each instrument in the central tutti was given

equal weight. In the first section, the woodblock plays the rhythms Dhenkî, Gajahampa, while returning to Dhenkî in a continuous fashion. The rhythms chosen appear as follows:

(1) temple blocks: quaver note motive

side drum trills, gongs

Dhenkî, Gajahampa, Dhenkî

Glyconique and side drum trills

(2) Temple blocks: 3 quaver motive

side drum trills, gongs

Dhenkî, Phalécien, Triputa-Mishra

Dhenkî, Phérécratien, Matsya-Tishra, Atatâla-Cundh

Dhenkî (wood block and gongs) + trills

trills + 3 quaver motive

Both groups begin with the temple block's 'three-quaver motive' and are succeeded or preceded by trills on the side drum. These patterns add to Messiaen's more insistent employment of motivic repetition. Birdsong, however, is always at the forefront of the general ensemble.

The introduction of the work may be divided simply, thus:

- (1) molto cresc. In woodwind - glissando in horns
- (2) short interruption call - two demisemiquavers (2cl, b cl, cls, bsn)
- (3) piano & glockenspiel grace notes (homorhythmic)
- (4) repetition of 1
- (5) syncopated pitches (descending by semitone) in clarinets & bassoon (homorhythmic)
- (6) piccolos, flute and oboes
- (7) chordal repeated pitches + interruption call (woodwind and brass)
- (8) powerful semiquavers of Himalayan white crested laughing thrush, ending with repeated pitches (homorhythmic) [see p1 & p3]

The first piano cadenza appears at figure 3. The common mynah is represented.

Immediately, the listener is aware that there is a great abundance of repetition, more than in earlier works. The first phrase, for instance, comprises an alternator; however, this is not two notes repeated, but two chordal complexes repeated several times. The seven chords make way for the gravelling cluster chord ending. Other exact repetitions in this cadenza are the preceding grace notes and chords (bar 6), the triplet and cluster chords (7 - 8), the four sequential flourishes (bar 12) and many others. The thirty-one bars of this cadenza can, therefore, be simplified as follows [ex VII/15 - pp4 & 5]:

bar	characteristics
1	mynah: 'chordal alternator', 'low-gravelling' ending
2	2 interruption calls + ascending homophonic flourish
3	ascending flourish to high B + major 7 th alternator
4	two-part homorhythmic climacus (quasi-glissando ¹⁵), 4 chords and 'low-gravelling' ending
5	flourish, ascending flourish, major 7 th alternator (homophonic)
6	Cresc. (pp-ff), 8 C-E-B chords with accompanying grace notes ¹⁶
7 & 8	triplet + chord
9	2 spread chords ¹⁷ , flourish
10	2 harmonised 'quartet calls' ¹⁸ (scandicus)
11	quasi-glissando, grace notes
12	4 sequential anapaestic calls (two-voiced homophonic)
13	two-part homophonic flourish: all in major 2 ^{nds}
14	low bass chords
15	two-part homophonic flourish (white/black pitches), 3 widely-spread chords
16	low bass notes
17	widely-spread chords
18 & 19	triplet + chord (as 7 & 8)
20	red-billed mesia: iamb, 2 scandicus cells, 3 iambs
21	descending flourish
22 & 23	mynah: triplet + chord (see 7 & 8)

24*	American wood thrush: 2-part chords & resonance effects (hybrid) (the final flourish is a harmonised porrectus flexus)
25*	as 24 but with final repeated chords (B, E, G#, D#, G, A) (hybrid)
26*	as 25 but 6 repeated chords (hybrid)
27*	like 25 (hybrid)
28*	as 24 but 8 final chords (hybrid)
29*	same rhythms as previous bars
30	veery: 5 groups of triplet chordal clusters (5 tribachic cells)
31	4 descending chords (left hand a semitone above or below 2 nd note of right hand)

[ex VII/15]

It seems that each bar of the common mynah's song has an entirely distinct quality. Only bars 7-8, and the use of the alternator, appear several times during the cadenza. The American wood thrush, however, uses the same chordal complexes and rhythms in each of its exclamatory bars: this is clearly shown in the above table by the asterisk. The second bar, in the American wood thrush's song, introduces three repeated chords that end the phrase, while bars 26 and 18 extend this with more of the same chord. The veery's song (from North America) is made up of repeated triplet demisemiquavers and chords, only changing in the last of the five groups of its first bar. It is notable that, not only is the left hand's pitch a semitone away from the lower part in the right hand, but also, in each of the preceding groups, the one or two notes in the left hand are a semitone below two of the notes in the right. To employ the principal melodic shapes, such as porrectus flexus, in harmonies represents an important innovation.

The heterophonic first tutti (figure 4) uses the following instruments:

piccolo

flute

oboe

2 clarinets (in Bb)

glockenspiel

xylophone

The piccolo represents the high-pitched twittering calls of the lesser green leafbird from Malaysia; the 'Chinese wood-block sonorities'¹⁹ of the red-billed mesia (China) are played on the glockenspiel in altissimo and at lower pitch; the Californian thrasher is played on the xylophone; while the Baltimore oriole's joyful songs are represented by a homorhythmic woodwind quartet comprising one flute, one oboe and two clarinets in Bb. The scandicus melodic shape appears again in the woodwind block of this section; only, in this instance, harmony is used throughout.

The main feature of the lesser green leafbird is the repeated pitches. The listener has two points of reference: the many repeated pitches and several scandicus melodic cells of the woodwind block (Baltimore oriole). In fact, the Baltimore oriole (p6) only has the following characteristics: iambs [b1], quaver notes with semiquavers [b2], slurred scandicus²⁰ cells and a quintuplet semiquaver flourish at the end of this section. Both the

red-billed mesia (glockenspiel) and the Californian thrasher (xylophone) alternate between phrases at loco and at 16ve pitch. The xylophone also employs the scandicus shape with and without the slurs [see p7], while the glockenspiel uses grace notes in every one of its phrases. At the sixth bar of this section, the bass clarinet and bassoon are added to the quartet. These two rich instruments only appear when the clarinets are playing, giving a depth to the sonority.

The second piano cadenza is rather short and extremely repetitive. Here, the cardinal (of Virginia) is represented. According to Messiaen's preface, its call is very shrill, rapid and 'liquid'. In the musical score, the composer asks for a 'très vif' tempo marking (one crotchet = 100): the speed of the song is certainly clear to the pianist. However, Messiaen includes the expression 'comme un crépitement de gouttes d'eau'/'like a spluttering of water drops': this subjective imagery is somewhat vague for the pianist. Water droplet sonorities can be heard as early as *Le Banquet Celeste* (1928). Perhaps the reference to 'liquid[ity]' and 'water' is especially relevant to the ascending slurred demisemiquaver runs in the fourth bar of figure 5. With so quick a tempo marking, these slurred durations (in two-part chords) merge into each other. Messiaen also states that each strophe (or musical idea) contains a different melodic or harmonic fragment that occurs twice, five, seven or nine times.²¹ The cadenza opens with two repeated quavers with accompanying grace notes, while clearly setting up an E major chord for the first group's 'two-part chordal alternator' [VII/16]. The strophes, in this cadenza, are categorised in two parts, thus:

No. in Strophe	Features
<i>Part 1</i> 2 + triplet	E major chords (+ A# and C grace notes)
5	alternator: E major + major 2 nd (using cell from b1)
2	two-part rising flourish (major thirds and augmenting to a fourth)
7	two-part rising chordal flourishes - tritones in lower part
2	two-part (atonal)
7	two-part, fourths and fifths in lower part, seconds and thirds in upper
<i>Part 2</i> 2 + triplet	as bar 1
9	as bar 2 (extended version of b1)
2	'quartal' chords
5	descending flourishes, first two notes repeated (inverted minor thirds) groups of five (extended climacus)
5	descending flourishes (as last bar) groups of five (extended climacus)
5	descending flourishes groups of five (extended climacus)

The second tutti (at figure 6) takes the same form as the heterophonic first tutti of figure 4. However, this is extended even further, although all the same features appear here. The Baltimore oriole (played by the flute, oboe and clarinets in Bb) gives the effect of greater timidity than before, as more rests are introduced: it is only later that the more insistent scandicus rhythms recur with regularity. The very shrill call of the cardinal follows, using the same motives as before. This section (3rd Piano Cadenza) also opens with two repetitions - loud accented chords with preceding grace notes - and a sudden crescendo and diminuendo in the ensuing chordal alternator. The groups of strophes are as follows:

2 5 2 7 2 7 2 9 2 5 2 3 5

Apart from the one exception (at the end of the above list), each strophe, in prime numbers, is followed by two identical calls [p13].

The Central Tutti begins at figure 8 (page 14 of the score). As already mentioned, the rhythms played on the unpitched percussion instruments are divided into strophes and put into four sections, where the rhythms are played in the same order. This central movement may be divided and analysed in four sections, thus:

Central Tutti

Figure	Section
8-10	Introduction of main tutti - prairie chicken
10-13	Strophe Rythmique I
13-16	Strophe Rythmique II
16-3 before 19	Strophe Rythmique III
3 before 19-22	Strophe Rythmique IV
22-24	Coda of main tutti - prairie chicken

The introduction to the main tutti opens with a crescendo trill from the tam-tam. The prairie chicken is represented in the woodwind. In the preface, Messiaen mentions three main features of this bird's calls. The first is its 'gurgling sounds', which apparently have qualities of 'distant hunting horns'. This sonority is represented at figure 8 with the descending triplets and solemn pitches in the low register. Secondly, the composer mentions that it has a 'shrill call' which is succeeded by a rapid descent to the lowest part of its register. This characteristic is found at figure 9. After a grace note and relatively long accented high-pitched quaver, a rapid descending flourish from the woodwind leads to staccato chords on the piano and, finally, a single flourish from one clarinet (in Bb), bass clarinet and bassoon [ex VII/17].

At 10, the 'strophe rythmique I' begins. Throughout this main tutti section, Greek and Indian rhythms run almost continuously from end to end, creating a rhythmic cantus firmus. Asclépiade begins on the side drum. The only other instrument, at this time, which is not depicting the white crested laughing thrush, is the xylophone, representing the orchard oriole: it uses scandicus figurations²² with high B natural reference notes. The Himalayan white crested laughing thrush has a very commanding anapaestic chordal refrain [see previous ex VII/4 - p16]. Each note in its first four bars is accented: in the preface to the score, Messiaen describes its song as having 'implacable bursts of sound...like a mountain giant.' The song concludes with a dramatic harmonic alternator employing the oboe, Eb clarinet, bassoon, two horns and trumpet, producing a harmonic alternator. The overall harmonic effect is extremely dense and rhythmically static. The texture of the white crested laughing thrush is also rather grand: it is perhaps for this reason that Messiaen chooses to end the work with this idea, and with every instrument playing synchronously.

Figure 11 is still rather sparse and sporadic. The dulcet repeated B naturals and A#'s of the cowbird, played on the piccolo, are first complemented by tritone intervals and syncopated Eb's from the red-whiskered bulbul (from India), and, subsequently, by periodic scandicus triplets depicting the barred owl and the porrectus continuous triplets of the two bars devoted to the olive-backed thrush. In two-voiced homophony, the olive-backed thrush's song rises in pitch: the piano plays each note with the indicated staccato articulation, yet resonance effects are created by the pedalling called for in the first triplet in each set. Gradually, more and more species are introduced into the music. Designated

instruments remain devoted to particular birdsongs until a new bird appears in the score, where they may be re-allocated. An indigo bunting, rose-breasted grosbeak, hermit thrush and white-crowned sparrow are presented before the Indian shama reappears at figure 12.

The new figure marking stresses the importance of the shama: its significance is emphasised by giving it to the two horns and the trumpet which, loud enough in themselves, are also both situated just behind the solo xylophone and clarinets in Bb - in other words, well to the fore. The horns were last heard representing the dense, 'giant' sonorities of the Himalayan white crested laughing thrush. The composer describes the Indian shama thus:

1 rhythmically percussive figuration

2 twitch of the tail

3 varied warblings

4 descent to low register

5 repetition of disjunct pitches

6 sparkling fanfare

7 brassy tone

8 clear and gay

Some of the qualities outlined above are speculative and personal to Messiaen; however, it is possible to locate probable examples in the musical score. The shama's first phrases centre on the Bb and B natural in the first horn [see previous ex VII/4b - figure 14]. The second horn plays the same pitch classes but transposed down a tritone, while the

trumpet's C natural is raised a tritone to an F# in a four-voiced short call. On page 21 of the score, the bass clarinet and bassoon join the horns and trumpet in the shama's first phrases. Vivacious ascending staccato triplet cells follow in a crescendo, displaying the shama's 'rhythmically percussive figuration' [see 1 above - p25, b1-3]. This phrase may be regarded as the 'sparkling fanfare' (6 above), whereas the bird's 'brassy tone' is created simply by the choice of instrumentation. The generally strong, confident quality of the shama frequently justifies the composer's description of the music as 'clear and gay'. The motives of this bird's song are incorporated intermittently throughout this main tutti section. However, it is not clear as to what the 'twitch of the tail' is, or where the 'descent to its low register' may be found²³. The 'disjunct pitches' may be found on page 38, where the xylophone also repeats continuous C natural demisemiquavers [see p38, b1-3]. The hermit thrush is reintroduced in this section, with its two-voiced homophonic call comprising a three-note cell in a repeated rhythmic pattern [p24, b2]. In addition, the cardinal's rapid, shrill calls make an appearance with the short but swift rising flourishes on the piano.

At this time in Messiaen's career, the chattering and almost unpitched sonorities of the sparrow are represented by trills. In this case, shown at figure 14, the American song sparrow is depicted in the same way. The repeated B and C naturals of the summer tanager follow amongst extremely shrill, short and rising flourishes from the cardinal, this time played on the xylophone.

At figure 15, the northern mockingbird forcefully takes over the texture, played by the obtrusive horns and trumpet, instruments normally associated with the white crested laughing thrush or shama. Its song, too, is joyful, staccato, but more delicate. For some time now, the cardinal, in the piano part, has become more and more insistent, virtuosic and playful: the immediately preceding figuration (four before 15) involves seven repetitions of the melodic/rhythmic pattern. Continuous triplet staccato semiquavers are also found in the representation of the common turkey (wild turkey) on page 42 of the score. Each triplet is the same, and the bass clarinet generally plays above the bassoon. The music becomes more busy (fig 19): more alternators and repeated groupings are heard in two parts, while the horns play loudly and synchronously with the trumpet.

The shama is represented in a completely different way on the piano. At figure 20 (bar4), the rapid line shows a relatively new technique in Messiaen's interpretation of birdsong. Both hands are used, yet certain notes jump out of the texture. In 'Le Loriod' (*Catalogue d'Oiseaux*), Messiaen expands on this principle, dividing certain pitches, whether they be higher or lower, to a designated hand, thereby requiring the pianist to play with overlapping hands. In this instance, however, four phrases are signified by four slurs [p53, b2; p54, b3]. The left hand is assigned the lower notes (C#, G, C, G and A), while the right plays the other, higher pitches, in the same order on each occasion: this repetition, in conjunction with the broadly arching slurs, creates an effect of fluidity. The first phrase begins on the fifth note of the system, continuing to the final B natural, yet the second phrase begins with the C#, the pitch that starts the other two phrases.

At figure 21, the powerful chordal refrain of the Himalayan white crested laughing thrush returns, succeeded by a white-crowned sparrow (on the xylophone), olive-backed thrush (on the clarinet) and, finally, a more determined second refrain from the laughing thrush.

After a prolonged polyphonic tutti, a break in the music occurs at figure 22. The second part of the introduction to this main tutti is quoted: shrill calls are followed by a rapid descent in the woodwind, in an exact replica. The far off 'hunting horn' effect of the prairie chicken is shortly succeeded by two short calls and descents. The 'gurgling sounds' of the earlier figure 8 section now emerge at figure 23, drawing this main tutti to a tentative, sparsely-scored close. These two recapitulations clearly define the section (from figures 22-24) as the coda to the main tutti.

The fourth piano cadenza opens with a 'miaow' from the catbird and a highly complex conversation in counterpoint between catbird and bobolink. The bobolink employs 'brilliant' melodic features, revealing a masterly polyphonic virtuosity in its interplay with the catbird. The form of this cadenza is in two sections, thus [VII/18]:

Section 1	Section 2
catbird's 'miaow'	catbird's 'miaow'
counterpoint	counterpoint
catbird's 'miaow'	
counterpoint (continues)	
catbird (short solo)	catbird (short solo)
bobolink (short solo)	bobolink (short solo)

At the beginning of the counterpoint representing catbird and bobolink, each birdsong is very different from the other; however, the fifth bar already demonstrates the overlapping of the two songs, exemplified by the grace notes and slurs which map onto another voice and the interlocking rhythmic groups. There is also frequent use of 'crossed hands' and overlapping of pitches. The bobolink plays the minor 7th alternator (D natural-C natural) and an ensuing alternator with an inverted major 7th interval (B natural-C natural). The latter alternator is not only incorporated throughout this passage, but its B natural also occurs as a reference point at the end of groups [p62, s5, b1], as two intermittent pitches [p62, s4, b4], in white-key chords [p62, s5, b2] and as the top note of the catbird's 'miaow' [figure 24]. When the bobolink is very busy, the catbird is often given slower, less frantic rhythms [see p63, s3, b1]. The catbird's short solo [p63, s5, b2] consists of two identical bars, each having two fortissimo chordal complexes and one bass chordal flourish. The bobolink, on the other hand, uses demisemiquavers in parallel, the pitches clashing with one another because of the many close major 2nd and minor 3rd intervals

between the two. The two-part alternator in the middle is particularly colourful. The bobolink's solo at the end of the cadenza employs the same principle as in its earlier versions. Nevertheless, the music is higher, more drawn out, and concludes with a scale in the left hand which, with the black notes in the right hand, reminiscent of a stained-glass window's colouration.²⁴ The preceding cries of the catbird also use higher pitches in the chords, the second bar being an exact repetition of the first. The cadenza has been working up to a climax for some time: the perpetual grace notes, high fortissimo stabs and drawn out alternators precede these exciting solos.

The final tutti begins at figure 25 on page 66. Simple quaver rhythms are written in harmony, using the full resources of this orchestra. The piccolo has an ascending run, using mostly black notes, to a top B natural trill, while the xylophone, in two parts, plays a dectaplet glissando in the shape of a 'closing fan' [p66]. At this time, the rhythmic percussive figures of the shama are represented, first by the same three quavers as in the other parts, and secondly by three fortissimo accented semiquavers. After a short and swift monophonic martellato interlude in bar 3, the ensuing two bars repeat the first bar almost identically. With the exception of the piccolo and the xylophone runs, the tonal centre is E major. The first chord of each of the units employs only the notes E natural, G# and B natural. The second chord consists of the notes E, G#, B and D# (a major chord with an added 7th), and the third uses the pitches C, B, F, E, F# with an A# in the bass clarinets and bassoon. This characteristic bar will be referred to as the 'E major' motive [see p67]. From figure 26, the Indian shama is represented in the piccolo, flute, all clarinet parts and solo piano. The features in the upper woodwind include many repeated pitches, grace

notes and repetitions of melodic cells (see first clarinet in Bb). The piano solo, however, begins with two 'éclatant' chords: the first is related to E major, while the second includes many of the pitches employed in the third chord of the aforementioned E major motive. This striking chord is followed by a two-part flourish, heavily based on the tritone interval. Another flourish and a two-part alternator follow: here, each two-part chord is no more than a minor third interval. The shama is represented by two horns: the texture of the ensemble becomes more and more frantic, especially when, subsequently, the bassoon plays continuous winding triplets, followed in turn by drawn-out alternators of the wren from Carolina, Hindu and Greek rhythms. At page 72, there are two 'E major bars' before a horned lark, red-eyed vireo - newcomers to the ensemble - and a shama appear at figure 28 [p73]. Messiaen is still introducing more new birds, including the staccato semiquavers of the warbling vireo, the high trills and rapid endings of the purple finch and short, colourful phrases from the yellow-throated vireo - the latter competing with the two horns and trumpet playing the 'quartet rhythm' in block chords. The iambic cells of the Luzuli bunting and the interval leaps of the blue-headed vireo are the only other new birdsong features to be introduced before the final 'E major' bars which conclude this section. At the fourth bar before figure 30, the texture comprises many alternators and quick runs from the bassoon and bass clarinet. Figure 30 provides a textural divide, as E major motives are followed by two block chords, final flourishes from the shama and two subsequent E major bars. A virtuosic piano solo, using distant interval leaps, falls to the depths of its range, as a last E major bar gives way to the final piano cadenza.

The final piano cadenza, at figure 31, depicts the wood thrush and cardinal. In fact, this short section is a microcosm or composite of the first and second piano cadenzas. The first three bars are an exact replica of the first three bars of the American wood thrush's 'hybrid' calls in the first piano cadenza²⁵ using a harmonic version of a porrectus flexus shape and centring around E major [p5, s4, b1-3]. Similarly, the 'liquid' strophes of the cardinal are identical to those found in the second piano cadenza, only this version is transposed. The prime number '5' determines the number of repetitions of strophes and the rests at the end.

The coda at figure 32 (page 85) begins with the strange call of the Indian mynah, already found at the opening of this work, though here it is followed straight away by the powerful but static and unrelenting staccato semiquaver chords of the white crested laughing thrush. In this last instance, the same chord - using all 12 pitch classes - is sounded thirty-one times until the close [ex VII/19 - p84]. The overall effect is a dense climactic sound emphasising the immense power of this bird's song and, moreover, the infinite timbral possibilities that can be found in birdsong around the world. This static density of sound pre-figures the gigantism of later works such as *Et Exspecto Resurrectionem Mortuorum*.

Oiseaux Exotiques represents,

‘ the first systematic attempt on the part of Messiaen to capture the timbre of birdsong instead of, as in *Réveil des Oiseaux*, contenting himself with outline alone.’ [Malcolm Troup in the ‘Messiaen Companion’, 1995, p409].

The composer’s developing *modus operandi* (in relation to birdsong) has reached its apogee now these unique timbres and exotic birds have been included in bird style. Certainly, many birdsongs have an almost three-dimensional quality, while the piece, especially in the main tutti, is saturated with numerous lavishly written superimpositions. With the wide variety of timbral complexity, it is inevitable that the marriage between ‘timbres’ and ‘couleurs’ was formed. In these two works, explorations of this highly synaesthetic and subjective approach are first developed. The ‘Colour of Time’/Chronochromie (1960) marks the next stage of the composer’s orchestral output. The concept of harmony, too, is broadened: the birdsong in the upper pitches of chords is heightened and enhanced, often forming complex colourations which contain ‘all the colours of the rainbow, including red, that colour especially associated with hot countries - the colour of the American bird known as the “cardinal”’. [Preface to the score, page x]. Additionally, combinations of instrumentation help to produce luminous sound qualities, especially when the wind, brass and percussion combine in an ensemble, notably in the main tutti. Messiaen balances grandeur with a great many subtleties in this exotic masterpiece.

Notes to Chapter VII

- ¹ John Philips, 'The Modal Language of Olivier Messiaen; Practices of "Technique de mon Langage Musical" as reflected in *Catalogue d'Oiseaux*'. D.M.A. dissertation, Peabody Conservatory of Music, 1977.
- ² Shu-Wen Sun, 'Birdsong and Pitch-Class Sets in Messiaen's 'L'Alouette Calandrelle', dissertation, Oregon, (1995).
- ³ Robert Sherlaw Johnson, Messiaen, (London, Dent, 1976 & revised in 1989), pp134-135.
- ⁴ As textures depend very much upon their notation, Philips refers to these as 'notations'.
- ⁵ Some of these effects are so frequent in *Réveil des Oiseaux* and *Oiseaux Exotiques* that the terminology is not always applied. For example, the two-voice polyphonic effect is increased to eight, nine, ten etc. different parts and, therefore, should refer to the whole dawn chorus in *Réveil des Oiseaux*.
- ⁶ The 'chord of resonance' represents non-birdsong material.
- ⁷ In *Réveil des Oiseaux*, the dawn chorus is, in effect, continuously polyphonic, involving many simultaneous birdsongs; the polyphony here frequently uses more than two voices.
- ⁸ Taken from the programme notes to *Réveil des Oiseaux*, conducted by Pierre Boulez - DG 453 478-2, 1997.
- ⁹ Op. cit. (Johnson), p122.
- ¹⁰ As melodic and rhythmic motives in Messiaen's birdsong become more varied and frequent, it is increasingly important to employ 'motivic classification' tables instead of ones that show all the characteristics of birdsong.
- ¹¹ Semiquaver-semiquaver-quaver motive, not a scandicus shape.
- ¹² This bird is represented harmonically to some extent, although the bass-register clusters create a somewhat gravelly guttural sound rather than a timbral complexity.
- ¹³ Claude Samuel, Olivier Messiaen: Music and Color. Conversations with Claude Samuel, trans. Thomas Glasow, (Portland, Oregon, Amadeus Press, 1986).
- ¹⁴ These groups of five semiquavers are included in this list as they appear in the four rhythmic strophes in exactly the same position. In the *deci-tâlas* system, the five quaver unit is known as 'gauri'.
- ¹⁵ As already mentioned, the piano can create a 'quasi-glissando' effect with a two-part descending flourish of rapid durations: the pitches often employ black notes in one hand and white in the other. The colouration and the simultaneous run of pitches produce this special sonority.
- ¹⁶ Like the nightingale's 'machine-gun' effect, but in harmonic ostinato.
- ¹⁷ Chords in an extremely open position: each part is at least a perfect fourth away from the next.
- ¹⁸ The semiquaver-semiquaver-quaver (or diminished version) motive found in the violin part of the first movement of the *Quatuor Pour La Fin du Temps* is, by now, a regular feature in its classic scandicus shape.
- ¹⁹ See Preface to the score.
- ²⁰ Demisemiquaver-demisemiquaver-semiquaver motive (anapaestic rhythm) appears throughout this section in the woodwind block.
- ²¹ Notice that 5, 7 and 9 are prime numbers.

²² Its melodic shape is opposite to the original found in the first movement of the *Quatuor pour La Fin du Temps*.

²³ Perhaps the very different interpretation of the shama (at figure 17 and on the piano) could represent this 'twitch' with its A and B naturals (see p40, b1).

²⁴ Another example of this effect can be found in the last two bars of the first song in the cycle *Poèmes pour Mi*, entitled 'Action de Grâces'.

²⁵ Bars 24-26 of the cadenza.