Quartet for the End of Time

Messiaen's use of rhythmic, melodic and harmonic compositional techniques to "end time" created by meter

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Introduction

Olivier Messiaen embodied one of the unique musical voices of the 20th century. An intriguing composer, he was born on December 10, 1908 in Avignon and died April 27, 1992 near Paris. He was a distinguished teacher and renowned organist and was particularly influenced at an early age with the compositional color systems of Debussy rather than the more traditional theoretical concepts of counterpoint and conventional harmony. Receiving conventional training beginning at age 11 at the Paris Conservatoire under the great master Paul Dukas in such standard concepts as counterpoint, he broke away from the methods outlined in conventional training and created his own system of musical language. Two vital overall inspirations for Messiaen's compositional works are his rare physiological ability to transcribe sound into colors, and his devout faith to the Catholic Church. These influences on the formation of his unique musical language helped to ensure that the music of Messiaen can not be analyzed by traditional methodology.

Messiaen said "*My faith is the grand drama of my life. I'm a believer, so I sing words of God to those who have no faith. I give bird songs to those who dwell in cities and have never heard them, make rhythms for those who know only military marches or jazz, and paint colors for those who see none*."[1] Messiaen became a first-aid conscript in the French army in World War II and it is likely that no other ordeal could have tested this faith or had such complete influence over what would become one of his most famous compositions than his internment in June 1940 as a prisoner of war in camp Stalag 8A of Gorlitz, Poland after being captured by the Germans.

When captured, he had been unable to bring food or clothing with him to the camp. But somehow he managed to carry a parcel containing the scores to Bach's Brandenburg concerti, and scores written by Berg, Beethoven, Ravel, and Stravinsky.[2] A German officer was sympathetic to Messiaen since it was clear that Messiaen was not aggressively involved in the war, and the officer smuggled manuscript paper, pencils, and eraser to Messiaen as well as clearing a room in the priests' block so he would have room to compose. The *Quartet for the End of Time* was written in its entirety while Messiaen was a prisoner of war; he would later recall that the dismal sight of the camp inmates in various stages of hunger and cold as well as his own extreme physical and psychological hardship influenced his dreams with an exception amount of coloration at this time that launched the inspiration for the composition. He considered the additional viewing of the colors of the aurora borealis[3] while interred at the camp an additional sign from his God to complete the work.

The unusual scoring of piano, cello, violin, and clarinet was a result of the limitations of instruments and competent musicians that could be found at the camp. The structural design of the piece includes qualities that are both musical and also mystical in Messiaen's personal belief structure. A total of eight movements depict the seven days of creation represented in the Bible and an eighth day for God to rest, symbolizing the extension into the timelessness of eternity. The premiere of the work took place on January 15th 1941 in front of an audience of four thousand prisoners and their guards. Messiaen later wrote, "*The cold was excruciating, the Stalag was buried under snow. The four performers played on broken-down instruments. Etienne Pasquier's cello had only three strings, the*

[1] www.oliviermessiaen.org, index
[2] Linton, M. p. 13
[3] www.oliviermessiaen.org, bibliography, p. 4

keys on the piano went down but did not come up again. But never have I had an audience who listened with such rapt attention and comprehension."[4]

The title of the composition was taken from the text in the biblical text of Revelation 10:6 and revealed a double connotation for Messiaen. The "end of time" in this case not only refers to the Christian legend of the Apocalypse but also represents an engaging word pun based on the compositional attributes which separate rhythm from standard classical meter, thus making an end of "time" in the actual rhythmic aspects of the composition. Referred to as a "miracle"[5] by some 20th century musicologists, the reflection on time illuminated in the Quartet allowed Messiaen to create the fundamental connection that would be a link between his musical and theological beliefs; it is a hopeful approach considering the appalling circumstance under which the piece was written along with the innovation of the work.

Although inspired by the book of Revelations, Messiaen did not intend the quartet to be direct commentary on the biblical story of the Apocalypse or even a reference to his own imprisonment. Rather, he considered it to be an extension of the Bible narrative. The "end of time" represented by the angel in Revelations firmly puts an end to both past and future time in conventional awareness, but an opportunity is thereby created to experience a timeless eternity. Messiaen sought to make the same connection in the musical elements of the Quartet. The preface of the work contains the text from Revelations: "*And I saw another mighty angel come down from heaven, clothed with a cloud; and a rainbow was upon his head, and his face was as it were the sun, and his feet as pillars of fire…and he set his right foot upon the sear, and his left foot on the earth…And the angel which I saw stand upon the sea and upon the earth lifted up his hand to heaven, and swear by him that liveth for ever and ever,….that there should be time no longer; But in the days of the voice of the seventh angel, when he shall begin to sound, the mystery of God should be finished*….". Messiaen's own words in the preface also explain his inspiration from this passage, "*It is directly inspired by this excerpt from the "Revelation of St. John." Its spiritual language is essentially transcendental, spiritual, catholic. Certain modes, realizing melodically and harmonically a kind of tonal ubiquity, draw the listener into a sense of the eternity of space or time. Particular rhythms existing outside the measure contribute importantly toward the banishment of temporalities.*"[6]

One of the great works of the 20th century, the Quartet for the End of Time exemplifies Messiaen's unique compositional techniques in the concept of time as a stationary element as well as his inimitable development of non-conventional harmonies and rhythmic form. Standard analytical tools are ineffective for the analysis of this piece since both the rhythmic and harmonic/melodic forms are used in a unique way in his music; therefore it is necessary to use Messiaen's own methods of analysis to understand the depth of the composition. In order to understand the general compositional complexities of this incredible piece, this paper will first provide a condensed description of Messiaen's general compositional traits, followed by a more detailed description of the actual musical elements in each of the movements from the Quartet for the End of Time.

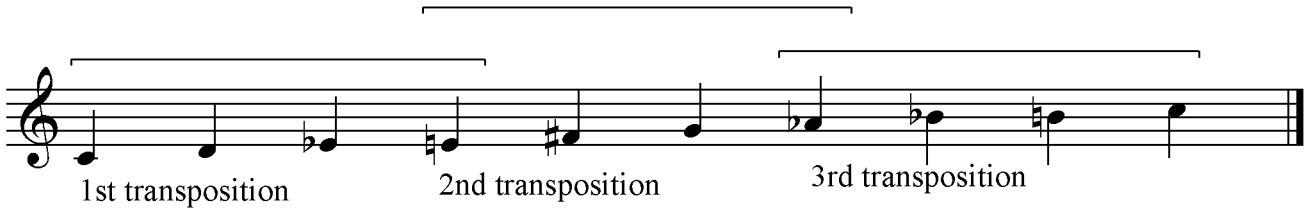
[4] Good-music-guide.com p. 2
[5] Linton, M. p. 13
[6] Messiaen, O. (1940) p. 1

General melodic traits

As previously indicated, Messiaen was gifted with the ability to transcribe sounds into colors, an ability called synaesthesia which is a biological condition affecting approximately one in 2000 people. Those affected with this disorder may experience the relationship of colors with letters, sounds, or words. Messiaen commented, "*I see colors - if only in my mind - colors corresponding to sound. I try to incorporate this into my work…they're musician's colors, not to be confused with painter's colors. They're colors that go with music*."[7] His experiencing of these colors provided inspiration for both the melodic and harmonic traits of his music. He was additionally inspired by Folk songs, plain chant, and the melodic contours of Hindu Ragas, and was much more attracted to the abstract elements of these vehicles which were not particularly acknowledged in the traditional classical music world.

Messiaen's use of the melodic line is very deliberate; normally he establishes a pattern where the melodic line rises and then descends to a resolution. He frequently follows this by use of the pattern in variation where he duplicates the melodic line in contrary motion such that the melody descends and then rises to resolution. Other compositional techniques include the addition of notes into the melodic line (for either melodic or rhythmic development or augmentation), retrograde of the melodic line from end to beginning, and inversion to create additional color outline. Messiaen generally uses what he refers to as the "modes of limited transposition" to outline the melodic pattern being assumed.

These modes defined by Messiaen are formed by symmetrical groups of notes, with the last note of each group always being enharmonically equivalent to the first note of the following group. Each group has a certain number of chromatic transpositions, after which the mode is no longer transposable. Mode 1, the whole tone scale, is the easiest for observing this rule since only two chromatic iterations are possible; the notes afterward are the same as those previously moving exclusively in whole steps. Mode 2 represents a half-step followed by a whole step in a three note pattern; the continuation of this pattern creates the octatonic scale. In Mode 3, a whole step is followed by 2 half steps with a total of three transpositions such as follows:



Modes 4, 5, and 6 utilize the tritone to divide the octave into two symmetrical groups, each of which uses a different combination of whole and half steps within the unit. Messiaen frequently speaks of the charm of impossibilities in his theoretical treatise The Technique of My Musical Language and says of the modes of limited transposition that "*their impossibility of transposition makes their strange charm. They are at once in the atmosphere of several tonalities, without polytonality, the composer being free to give predominance to one of the tonalities or to leave the tonal impression unsettled."*[8]

[7] www.oliviermessiaen.org, bibliography p. 2-3
[8] Messiaen, O. (1942), p. 87

Birdsong also became a favorite source of inspiration for Messiaen. His early works foreshadow the large body of birdsong repertoire of his later compositions, but it was not until the writing of the Quartet for the End of Time that he actually includes the notation in the score. He would select a very specific bird to use in his compositions and create a composite of the best sounds the bird would produce into a musical ideal of the bird. In this way, "it's the process or transformation that Messiaen enjoys and relates this to the paintings of Monet who is not interested in putting say a water lily directly on the water of a picture but representing one variation of the light on the water lilies."[9] Messiaen eventually became an expert ornithologist and was able to recognize the call of any bird he ever heard. He would not only use the timbre of the original birdsong itself, but the color of the bird also suggested to him the color of what the melodic language would be.

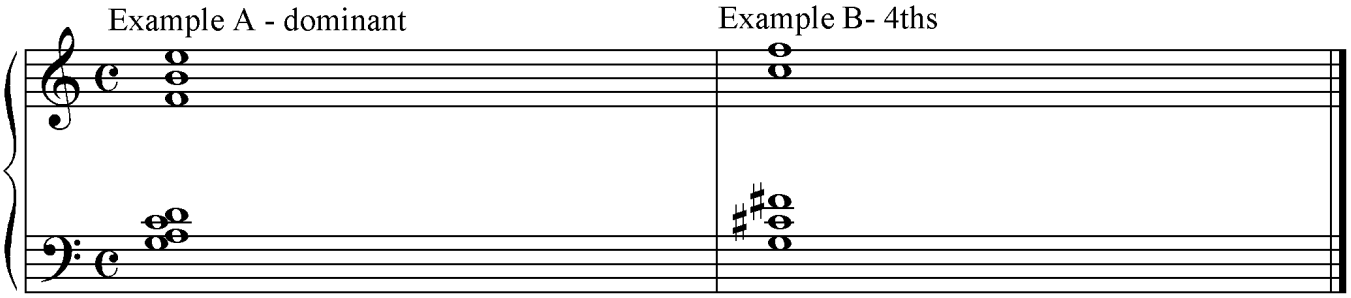
General harmonic traits

Having been greatly influenced by the intervallic use of harmonies in Impressionistic composers, Messiaen considered that harmony was not so much functional as decorative.[10] He utilizes the modes of limited transposition not only melodically but also in a harmonic structure such that standard retrograde becomes impossible since the tonality comes full circle back to the starting point. A tonal ambiguity is created where "*beginning and end are confused because identical…all things which lead progressively to that sort of theological rainbow which the musical language, of which we seek edification and theory, attempts to be*."[11] Messiaen utilizes these modes of limited transposition both individually within the entire piece, and also systematically combines them either singly or superimposed in a distinctive form of polymodality. Such polymodality could be a combination of either two or three modes of limited transposition, or utilized in the form of a modulation where one mode then transposes to another.

The augmented 4th (tritone) chord is used as often in Messiaen's harmonic structure as in the melodic contours realized with the modes of limited transposition. Based on the fundamental notes in the overtone series, Messiaen found that the final auditory unit perceived from playing a low C (2 below middle C), resolved (via an octave, fifth, fourth, third, etc) to F# above C above middle C. It therefore became a standard compositional resolution for him to resolve the F# down to C; augmented fourths are a standard interval in his melodic and harmonic structure.

Within chord structure, Messiaen frequently creates colors by using chord clusters that include his use of the dominant chord which contain every note of the major scale (example A below). He regularly uses this chord in conjunction with appoggiaturas to create the affect of what he refers to as a stained-glass window of colors. It is varied with the use of chord clustering utilizing a chord building up tones of 4ths mixed with perfect or augmented 4ths (example B below):

[9] www.oliviermessiaen.org, bibliography p. 3
[10] Johnson, R. p. 13
[11] Messiaen, O. (1942), p. 95

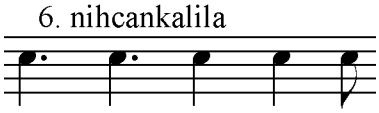


An additional chord used frequently by Messiaen is termed as the "chord of resonance". Based on the third mode of limited transpositions, the chord utilizes every note in the third mode. The notes are arranged in cluster and also inversions of the "root" chord. An example of this chord will be shown in the detail of the second movement of the quartet beginning on page 9. Complimentary chords also used in the quartet include the chords of harmonic litany in which a fragment of a melody is repeated with different harmonization on each instance. This will be described in greater detail in the seventh movement description on page 16.

General rhythmic traits

At a conference given in 1958, Messiaen stated, "*Let us not forget that the first, essential element in music is Rhythm, and Rhythm is first and foremost the change of number and duration. Suppose that there were a single beat in the universe. One beat; birth of time with eternity before it and after it. A before and an after. That is the birth of time. Imagine then, almost immediately, a second beat. Since any beat is prolonged by the silence which follows it, the second beat will be longer than the first. Another number, another direction. That is the birth of Rhythm*."[12] This statement clearly encapsulates Messiaen's rhythmic philosophy which manifests in his setting value of a beat as a clearly marked linear (horizontal) duration, as he broke out of the classical compositional paradigm of using rhythm to establish division of measured units.

Much of Messiaen's foundation in rhythm was derived from ancient Greek and ancient Indian theory (derived from the Hindu Sharngadeva) which utilize 120 "talas", each of which is equivalent to a different rhythmic mode. An example of a tala (the 6th in the table of 120) which illustrates a pattern of diminution is as follows:



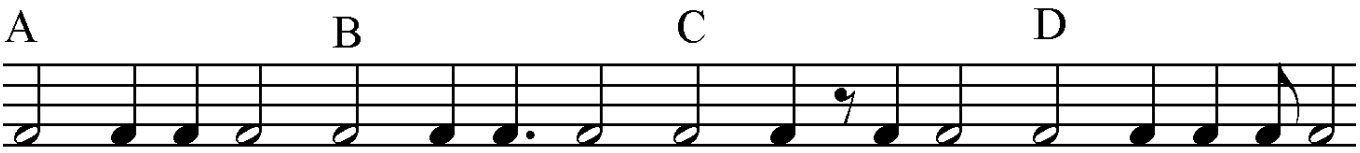
Messiaen was also drawn to the rhythmic structure of prime numbers (those numbers only divisible by themselves, such as five, seven, eleven, thirteen, seventeen, etc.) and also the symbolic use of the numbers of divinity symbolized by the numbers three and five. The divine is represented in the numeral three by the Trinity in Christian theology, whereas the numeral five corresponds to the

[12] Johnson, R. p. 32

symbolism of the Indian God Shiva. Shiva's divine role is traditionally that of the "death of death", and so Shiva therefore assumes a Christ-like archetype for Messiaen.[13]

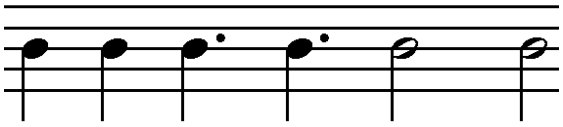
Under these influences, Messiaen created "ametrical" music by replacing the ideas of measures and beats in the establishment of standard metric rhythm with the feeling of a short value (such as an eighth or sixteenth note) in free-sounding but precise notation. He consistently avoids the use of "regular" meter and supports this reasoning by pointing out that the natural order of things, such as the branches of a tree or the waves of the ocean are not based on even patterns of phenomena.[14] Messiaen utilized the modes straight from the Hindu rhythms, most frequently using the ragavardhana (number 93 in the table of deci-talas) and employs various ways to alter the basic rhythm by adding single-note values to a rhythmic phrase. In addition he utilizes augmentation or diminution of note values within a rhythmic phrase, and also utilizes retrograde/palindrome of a rhythmic phrase. The following examples show his use of these techniques:

1. Added values - This example shows three distinct ways Messiaen utilizes rhythms with added values:



"A" defines the original musical phrase, simple and metric. Messiaen then alters this to create ametrical phrasing in three different ways; first in example B with the addition of a dot to the second quarter note, second in example C with the addition of a rest after the first quarter note, and third in example D with the addition of an extra note.

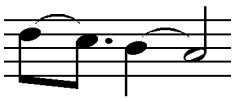
2. Augmentation or diminution by proportion: - Augmentation based on specific values:



In the above example, there are two quarter notes, augmented by two dotted quarters, and an additional augmentation of two half notes in classic rhythmic augmentation. This is an example of progressively increasing or decreasing note values. Messiaen uses various augmentation and diminution techniques that include addition/diminution of a quarter of the values, addition of a third of the values, addition of the dot, addition of the values to themselves (considered as classic augmentation), addition of twice the values, addition of three times the values, and addition of four times the values.[15] The same factors are used in diminution as well as augmentation.

[13] Johnson, R. p. 42
[14] www.oliviermessiaen.org, bibliography p. 4
[15] Messiaen, O. (1942) p. 16

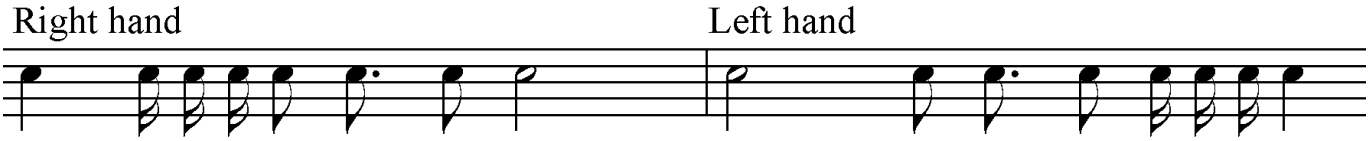
Messiaen also creates augmentation or diminution based on inexact values:



The augmentation in the above phrase is inexact since the first phrase augments by the dot of the first note's value (one and a half times), whereas the second phrase augments by double the first note's value.

3. Retrograde/Non-retrograde rhythms - A retrograde rhythm uses standard counterpoint technique in which reading from left to right can be retrograded by reading right to left, just as standard retrograde technique can be applied to harmonic and melodic functions. When rhythm is retrograded, the augmentations and diminutions reverse themselves in sequence. A nonretrogradable rhythm is one in which the outer rhythmic values remain the same and circle around a middle note acting as the "mirror" to the two outer duration's of notes. An example of nonretrogradable rhythm is notated in this paper in the detail area of the quartet first movement on page 10.

Polyrhythms - Messiaen utilizes several forms of polyrhythmic movement. The simplest form is in the overlap of two rhythms (in the left and right hand of organ or piano) in which one part plays one combination of rhythm and the other part superimposes a rhythm of unequal duration. The chords repeat for however many iterations it will take to complete the circle of rhythm and return to the foundation point. Messiaen also utilizes this technique in a more complex form in which different forms of augmentation and diminution are added. Additional forms of polyrhythms include the overlap of an individual rhythm on its own retrograde. Such an example is illuminated in the organ work *Les Corps glorieux* in which he initiates a rhythm in the right hand which is retrograded in the left hand rhythm:[16]



A supplementary polyrhythmic trick utilized by Messiaen is the use of rhythmic canons, which may exist without the addition of a melodic canon. Each instance of the canon can be initialized as closely as a quarter note away for each entrance of the rhythmic ostinato line. Messiaen incorporates rhythmic canons with augmentation or diminution, such as the addition of a dot on each note of the repetition while the original ostinato retains the original rhythmic pattern. The other use of canons with non-retrogradable rhythms will be explained in more detail later in the paper.

Related to the rhythmic canon is the rhythmic pedal, also an ostinato pattern clearly delineated in the piano part of the first movement of the quartet. It can be a unique accompanying pattern to entirely different rhythmic patterns or can be structured with additional rhythmic pedals.

[16] Messiaen, O. (1942) p. 22

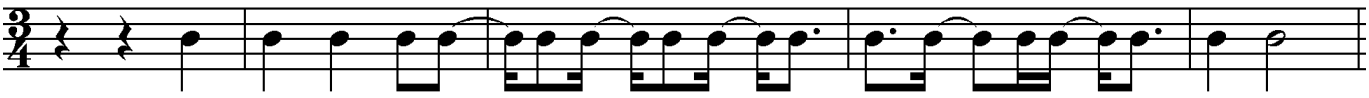
Quartet for the End of Time

A detailed description will now follow of how these compositional attributes utilized by Messiaen produced the Quartet for the End of Time. Each movement will be described in detail along with the attributes that create the focus on "timelessness". The description of all movements is represented by Messiaen's own comments in the preface to each movement.[17]

I. **Liturgy of crystal**. *Between three and four o'clock in the morning, the awakening of the birds; a blackbird of a solo nightingale improvises, surrounded by efflorescent sound, by a halo of trills lost high in the trees…*

The forty-three bars comprising the first movement of the composition are clearly delineated by either rhythmic or melodic intent. All four instruments in the quartet participate in this movement, each with their own individual roles which give the impression that they play concurrently but without reference to each other. The main rhythmic pulse is assumed by individual rhythmic pedals structured in the piano and cello while the clarinet and violin play melodic embellishments typical of blackbird and nightingale birdsong respectively; the birdsong is echoed between each instrument and creates an improvisatory environment devoid of meter. (As previously noted, this is the first instance that Messiaen used birdsong in any of his compositions; very likely he was inspired as a prisoner inside camp walls and imagining himself joining the birds flying outside those walls…he later described birds as "little prophets of immaterial joy"[18]) The rhythmic pulse created in the piano ostinato is constructed by a continuous formation made up a pattern consisting of seventeen note durations, superimposed upon a harmonic structure of twenty-nine revolving chords. Messiaen was inspired by and utilizes the medieval device of *isorhythm* for this movement, in which there is an overlap of chords and rhythmic duration. Thus he created a framework within a framework, basing it on the prime numbers of 17 and 29. Because of the use of prime numbers, there is a constant creation of different combinations of the musical groupings within the isorhythmic pattern.

The movement is scored in 3/4 time, but Messiaen eliminates standard rhythmic structure within the isorhythmic beat pattern. The chords are quite dissonant and the voicing very dense; the rhythmic model uses the three Sharngadeva patters of ragavardhana, candrakala, and lackskmica to form a continuous rhythmic pattern as follows:



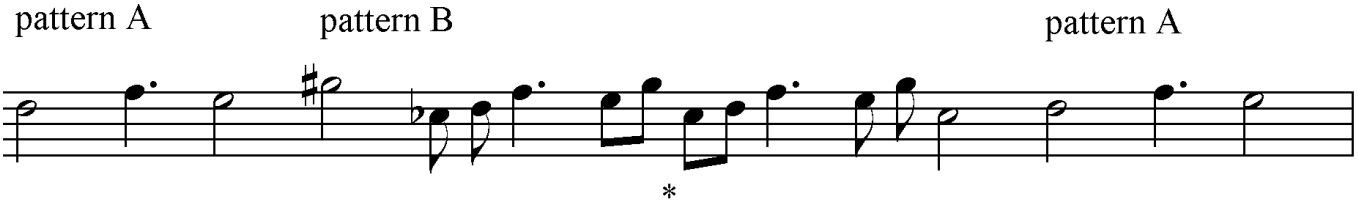
Messiaen successfully avoids any sensation of meter by the use of this progression.

The chord sequences use a combination of modes of limited transposition and tend to leave the listener with a feeling that there is no real home tonic key since the pitch classes symmetrically turn back on themselves in each different cycle. Overlaying the piano part, the cello plays the same fifteen note

[17] Messiaen, O. (1940) various
[18] Linton, M. p. 14

melody continuously and uses only the whole-tone notes C, E D, F#, and Bb (the first of the limited modes of transposition) played with harmonics.

Messiaen creates an additional archetypical rhythm in the cello line with a palindrome created from combining a group of a 3 note pattern with a second group of a 12 note pattern. When these two groups overlap, a rhythmic palindrome is created such that both forward and backward movement is rhythmically equal. Messiaen refers to this as non-retrogradable rhythm, where "whether one reads from right to left or from left to right, the order of their values remains the same."[19] The following example shows how the parts overlap, group 1 of three notes marked as Pattern A, group 2 of twelve notes marked as Pattern B, with an asterisk (*) marking the central "mirror image" point of the pattern.



With the use of non-retrogradable rhythms, there is no typical rhythmic environment. Typical use of meter in classical music undergoes a complete paradigm shift in this movement through the creation of these two undulating circles of pulsing pattern which create movement outside of "time". These piano and cello patterns are in complete support of the birdsong played by the clarinet and violin. They remain the constant pulsation of forward movement, but it is the birdsong melody which determines the duration of the movement.

The rhythmic movement could therefore be said to provide "coloration" for the movement rather than define its structure.[20] All of these rhythmic techniques which provide background to a wonderfully tranquil movement of birdsong combine to create an environment lacking in standard metrical patterns. The instruments, while all are playing simultaneously, each create their own unique line by a mutual existence on the musical level but without much actual interaction with each other. By using these techniques, Messiaen strives to create a sense that the movement is just a part of larger environment which continues eternally.

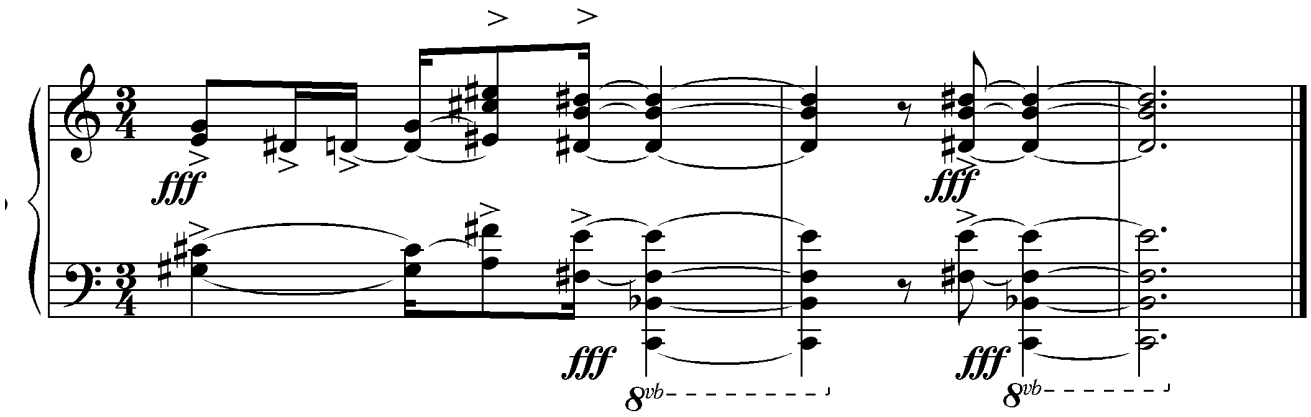
The end of the movement leaves the sequence of all possible patterns incomplete within the piano's isorhythmic cycle since the predominant melodic lines of the clarinet and violin playing birdsong determine the final length of the movement before the isorhythic pattern can complete its circle. By the use of this device of rhythmic pedal, where a pattern repeats itself in a circular fashion without any awareness of other rhythms going on simultaneously, Messiaen uses the incomplete cycle in the theological sense of a providing a quick look into the "window through which….the Liturgy of Crystal gives the listener a glimpse into the reality of the heavenly Jerusalem, a place beyond time."[21] By interrupting the isorhythmic cycle, Messiaen allows his listener only a small glimpse into the eternity of "timelessness" by cutting the rhythmic cycle before completion.

II. **Vocalise. For the Angel who announces the end of Time**. *The first and third parts (very short) evoke the power of this mighty angel, a rainbow upon his head and clothed with a cloud, who sets one*

[19] Messiaen, O. (1942) p. 17
[20] Johnson, R. p. 63
[21] Linton, M. p. 14

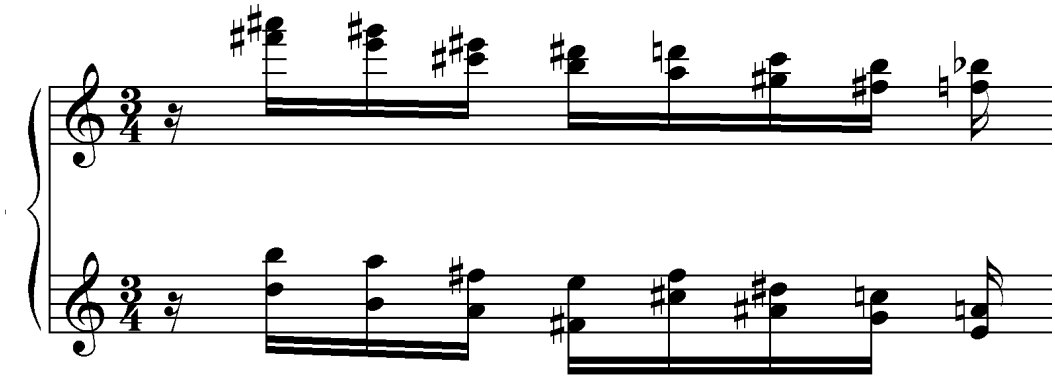
foot on the sea and one foot on the earth. In the middle section are the impalpable harmonies of heaven. In the piano, sweet cascades of blue-orange chords, enclosing in their distant chimes the almost plainchant song of the violin and violoncello.

This movement has a mystical internal section surrounded by a cataclysmic rhythmic drive on both sides in an elongated ABA form. Piano maintains a very strong rhythmic drive in the A section with heavy offbeat chords landing on almost the lowest note of the piano. This piano motif representing the angel announcing the end of time will be repeated in the seventh movement of the quartet:



The clarinet sustains rhythmic bird calls while violin and cello, who are in tandem for the length of the movement, maintain a sixteenth note drive which concludes in the section with a swirl of an ascending scale ascending nearly three octaves and based on the 3rd mode of limited transposition. Clarinet and piano also have a rapid upward drive as the piano plays arpeggiated chords in lieu of the scale figure. The initial A section of the movement concludes with thick descending cluster chords in the piano while the clarinet has one final birdcall.

The central and longer B portion of the movement has the violin and cello playing concurrently as the piano plays what is initially perceived to be a straight obligato line:



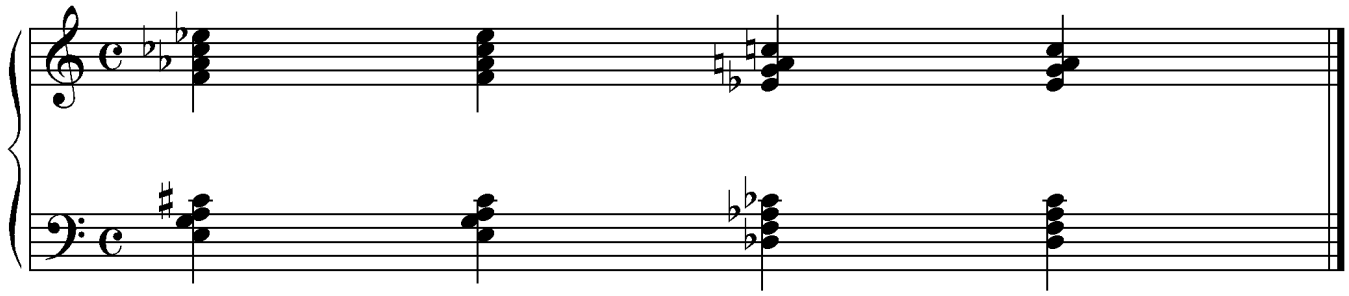
Although this phrase is used in repetition in the piano part, it is done so in a continuous decreasing of repetitions taking part over 2 main areas. This line begins with four iterations of the phrase, at which point 16 sixteenth notes of an interval between phrases are introduced. The following table shows the measure numbers and content:

Measure number (from B section start)	obligato iteration	interval length

1	4	--
3	--	16 sixteenth notes - clusters
5	3	--
7	--	14 sixteenth notes
8	3	--
10	--	10 sixteenth notes
11	1	--
11	--	chords of resonance and 4ths
16	3	--
18	--	16 sixteenth notes (same as row 2)
19	2	--
21	--	10 sixteenth notes
22	1	--
22	--	chords of resonance and 4ths
30	end of section	

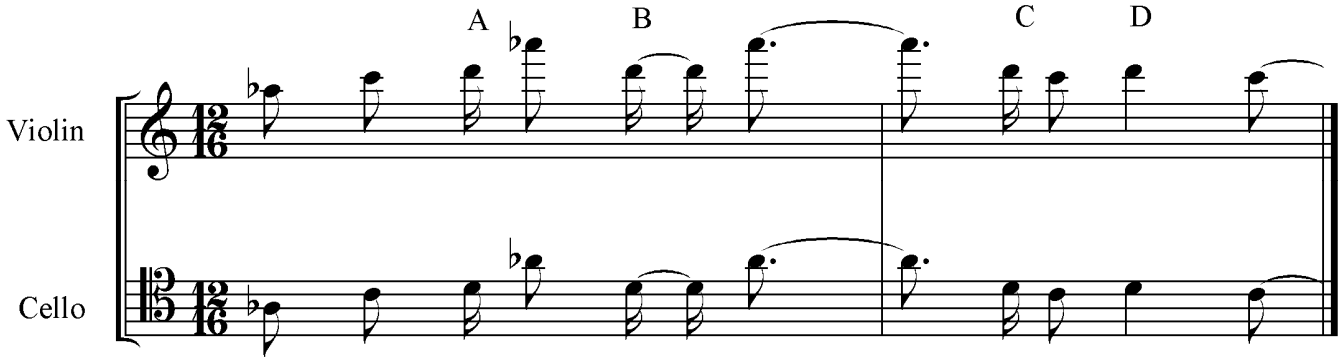
Messiaen has slowly decreased the number of times that the defined obligato line is stated, starting with 4 iterations and gradually decreasing intervals in the first half of the section to1 iteration.

Following the first interval containing chords of resonance (a chord which contains all notes within the 3rd mode of limited transposition) in measure 11 of this section, he starts a mirror section with only 3 iterations of the phrase, gradually reducing to only 1 prior to the second interval containing chords of resonance. Messiaen states that "Paul Dukas often spoke of effects of resonance. Effects of pure fantasy, similar by a very distant analogy to the phenomenon of natural resonance."[22] The chord of resonance notated in the example used below is utilized in the larger intervals that divide this section within the structure of the piano part:



In concert with piano in the B section, violin and cello play two octaves apart in a measured rhythm which enhances the piano obligato but with an unmeasured feel which manifests in Messiaen's impression of a plainchant. Messiaen achieves some of the unmeasured feel in these parts by the use of added values and augmenting the rhythms on the note repetitions. In the example below, the values going from A to B are rhythmically augmented once as are the values going from C to D:

[22] Messiaen, O (1942) p. 71



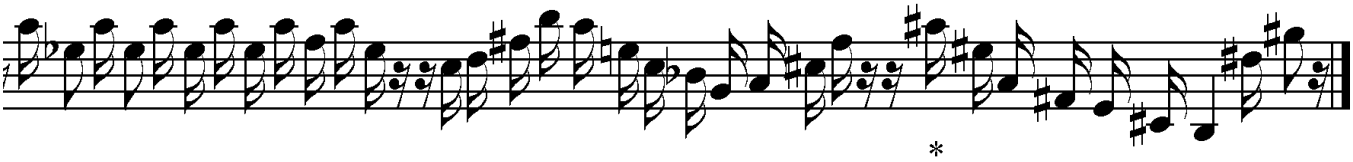
The return of the A section is considerably shortened. The violin and cello upward scale initiated in the first A section now resolves from its ascent by descending. In the same manner, the piano's passage of arpeggiated chords now descends, and the cluster chords which follow ascend. The result is that all horizontal movement in the return of the A section has been reversed from what was stated in the initial A section.

III. **Abyss of the birds**. *Clarinet alone. The abyss is Time with its sadness, its weariness. The birds are the opposite to Time, they are our desire for light, for stars, for rainbows, and for jubilant songs*.

This movement is a striking example of Messiaen's use of birdsong imitation in his compositions, and it is the first time he composed in this manner for a single instrument. Messiaen was fascinated with the contour of the birdsong but also knew that he could not specifically recreate the exact intervallic content within the boundaries of the harmonic system. He noted that "*birds make extremely refined jumbles of rhythmic pedals. Their melodic contours surpass the human imagination in fantasy, since they use untempered intervals smaller than the semitone, and as it is ridiculous servilely to copy nature…the melodies of the 'bird' genre will be transcription, transformation, and interpretation of the volleys and trills of our little servants of immaterial joy.*"[23]

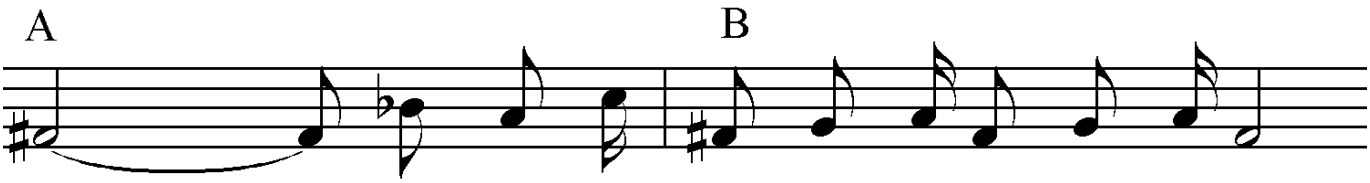
The contrast is obvious between the sections marked as exceptionally slow (Lent, eighth note = 44) and those marked extremely fast (Presque vif, quarter note = 126). The musical contrast between the two sections is clearly distinctive between optimistic birdsong (first heard in the first movement of the quartet) and the vacuum of emptiness of "Time with its sadness, its weariness". This movement has no time signature, ensuring that the clarinet can play "without time" but still rhythmically. In the rapid sections, Messiaen utilizes the calls of the blackbird and nightingale in imitation, then adds the musical structure of an arpeggio descending (marked at the asterisk in the example below) on the dominant chord (previously defined on page 6). He then adds appoggiaturas for resolution to create the image of a stained-glass window in honor of the bird's color. Messiaen considered the song of the nightingale to be a subset of a group of birds with varied song patterns, declamatory in style; the blackbird was in a different group with varied song patterns, melodic in style, and often with tonal implications and in a slower tempo.[24]

[23] Messiaen, O. (1942) p. 38
[24] Johnson, R. p. 134



Messiaen utilizes the device of his unique dominant chord in both ascending and descending passages within the fast sections of this movement. Frequent breath marks are indicated to point out individual birdcall completion but also to compress the amount of time between calls, particularly those of the blackbird.

In contrast, the slow notes of the "Time with its sadness, its weariness" sections are long and drawn out and are meant to represent the melancholy and barrenness of earthly existence. The long notes become increasingly louder throughout the movement, almost to the point of being piercing….an augmentation of the auditory as well as the rhythmic. It could be hypothesized that Messiaen is deliberately using the pattern of numbers earlier indicated as having "divine" quality (values of five and three) in the following example of part of this part of the movement. When looking at the phrase beginning on an F# (letter A) to the next F# (letter B), 5 notes fall within the phrase. The second phrase (letter B) has two iterations of three notes each, with the final count of F# iterations coming to three between the beginning, middle, and ending:



It is interesting to note that Messiaen's use of birdsong in this work foreshadowed the direction his future compositions devoted entirely to birdsong would take. The use of the nightingale and the blackbird featured in this work are the two birds which ended up being predominant in his birdsong compositions of later years. In future compositions which would feature the calls of over one hundred different species of birds, Messiaen did not use a standard "blackbird melody" in his music since blackbirds do not sing the same song within a natural environment. Other birds such as the chaffinch have little variety since they generally do sing the same song and so were notated with very little variety in comparison to the blackbird.[25]

IV. **Interlude**. *Scherzo, of a more individual character than the other movements, but linked to them nevertheless by certain melodic recollections.*

This movement is the only movement in the quartet which is mostly written in "metered" time with a pattern of varied eighth and sixteenth notes consistently in 2/4 time; it provides a pointed contrast to the preceding movements whose quality is much more otherworldly. This was actually the initial movement that Messiaen wrote of the quartet; it was originally written as a short trio for his fellow prisoners who played clarinet, violin, and cello before the bulk of the quartet was composed so does not include the piano. It is also the only movement in the quartet which is more of teasing dialogue between the instruments and does not relate to a theological subject. However, it does round out the number of movements symbolizing the divine within the quartet. Messiaen refers to this in the preface

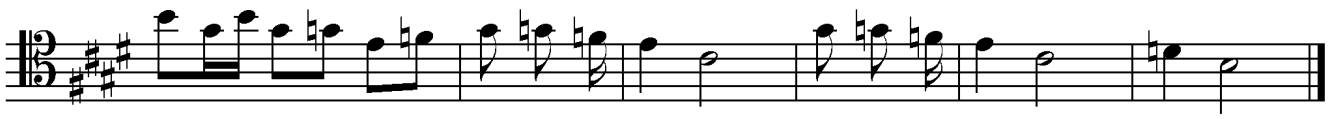
[25] Johnson, R. p. 131

of the quartet as "*Seven is the perfect number, the Creation of six days sanctified by the divine Sabbath; the 'seven' of this day of rest is prolonged through eternity and becomes the 'eight' of inextinguishable light, of perfect peace.*"[26]

V. **Praise to the Eternity of Jesus**. *Jesus is considered here as the Word. A broad phrase, infinitely slow, on the violoncello, magnifies with love and reverence the eternity of the Word, powerful and gentle, …"In the beginning was the Word, and Word was with God, and the Word was God."*

The original inspiration of this movement in the quartet came from a piece that Messiaen composed in 1937 for the ondes martenot, an electronic instrument invented in 1928 by Maurice Martenot. The work was entitled *Fetes des belles eaux*, originally written for six ondes martenots, and it became the framework for this movement of the quartet. The resulting structure in the quartet led to a peaceful and almost unearthly tranquility in a duet between cello and piano.

The piano creates a rhythmic drone of steady sixteenth notes, marked by silence during the initial statement of the theme in the cello as well as during the development of the theme. Messiaen makes use of a device called the song-sentence for the cello line in this movement; this is a theme containing both antecedent and consequent phrases, a middle period which leads into the direction of the dominant chord, and a final period in which the theme is restated.[27] This movement is also without a time signature so that the cello can be "unmeasured" over the stability of the piano sixteenth note pattern. The following example shows the antecedent of the theme:



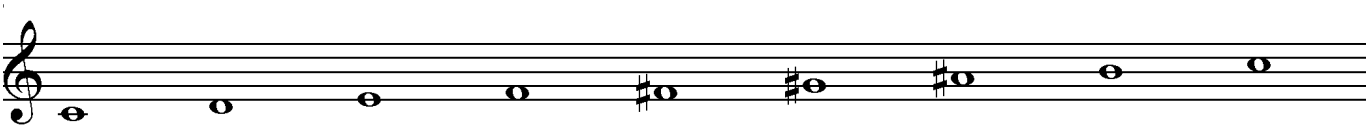
The theme repeats with a change of the end into a melodic descent from B to G# instead of the original D to B, creating the consequent phrase. The middle period of the movement continues with a marked change of dynamic going from piano to forte and climaxing into B Major (the key of the dominant) before returning back to E major for the final statement of the theme, which ends in triple pianissimo. The piano has continued the sixteenth note drone but on the final cello note Messiaen punctuates the fixed sixteenth notes with augmented rests; first there is an eighth note rest, followed by six sixteenth notes, then a final quarter note rest followed by 4 sixteenth notes as the note held by the cello continues until no sound remains.

VI. **Dance of fury, for the seven trumpets**. *Rhythmically, the most characteristic piece in the series. The four instruments in unison take on the aspect of gongs and trumpets (the first six trumpets of the Apocalypse were followed by various catastrophes, the trumpet of the seventh angel announced the consummation of the mystery of God). Use of added rhythmic values, rhythms augmented or diminished…Music of stone, of formidable, sonorous granite…*

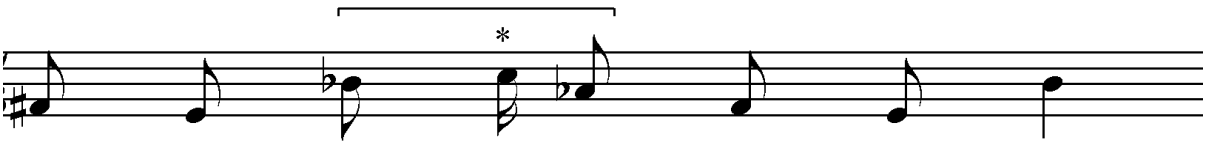
This movement is one of the most rhythmically energetic of the quartet; it is written in a monadic form with all instruments consistently playing the same phrases in tandem octaves. The entire movement is written in the sixth mode of limited transpositions, the mode in which two tetrachords are

[26] Johnson, R. p. 41
[27] Messiaen, O. (1942) p. 44

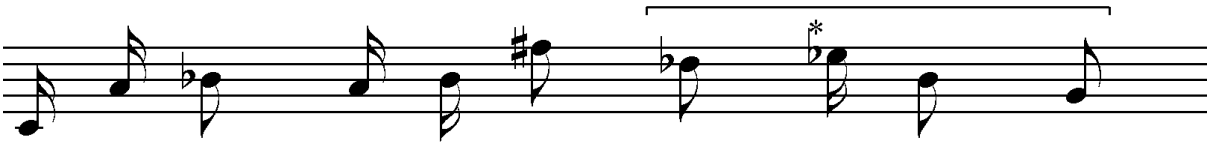
superimposed over each other from the tritone (as 3 whole steps followed by a half step) by means of the following tones:



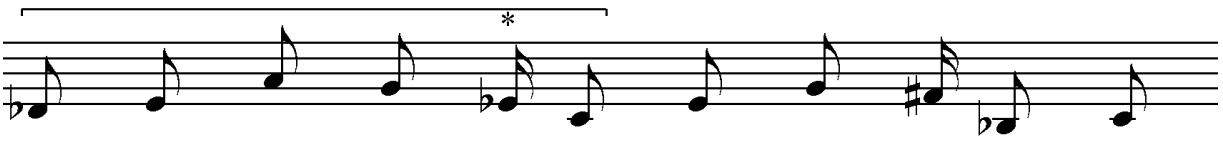
The initial 27 bars of the movement are developed using a structure where a new 2 measure rhythmic phrase begins every second measure (starting on measures 2, 4, 6, etc.) with each rhythmic phrase culminating in the longest note value of the phrase, most often a half-note. Within this structure is an illuminating example of how Messiaen uses rhythmically added values in groups of five, seven, eleven and thirteen, all prime numbers. The following example shows an added value at the asterisk to create a five (sixteenths) count around the Bb, C, and Ab around the already established eighth notes:



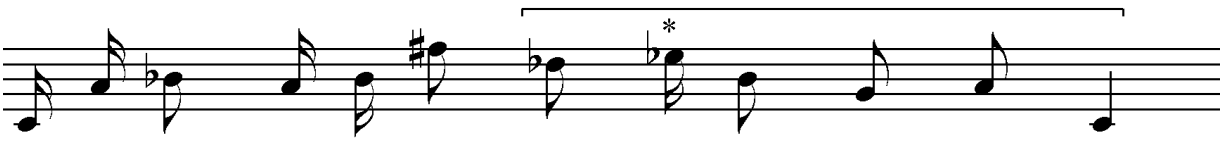
Next an added value denoted at the asterisk creates a seven count of sixteenths:



An 11 count of sixteenths is created:



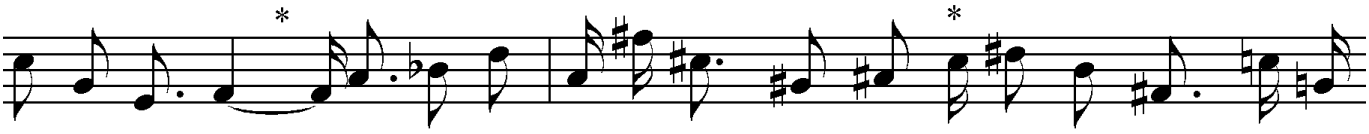
And a 13 count of sixteenths:



Messiaen makes use of a device previously mentioned called non-retrogradable rhythm in a series of phrases, one per measure for fourteen full measures starting in the second section of the movement marked as "Au mouvt." In his treatise entitled *The Technique of My Musical Language*, he describes how the phenomenon of non-retrogradable rhythms is particularly useful when using a mode of limited transposition. His supposition for this theory lays in the fact that the modes of limited transposition are

realized in a vertical direction whereas the non-retrogradable rhythms are realized in a horizontal direction. Since the modes cannot be transposed beyond a certain level without coming full circle to the starting note, and the rhythms cannot be retrograded because they contain their own retrogrades within themselves, the modes and rhythms make a perfect partnership. "The last note of each group of these modes is always *common* with the first of the following group and the groups of these rhythms frame a central value *common* to each group. The analogy is now complete"[28] states Messiaen.

The following example shows two contiguous measures in the movement which contain non-retrogradable rhythm in each measure. The "nucleus" of the measure is marked with an asterisk and either side of the asterisk contains the mirror image rhythmic notation:

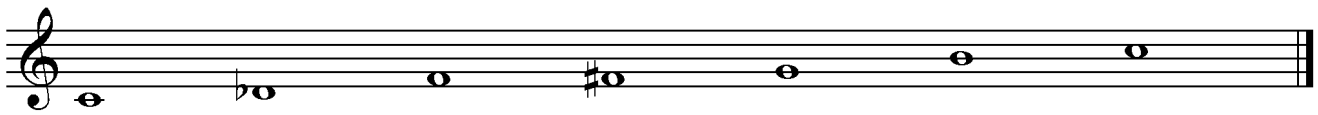


Without question, this movement contains the most rhythmic challenge to the performer. The final statement of the main theme, marked, "Presque lent, terrible et puissant," has all instruments realizing the extremes of their register as the notes of the tune originally contained within a one octave range reach to a many octave separation between each note. Messiaen used this device in the context to "communicate to this theme a crushing power."[29]

VII. **A mingling of rainbows for the Angel who announces the end of Time**. *Certain passages from the second movement recur here. The powerful angel appears, above all the rainbow that covers him….In my drams I hear and see a catalogue of chords and melodies, familiar colors and forms…The swords of fire, these outpouring of blue-orange lava, these turbulent stars…*

Messiaen's own description of the colors created by this movement foreshadows what is one of the most musically multihued movements in the quartet. The movement varies between an initial calm and peaceful theme followed by the powerful theme denoting the angel originally heard in the second movement. The themes alternate in a form that becomes strophic where the calming theme variations become separated by the second theme's cataclysmic developments, thus creating regular continuity between the two themes. Messiaen refers to this type of form as "Variation of the First Theme, Separated by Developments of the Second."[30]

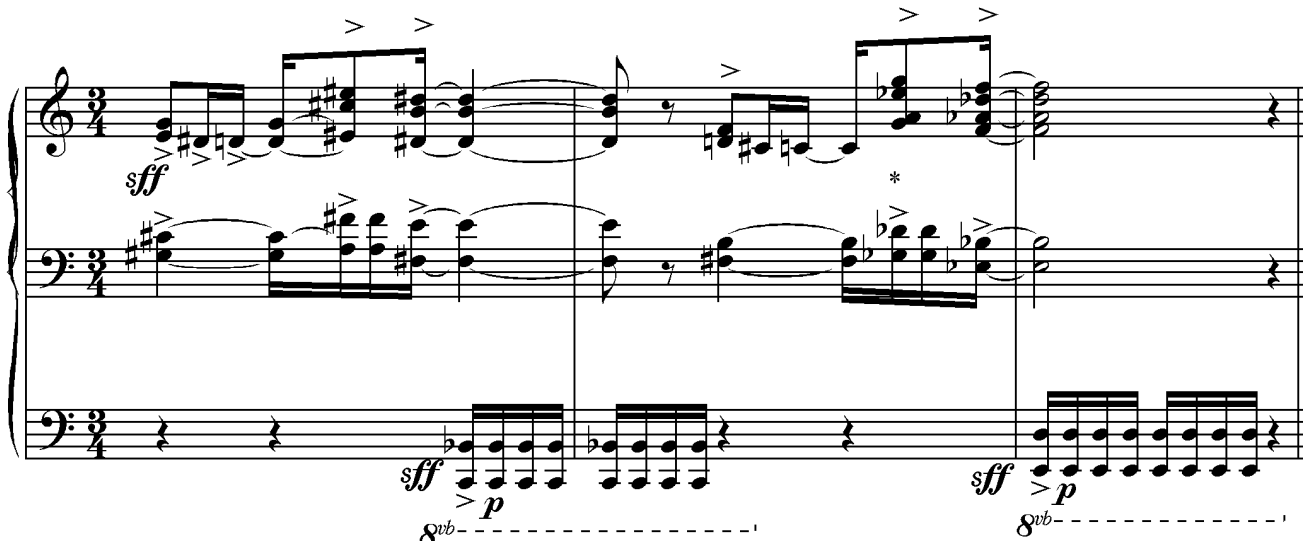
This movement utilizes two modes of limited transposition, the fifth mode superimposed on the sixth mode. The sixth mode was used in the preceding movement and its usage of notes was described above. The fifth mode uses the following note pattern of half steps and major thirds and, similar to the sixth mode, is also split by the tritone:



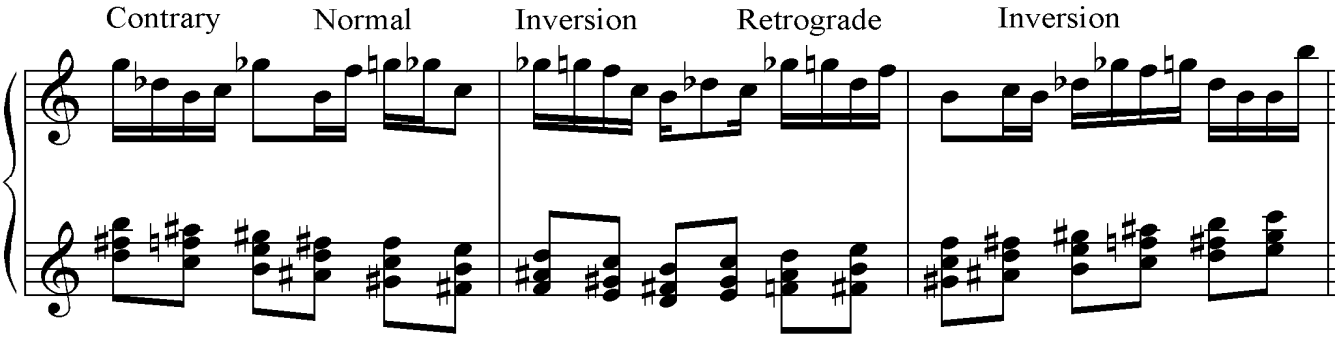
[28] Messiaen, O. (1942) p. 18
[29] Messiaen, O. (1942) p. 43
[30] Messiaen, O. (1942) p. 54

Cello and piano begin this movement with a similar dialogue as instituted in the fifth movement, in which the expressive cello line containing added rhythmic values is played over a piano line of steady sixteenth note chords.

The piano then proclaims the angel theme with the identical motif originated in the second movement, this time with the additional pulsation of the left hand playing a sixteenth note minor 7th pattern. Messiaen creates additional dissonance by using chords containing both diminished and perfect fifths (containing the notes Gb, G, and D), marked by the asterisk in the second measure of the example:



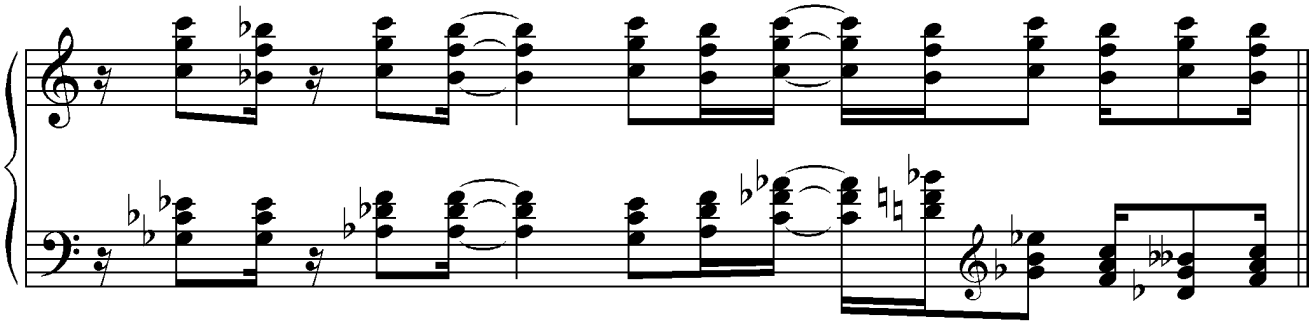
Following the initial four bars of this second theme development, the piano utilizes an interesting melodic device previously described in this paper in which the motif is stated in normal form, and then developed in contrary motion, inversion, and retrograde. In the following example, the left hand of the piano is playing a series of intervals clearly defined within the 5th and 6th modes of limited transposition while the right hand takes the simple five note phrase and develops it in various ways[31]:



The short development of the second theme (only fourteen bars) is followed by the original theme restated with cello and piano, this time being joined by the clarinet on a contrasting motif which roams up and down scales and intervals of the superimposed fifth and sixth modes of limited transposition. Following this serene period, the appearance of the angel of the second theme is re-introduced. As the second theme develops more deeply this time, Messiaen utilizes a device for chord creation in the

[31] Messiaen, O. (1942) p. 35

piano line he refers to as a harmonic litany. He defines this device as a fragment of melody of two or more notes in repetition over a changing harmonic pattern. The following example shows the melodic fragment of C to Bb with a variety of supporting chords:



The second development of this theme emerges into remarkable harmonic color in a section marked "Extatique," in which the piano arpeggiates up and down using the modes of limited transposition while the three other instruments are in tandem with a melody also based on the modes of limited transposition in a constant tremolo. Messiaen indulges in this kaleidoscope of color to show a glimpse of his perception of heaven before a very brief recurrence of the angel motif to end the movement.

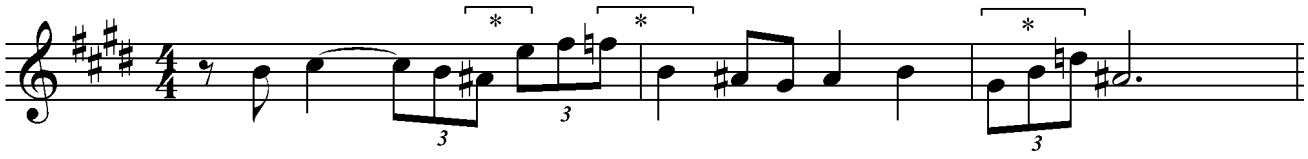
VIII. **Praise to the Immortality of Jesus**. *Expansive solo violin, counterpart to the violoncello solo of the fifth movement. Why this second encomium? It addresses more specifically the second aspect of Jesus, Jesus the Man, the Word made flesh…Its slow ascent toward the most extreme point of tension is the ascension of man toward his God, of the child of God towards his Father, of the being made divine toward Paradise*.

This is an additional movement previously written by Messiaen prior to composing the quartet, it was originally an organ work called *Dyptique* written in 1930 that Messiaen then rewrote for violin and piano. The strong theology present in the quartet was not present in the original organ work.

Very similar in texture to the fifth movement, this last movement utilizes violin and piano to create an extraordinary tranquil and spectral movement. The fifth movement of the quartet used song-sentence defined for thematic material. In comparison, this movement makes use of Messiaen's binary sentence, a similar form to song sentence but with added material. Messiaen defines binary sentence as the statement of a theme followed by an initial commentary which tends to modulate towards the dominant of the original key. The theme is restated and then a second commentary is stated which concludes back in the tonic of the original key.[32]

The piano again carries the "steady" rhythmic drone of a thirty-second to dotted eighth note pattern for the duration of the movement while the violin carries a beautiful melodic line. The movement has two sections, the first being fifteen measures long and the second elongating to eighteen measures. The initial eight measures of each section are identical. Messiaen uses the interval of a diminished fifth (enharmonically equivalent to the tritone) with regularity in the violin solo; in the first three measures alone he uses the interval three times (marked with the asterisk):

[32] Messiaen, O. (1942) p. 45



Messiaen's melodic lines keep reaching higher and higher as each section proceeds; the first section climaxes on bar 12 and reaches to the D that is the highest in the range on the piano before falling slowly to begin the repeat going into the second section. This last section, however, does not climax until the very last note, which is a harmonic E one note higher than in the previous section in a virtual representation by Messiaen of the ascension of Jesus as man.

Summary

There is no doubt that the Quartet for the end of Time was inspired by Messiaen's religious mysticism. Although Messiaen uses very specific methods and structural techniques to create this music, it is the very structure of these techniques that generate the mystical and timeless element of his music. By utilizing these techniques within the quartet, he creates a musical environment suggesting his vision of what a spiritual experience would be like that transcends the human need for space and time. All elements within the quartet are founded within the context that there is an unseen presence in their support, whether it is the colors behind the sound or the awareness of the stillness which brings the concept of time into eternity. Even the moments of silence punctuating each theme become as important to the color as the musical elements are within the auditory content.

Messiaen's role in 20th century music cannot be belittled; he was one of the greatest composers and teachers of the century. The profound religious faith that was at the heart of much of his music was not typical of his colleagues, but his style is instantly recognizable. Never compromising on his principles of composition, he drew inspiration from the human race and natural environment as well as the unseen mystical world and his personal vision of heaven.

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