

BIBLIOTHÈQUE-LEDUC

THE TECHNIQUE

OF MY

MUSICAL LANGUAGE

BY

OLIVIER MESSIAEN

*Professor at the National Conservatory of Music*

Translated by

JOHN SATTERFIELD

1st Volume : TEXT.

ALPHONSE LEDUC

Éditions Musicales, 175, rue Saint-Honoré

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## Introduction to the

The first part of the book is devoted to a general introduction to the theory of groups. It begins with the definition of a group and the basic properties of groups, such as the existence of identity and inverse elements. The second part of the book is devoted to the study of the structure of groups. It begins with the definition of a subgroup and the study of the quotient group. The third part of the book is devoted to the study of the structure of rings. It begins with the definition of a ring and the study of the structure of rings. The fourth part of the book is devoted to the study of the structure of modules. It begins with the definition of a module and the study of the structure of modules. The fifth part of the book is devoted to the study of the structure of algebras. It begins with the definition of an algebra and the study of the structure of algebras. The sixth part of the book is devoted to the study of the structure of Lie algebras. It begins with the definition of a Lie algebra and the study of the structure of Lie algebras. The seventh part of the book is devoted to the study of the structure of associative algebras. It begins with the definition of an associative algebra and the study of the structure of associative algebras. The eighth part of the book is devoted to the study of the structure of non-associative algebras. It begins with the definition of a non-associative algebra and the study of the structure of non-associative algebras. The ninth part of the book is devoted to the study of the structure of quantum algebras. It begins with the definition of a quantum algebra and the study of the structure of quantum algebras. The tenth part of the book is devoted to the study of the structure of superalgebras. It begins with the definition of a superalgebra and the study of the structure of superalgebras.

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## Introduction to the English Translation

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The translation into English of Olivier Messiaen's *The Technique of My Musical Language* has been prompted by several factors. M. Messiaen's growth in the past decade as an international figure in mid-Twentieth-Century music has demanded attention from various artistic quarters. As a contemporary musician of stature, M. Messiaen should find a ready audience for his comments on any aspect of the current musical scene, particularly on those aspects which most affect his own production.

Tolerance and appreciation of any given music are always enhanced by a microcosmic approach to an understanding of the technical procedures involved. In this relatively brief book, the composer has laid out for properly equipped readers a clear outline of certain principles of construction he has employed in composition. Made aware of these principles, the listener brings to the music a more meaningful receptiveness.

The cataloguing and explanation of methods of building tonal structures may strike a creative response in a student or mature composer.

The book is one of the growing number of works on contemporary theory and practice which will contribute to the history of music in our century.

For all these reasons it has appeared desirable to make M. Messiaen's book available to those English-speaking persons to whom French is not readily accessible.

The only departures from a quite literal rendition of the original text have been those occasioned by idiomatic dissimilarities of the languages involved. *For the musical examples the second volume of the French publication will be used. The few remarks that required translation in that volume are presented in table form at its beginning.*

My thanks are due to M. Messiaen and the house of Alphonse Leduc for their gracious encouragement of this project and to my friends, Carl Baxter, Robert Gould, and Frank Justice, for their careful and critical reading of the manuscript of the translation.

JOHN SATTERFIELD.

*Chapel Hill, North Carolina.*

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## Introduction to the

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Page 1 of 1

**TO GUY BERNARD-DELAPIERRE**

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## Preface

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1) It is always dangerous to speak of oneself. However, several persons have vigorously either criticized or praised me, and always wrongly and for things I had not done. On the other hand some students particularly eager for novelty have asked me numerous questions relative to my musical language, and I decided to write this little "theory." Aside from a few very rare exceptions pointed out in passing, all the examples quoted here will be drawn from my works (past or future !). In the hope that my students will return to the few ideas that I am going to develop — whether to use them better than I, or to draw something else from them, or to reject them ultimately if the future proves them unlikely to live — I draft my treatise by taking the reader's hand, searching with him, in the darkness where I have hoped guiding him gently toward a restrained light, preparatory to a better understanding which he will be able to find afterwards. If the reader is equipped with solid studies of harmony, counterpoint and fugue, composition, orchestration, as well as rhythmic and acoustics, he will follow me much more easily. If he is called by inspiration from above, and if I find myself to be — on a quite small point only — his precursor, my task will be fulfilled and beyond...

Melodies for voice and piano or voice and orchestra make up a good third of my production; they assume very varied forms (psalmody, vocalise, anthem, strophes, couplets and refrain, trio-form, bridge-form : ABCBA, development of dramatic order, tableau in several panels following the divisions of the poem) and often present, by their proportions and by their character, the aspect of abridged theatrical scenes. However, outside of a few words on psalmody and vocalise, I shall say nothing of my special ideas on theater, vocal forms, prosody, and the union of the musical line with the living inflections of speech.

Supposing the fugue and the sonata to be well-known to the reader, I shall pass over them rather rapidly and talk more at length of less usual forms, especially the plainchant forms.

Why this silence?

*The Technique of My Musical Language*, language considered from the triple point of view, rhythmic, melodic and harmonic. This work is not a treatise on composition.

I have discarded, also, all that could touch upon instrumentation. One can find in my works some very refined orchestration, large vocal and instrumental investigations, a pianistic writing, unexpected organ registrations, and even some effects of the Ondes Martenot (1). Let us forget all that and respect the chosen title; it is a question of language and not of timbre. Although I have written a good number of religious works — religious in a mystical, Christian, Catholic sense — I shall further leave aside this preference; we treat technique and

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(1) *Translator's note.* — An electronic instrument. Martenot is the name of the inventor; *onde* is the French equivalent of *wave*.

not sentiment. I shall content myself, on this last point, with citing an article in which I formerly glorified sacred music. After having asked for “ a *true* music, that is to say, spiritual, a music which may be an act of faith; a music which may touch upon all subjects without ceasing to touch upon God; an original music, in short, whose language may open a few doors, take down some yet distant stars, ” I stated that “ there is still a place, plainchant itself not having told all. ” And I concluded : “ To express with a lasting power our darkness struggling with the Holy Spirit, to raise upon the mountain the doors of our prison of flesh, to give to our century the spring water for which it thirsts, there shall have to be a great artist who will be both a great artisan and a great Christian. ” Let us hasten by our prayers the coming of the liberator. And, beforehand, let us offer him two thoughts. First, that of Reverdy : “ May he draw in the whole sky in one breath ! ” And then that of Hello : “ There is no one great except him to whom God speaks, and in the moment in which God speaks to him. ”

2) I do not want to close this introduction without thanking : — my masters : Jean and Noël Gallon, who stimulated in me the feeling for the “ true ” harmony, Marcel Dupré, who oriented me toward counterpoint and form, Paul Dukas, who taught me to develop, to orchestrate, to study the history of the musical language in a spirit of humility and impartiality; — those who influenced me : my mother (the poetess Cécile Sauvage), my wife (Claire Delbos), Shakespeare, Claudel, Reverdy and Eluard, Hello and Dom Columba Marmion (shall I dare to speak of the *Holy Books* which contain the only *Truth?*), birds, Russian music, Debussy's *Pelléas et Mélisande*, plainchant, Hindu rhythmic, the mountains of Dauphiné, and finally, all that evokes stained-glass window and rainbow; — my most devoted interpreters : Roger Désormière (orchestra conductor), Marcelle Bunlet (singer), Étienne Pasquier (violoncellist), Yvonne Loriod (pianist); — finally, all who induced me to write this work and particularly my friend André Jolivet.

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## Introduction to the

The following text is a reproduction of the original document, which is a handwritten manuscript. The text is written in a cursive script and is arranged in a single column. The handwriting is somewhat faded and difficult to read, but the overall structure and content are clear. The text appears to be a letter or a short treatise, possibly related to the subject of the title. The handwriting is consistent throughout, suggesting it was written by a single person. The paper shows signs of age, with some discoloration and wear at the edges. The text is centered on the page, and there are no visible markings or annotations other than the main body of text.

Handwritten text

## CHAPTER I

# The Charm of Impossibilities and the Relation of the Different Subject Matters

---

Knowing that music is a language, we shall seek at first to make melody "speak." The melody is the point of departure. May it remain sovereign! And whatever may be the complexities of our rhythms and our harmonies, they shall not draw it along in their wake, but, on the contrary, shall obey it as faithful servants; the harmony especially shall always remain the "true," which exists in a latent state in the melody, has always been the outcome of it. We shall not reject the old rules of harmony and of form; let us remember them constantly, whether to observe them, or to augment them, or to add to them some others still older (those of plainchant and Hindu rhythmic) or more recent (those suggested by Debussy and all contemporary music). One point will attract our attention at the outset: the *charm of impossibilities*. It is a glistening music we seek, giving to the aural sense voluptuously refined pleasures. At the same time, this music should be able to express some noble sentiments (and especially the most noble of all, the religious sentiments exalted by the theology and the truths of our Catholic faith). This charm, at once voluptuous and contemplative, resides particularly in certain mathematical impossibilities of the modal and rhythmic domains. Modes which cannot be transposed beyond a certain number of transpositions, because one always falls again into the same notes; rhythms which cannot be used in retrograde, because in such a case one finds the same order of values again — these are two striking impossibilities. We shall study them at the end of Chapter V ("Nonretrogradable Rhythms") and in Chapter XVI ("Modes of Limited Transpositions"). Immediately one notices the analogy of these two impossibilities and how they complement one another, the rhythms realizing in the horizontal direction (retrogradation) what the modes realize in the vertical direction (transposition). After this first relation, there is another between values added to rhythms and notes added to chords (Chapter III: "Rhythms with Added Values"; Chapter XIII: "Harmony, Debussy, Added Notes"). Finally, we superpose our rhythms (Chapter VI: "Polyrhythm and Rhythmic Pedals"); we also superpose our modes (Chapter XIX: "Polymodality").

## CHAPTER II

# Râgavardhana, Hindu Rhythm

---

Before continuing, I pause to specify that in my music, and in all the examples of this treatise, the values are always notated very exactly; hence, whether it is a question of barred passages or not, the reader and the performer have only to read and execute *exactly the values marked*. In the passages not barred, which are the most numerous, I have saved the use of the bar-line to mark the periods and to give an end to the effect of the accidentals (sharps, flats, etc.). If you desire more ample information, refer to Chapter VII : " Rhythmic Notations. "

### 1) Ametrical Music (1)

Maurice Emmanuel and Dom Mocquereau knew how to illuminate, the former, the variety of the rhythmic patterns of ancient Greece, the latter, that of the neumes of plainchant. That variety will instill in us already a marked predilection for the rhythms of prime numbers (five, seven, eleven, thirteen, etc.). Going further, we shall replace the notions of " measure " and " beat " by the feeling of a short value (the sixteenth-note, for example) and its free multiplications, which will lead us toward a music more or less " ametrical, " necessitating precise rhythmic rules. Recalling that Igor Stravinsky, consciously or unconsciously, drew one of his most striking rhythmic procedures, the augmentation or diminution of one rhythm out of two :

**example 1**

(diminution of A at the cross, B does not change) from the Hindu rhythm *simhavikrîdita* :

**example 2**

(A augments and diminishes progressively, B does not change), we shall in our turn address ourselves to Hindu rhythmic to infer from it our first rules.

### 2) Râgavardhana

Çârngadeva, Hindu theorist of the thirteenth century, has left us a table of a hundred and twenty *decî-tâlas*, or Hindu rhythms (2). We find in this table the rhythm *râgavardhana* :

**example 3**

---

(1) *Translator's note.* — The phrase " ametrical music " is here used to mean a music with free, but precise, rhythmic patterns, in opposition to " measured " (i. e. equally barred) music.

(2) *Translator's note.* — The table may be found in the *Encyclopédie de la musique et dictionnaire du conservatoire*, eds. Albert Lavignac and Lionel de la Laurencie (Paris : Delagrave, 1913-1931), Part I, Vol. I, pp. 301 ff. *Râgavardhana* is number 93. *Simhavikrîdita* is number 24.



Let us reverse this rhythm :

**example 4**

Thus reversed, it contains three quarter-notes (A) and three eighth-notes (B), classic diminution of three quarter-notes; further, the dot added to the second eighth (at the cross), which renders the diminution inexact, opens to us a new perspective of augmentation or diminution (by addition or withdrawal of the dot) and, above all, constitutes an *added value*; finally, the fragment B is a non-retrogradable rhythm :

**example 5**

From these statements, very insignificant in appearance, we can conclude : first, it is possible to add to any rhythm whatsoever a small, brief value which transforms its metric balance; second, any rhythm can be followed by its augmentation or diminution according to forms more complex than the simple classic doublings; third, there are rhythms impossible to retrograde. Let us study all that in detail.

## Rhythms with Added Values

---

### 1) Added Value

What is the *added value*? It is a short value, added to any rhythm whatsoever, whether by a note, or by a rest, or by the dot. Let us suppose three very simple rhythms whose unit of value will be the eighth-note :

**example 6**

Let us transform them by the added value, added to the first of these rhythms by a note :

**example 7**

to the second by a rest :

**example 8**

to the third by the dot :

**example 9**

In practice one will rarely hear the simple rhythm before addition of the added value; the rhythmic pattern will almost always be immediately provided with the added value.

### 2) Use of the Added Value

**example 10**

An example of ametrical music; the rhythm is absolutely free. Notice the fragments A, immediately followed by their augmentation in B (see Chapter IV), and at C, the long trill on a whole note, interrupting the rhythmic discourse. The added values are indicated by the crosses. The first two measures use a rhythm of five eighth-notes (a prime number), plus a sixteenth-note (added value). The scintillating sonority of the harmonics of the *plein-jeu* accentuates the joy of the calls, b-flat" to g", of the upper staff.

**example 11**

The same character. The added values are again indicated by the crosses.

**example 12**

An example written entirely in the *sixth mode of limited transpositions* (see Chapter XVI). The brackets mark the large rhythmic divisions : seven eighth-notes, eight eighth-notes, seven eighth-notes. Added values (at the crosses) just complicate these divisions. We shall speak of this example again in ¶ aragraph 3.

**example 13**

" Irresistible movement of steel, " I said in the Preface of my *Quatuor pour la fin du Temps*. Our fragment cannot give an exact idea of this " formidable granite of

sound.” But it is a model of the use of added values (still at the crosses). At A, values added by the dot. The added value creates the small groups of five (in B), or seven (in C), or eleven (in D), or thirteen sixteenth-notes (in E) — five, seven, eleven, thirteen — prime numbers; one recalls our predilection for these numbers.

### 3) Rhythmic Preparations and Descents

The rhythmic preparation precedes the accent, the rhythmic descent follows it. We shall find this idea again in Chapter XV, taken in the melodic sense. There the appoggiatura will grow to the point of becoming the combination : “ upbeat-accent-termination.” There is an evident analogy between melodic upbeats and terminations on the one hand, and rhythmic preparations and descents on the other. The added value can change considerably the aspect of these last. In the preceding examples let us notice : — in example 12 (“ *les bergers* ”) : at B, accents, at C, descents, at A, rhythmic preparations elongated by added values (at the crosses) — in example 13 (“ *Danse de la fureur, pour les sept trompettes* ”) : at A, the added values (at the crosses) slacken the descents by elongating their penultimate note.

Another example of preparation thus elongated; at A, accents, at B, descents, at C, preparation (added value at the cross) :

**example 14**

Another example of descents : accelerated in A, retarded in B, by the added values (at the crosses) :

**example 15**

At A, long shrieks of anguish; two descents, B and C; the second is retarded by the addition of the dot (at the cross) :

**example 16**

Elongated preparation in A (added value at the cross); at B, accent; C and D, descents retarded by the addition of the dot (at the crosses) :

**example 17**

A last example of a descent retarded by tripling the penultimate value :

**example 18**

This theme, which is completely a descent, would normally have been obliged to finish thus :

**example 19**

It would thus have lost force, grandeur, and serenity.

### 4) Relation to Added Notes

We established just now an analogy between rhythmic preparations and descents and melodic upbeats and terminations. Let us recall now, to verify what was said in Chapter I, the relation of values added to rhythms and notes added to chords; we shall speak of it again in Chapter XIII.

## CHAPTER IV

# Augmented or Diminished Rhythms and a Table of These Rhythms

---

### 1) Augmented or Diminished Rhythms

J. S. Bach practiced the canon by augmentation or diminution; in it the values of the proposed theme are generally doubled or diminished by half. We ourselves shall have the statement of the rhythm followed by its immediate augmentation or diminution, and according to more or less complex forms. An example of simple augmentation :

**example 20**

A has the value of five sixteenth-notes, B of five eighth-notes, C of five quarters; B is the augmentation of A, C its varied double augmentation. Augmentation by addition of the dot is much more interesting.

### 2) Addition and Withdrawal of the Dot

An example of augmentation by addition of the dot :

**example 21**

Simple rhythm in A; the same in B, all notes dotted; at the cross, added value.

An example of diminution by withdrawal of the dot :

**example 22**

Other forms of augmentation and diminution exist. We shall set up a table of them.

### 3) A Table of Some Forms of Augmentation or Diminution of a Rhythm

This table comprises : *a*) addition of a quarter of the values; *b*) addition of a third of the values; *c*) addition of the dot, or addition of half the values; *d*) classic augmentation, or addition of the values to themselves; *e*) addition of twice the values; *f*) addition of three times the values; *g*) addition of four times the values. And so much for augmentation.

Everything concerning diminution permits inverse examples, placed opposite the preceding, which are : *a*) withdrawal of a fifth of the values; *b*) withdrawal of a quarter of the values; *c*) withdrawal of the dot, or withdrawal of a third of the values; *d*) classic diminution, or withdrawal of half the values; *e*) withdrawal of two-thirds of the values; *f*) withdrawal of three-fourths of the values; *g*) withdrawal of four-fifths of the values.

This table, slightly abridged, figures in the Preface of my *Quatuor pour la fin du Temps*. I particularly used its rhythmic forms in “*Joie et clarté des Corps glorieux*” (*Les Corps glorieux*) and in the “*Danse de la fureur, pour les sept trompettes*” (*Quatuor pour la fin du Temps*). Excessive augmentations or diminutions would have drawn us into some very long or very short values, which would have rendered the examples hardly appreciable to hearing; we limit ourselves, therefore, to a few forms only, all based upon the same initial rhythm : long, short, long :

**example 23**

Each example situated at the left of the table presents first the normal rhythm, then its augmentation; each example situated at the right of the table presents first the normal rhythm, then its diminution.

**example 24**

#### **4) Inexact Augmentations**

We saw in Chapter II, article 1, the augmentation of one rhythm out of two, which already gave a presentiment of the present paragraph. Here now are some examples of more striking inexact augmentations. First example :

**example 25**

B is the inexact augmentation of A; normally, the f-sharp' would have to be a dotted quarter-note. Second example :

**example 26**

At the cross, added value; B is the augmentation of A, C is the augmentation of B; the normal augmentation would be :

**example 27**

Let us notice further in this passage the use of the six-four chord with added sixth and added augmented fourth (see Chapter XIII).

With very inexact augmentations or diminutions, one arrives at making rhythmic variants rather than augmentations or diminutions properly so called.

## Nonretrogradable Rhythms

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### 1) Retrograde Rhythms

One knows that retrogradation is a contrapuntal procedure which consists of reading from right to left what normally ought to be read from left to right. Applied to rhythm alone, it gives some curious reversals of values. Let us suppose the rhythmic formula :

**example 28**

We shall find it again in Chapters VI, XV and XIX. A typical formula of our rhythmic fancies, it contains a combination of augmented rhythms and added values, and, at the same time, inexact augmentations and diminutions; further, it begins with an interpretation of the *rāgavardhana*, already seen in Chapter II; finally, the total of its values is thirteen quarter-notes (a prime number). All the fragments B are in diminution or augmentation of the fragments A; the added values are indicated by the crosses. Let us retrograde our formula; the order of the values is completely reversed, the diminutions changing themselves into augmentations and vice versa :

**example 29**

We shall see in Chapter VI the superposition of a rhythm upon its retrograde.

### 2) Nonretrogradable Rhythms

I have already spoken of nonretrogradable rhythms in a rather clear manner in the Preface of my *Quatuor pour la fin du Temps*. Whether one reads them from right to left or from left to right, the order of their values remains the same. A very simple example :

**example 30**

Outer values identical, middle value free. All rhythms of three values thus disposed are nonretrogradable :

**example 31**

If we go beyond the figure of three values, the principle grows, and we should say : all rhythms divisible into two groups, one of which is the retrograde of the other, with a *central common value*, are nonretrogradable.

**example 32**

The group B is the retrograde of group A; the quarter tied to a sixteenth-note (central value whose duration equals that of five sixteenth-notes) is common to the two groups. A succession of nonretrogradable rhythms (one per measure) :

**example 33**

The melodic movement :

**example 34**

is repeated and, from this fact, goes through some important rhythmic variants.

### **3) Relation of Nonretrogradable Rhythms and Modes of Limited Transpositions**

I have already spoken, in the Preface of my *Nativité du Seigneur*, of my prized modes of limited transpositions. We shall study them very much at length in Chapters XVI, XVII, XVIII and XIX. Let us go back to the reflections of Chapter I and examine the relation which is established between these modes and nonretrogradable rhythms. These modes realize in the vertical direction (transposition) what nonretrogradable rhythms realize in the horizontal direction (retrogradation). In fact, these modes cannot be transposed beyond a certain number of transpositions without falling again into the same notes, enharmonically speaking; likewise, these rhythms cannot be read in a retrograde sense without one's finding again exactly the same order of values as in the right sense. These modes cannot be transposed because they are — without polytonality — in the modal atmosphere of several keys at once and contain in themselves small transpositions; these rhythms cannot be retrograded because they contain in themselves small retrogradations. These modes are divisible into symmetrical groups; these rhythms, also, with this difference : the symmetry of the rhythmic groups is a retrograde symmetry. Finally, 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.

Let us think now of the hearer of our modal and rhythmic music; he will not have time at the concert to inspect the nontranspositions and the nonretrogradations, and, at that moment, these questions will not interest him further; to be charmed will be his only desire. And that is precisely what will happen; in spite of himself he will submit to the strange charm of impossibilities : a certain effect of tonal ubiquity in the nontransposition, a certain unity of movement (where beginning and end are confused because identical) in the nonretrogradation, all things which will lead him progressively to that sort of *theological rainbow* which the musical language, of which we seek edification and theory, attempts to be.

## Polyrhythm and Rhythmic Pedals

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The superposition of several complicated rhythms will often make it necessary for us, in the course of this chapter, to *gather* our rhythms into one meter. Explanation of this term : it is a question, by means of syncopes, of writing in a normal meter rhythms which have no relation to it. By multiplying the indications of slurs, dynamics, accents, exactly where we want them, the effect of our music will be produced upon the auditor. (This notation has the fault of being in contradiction to the rhythmic conception of the composer, and we shall return to this subject in Chapter VII; but certain examples cannot be written otherwise.) For the comprehension of the reader, before the measured examples — and notating it as it has been conceived, that is, without measure — I shall write separately each rhythm destined to be superposed afterwards on one or several others.

### I) Superposition of Rhythms of Unequal Length

All the rhythmic forms detailed in the preceding chapters are constantly mixed in practice. It is also interesting to superpose them, and we arrive thus at a rather thorough polyrhythm. Our first essay in polyrhythm, the simplest, the most childish, will be the superposition of two rhythms of unequal length, repeated until the return of the combination of departure. In the following example (which is written in the third mode of limited transpositions — see Chapter XVI) the upper part repeats a rhythm based upon the addition and the withdrawal of the dot (see Chapter IV) and of a total of ten sixteenth-notes; the chords of the lower staff repeat a rhythm of nine sixteenth-notes; it will require nine repetitions of the upper rhythm and ten repetitions of the lower rhythm to find again the combination of departure

**example 35**

I have abbreviated the quotation. Another example. First rhythmic succession :

**example 36**

In B, diminution of A by withdrawal of two-thirds of the values. The triplets and the quintuplet are each worth, in total, one quarter-note. Second rhythmic succession :

**example 37**



In B, augmentation of A by addition of a fourth of the values. In C, diminution of B by withdrawal of a fifth of the values (see Chapter IV). Normally, B ought to be :

**example 38**

In D, nonretrogradable rhythm, divisible into two groups, one of which is the retrograde of the other, with a central common value at the cross (see Chapter V). The second rhythmic succession is much shorter than the first. Let us superpose them, while repeating them, and gather the whole into a  $\frac{2}{4}$  :

**example 39**

## **2) Superposition of a Rhythm upon Its Different Forms of Augmentation and Diminution**

Let us suppose the rhythm :

**example 40**

In joining some of the forms of augmentation and diminution made from this rhythm (see Chapter IV, example 24), we get the following series :

**example 41**

Let us now combine this series with repetitions of the initial rhythm, while gathering the whole into a  $\frac{5}{8}$  :

**example 42**

The brackets of the upper part (series of the different forms of augmentation and diminution) mark these different forms; the lower part repeats the initial rhythm.

## **3) Superposition of a Rhythm upon Its Retrograde**

**example 43**

There is much to be said about this example. Besides its curious mixture of timbres, it superposes different rhythms and modes, combining thus polymodality and polyrhythm. From the modal point of view : all the chords of the upper staff are written in the second mode of limited transpositions (see Chapter XVI) :

**example 44**

all the chords of the middle staff are written in the third mode of limited transpositions :

**example 45**

and the bass (pedal part, which sounds an octave higher than the notation) uses the whole-tone scale. There is, then, a superposition of three modes of limited transpositions. We shall remember this example in Chapter XIX (" Polymodality ").

From the rhythmic point of view : the right hand repeats the rhythm :

**example 46**

the left hand repeats the retrograde of this rhythm :

**example 47**

There is, then, a superposition of a rhythm upon its retrograde, the combination taking place several times consecutively and occurring each time with the elements an eighth-note farther apart than the preceding time.

As for the bass, it repeats a nonretrogradable rhythm (see Chapter V), divisible into two groups, one of which is the retrograde of the other, with a central common value (at the cross) :

**example 48**

There are three rhythms which are repeated indefatigably, in ostinato. This is the principle of the rhythmic pedal, and here we are in the presence of three superposed rhythmic pedals, the second being the retrograde of the first, the third being nonretrogradable.

From A forward, the entrances, in right rhythm, of the chords of the upper staff are shortened by losing values progressively, following the principle of development by elimination (see Chapter X, article 1). From B forward, the entrances, in retrograde rhythm, of the chords of the middle staff are deprived of the eighth-rest which was separating them and are contracted in the same manner. The nonretrogradable rhythm of the bass does not change.

#### 4) Rhythmic Canons

They may exist without the presence of any melodic canon. Here is an example :

**example 49**

Upper staff : the right hand repeats a melodic and harmonic succession of six chords; lower staff : the left hand repeats a melodic and harmonic succession of five chords, the whole entirely independent of the rhythmic canon established between the two hands at a quarter-note's distance. At A, the canon ends. Use of the added value (at the crosses) and superposition of the modes of limited transpositions, number 3 (chords of the upper staff) over number 2 (chords of the lower staff) — see Chapters XVI and XIX on the subject of these modes and polymodality. At B, use of the sixth mode of limited transpositions, creating a modal modulation and placing the entire passage in A major.

Another example :

**example 50**

Superposition of the modes of limited transpositions, number 2 (upper staff) over number 3 (lower staff). No melodic canon. Rhythmic canon at a quarter-note's distance. The brackets mark the rhythmic divisions and facilitate the view of the canon.

Let us recall the typical formula of our rhythmic fancies, analyzed at length in Chapter V (article 1) :

**example 51**

Let us treat this formula in triple canon and gather the whole into a  $\frac{2}{4}$ . The letters A, B, C, D, E, F, placed on example 51, indicate the small rhythmic divisions of it. By reproducing them over each part of example 52, we facilitate the view of the triple canon. The latter takes place twice in the example, and the reprise indicates that one can repeat it to infinity.

**example 52**

### 5) Canon by the Addition of the Dot

Why not write, also, rhythmic canons by augmentation or diminution, using the forms classified in Chapter IV, article 3? Let us try a canon by the addition of the dot. Proposing rhythm, of a total value of thirteen eighth-notes (prime number) :

**example 53**

Response, all values dotted :

**example 54**

Three repetitions of the proposing rhythm combined with two repetitions of the responding rhythm, the whole gathered into a  $\frac{3}{4}$  :

**example 55**

The brackets mark each repetition.

The rhythmic succession following exploits all the forms of augmentation or diminution of a rhythm from the table of Chapter IV (article 3) :

**example 56**

A : initial rhythm — B : addition of a quarter of the values to each value of the preceding rhythm. All the rhythms which are going to follow will thus be an augmentation or diminution of the rhythm which precedes them, according to one or another of the forms of Chapter IV. I indicate each time the chosen form — C : withdrawal of a fifth of the values — D : withdrawal of a fourth of the values — E : addition of a third of the values — F : classic diminution — G : addition of the dot — H : withdrawal of the dot — I : classic augmentation — J : withdrawal of three-fourths of the values — K : addition of twice the values — L : withdrawal of two-thirds of the values — M : addition of four times the values — N : withdrawal of four-fifths of the values — O : addition of three times the values, forming at the same time a last recall of the initial rhythm.

Let us treat this succession in triple canon while gathering it into a  $\frac{2}{4}$ . By reproducing over each part the letters which marked the rhythmic divisions, we facilitate the comprehension of the example.

**example 57**

## 6) Canon of Nonretrogradable Rhythms

Let us try a canon of nonretrogradable rhythms. Let us recall example 33 of Chapter V : succession of nonretrogradable rhythms (one per measure) :

**example 58**

Here is that same succession in triple canon, gathered into a  $\frac{2}{4}$

**example 59**

Each nonretrogradable rhythm is bracketed.

## 7) Rhythmic Pedal

Rhythm which repeats itself indefatigably, in ostinato — I was saying in paragraph 3 — without busying itself about the rhythms which surround it. The rhythmic pedal, then, can accompany a music of entirely different rhythm; or mingle with it as in example 310 of Chapter XV; again it can be superposed upon other rhythmic pedals (see example 43 of Chapter VI). Let us consider now the following fragment :

**example 60**

The clarinet sings the principal melody (do not forget that it sounds a tone lower than the notation). The light formulas of the violin create a secondary counterpoint. The harmonics with vibrato of the violoncello, which sound two octaves higher than the notation in round notes, are a first rhythmic pedal, whose airy sonority envelops and unifies all the rest in its mysterious halo; here is the rhythm of this pedal :

**example 61**

It is divided into two nonretrogradable rhythms, A and B, the second of these rhythms being composed of two groups, one of which is the retrograde of the other, with a central common value at the cross (this central value is in reality a half-note, coined in four eighth-notes, which changes nothing in the nonretrogradation). Of course, the rhythm is repeated several times consecutively in the course of the piece, thus constituting a rhythmic pedal; the quoted fragment contains in X, Y, Z, the first two expressions and the beginning of the third expression. This rhythmic pedal of fifteen values is at the same time a melodic pedal of five notes; there is, then, disproportion between the rhythm and the melody — in M, N, O, P, Q, R, S, T, eight expressions of the melodic pedal. (As the rhythmic pedal repeats a rhythm independent of the rhythms which surround it, melodic and harmonic pedals repeat melody and chord-succession independent of the melodies and chords which surround them; see article 1 of Chapter XV which treats pedal-groups.)

The piano in its turn executes a repeated succession of chords, forming at once a rhythmic pedal and a harmonic pedal. Here again, the number of chords, twenty-nine, is different from that of values, seventeen. The chords undergo thus some unexpected rhythmic variants. (“ Rhythmicize your harmonies ! ” Paul Dukas used to say to his students.) Here is the rhythm of this second rhythmic pedal :

**example 62**

We recognize the succession of its values, already commented upon in Chapter V. In A, B, C, D, four expressions of the rhythmic pedal. In H and I, the first two repetitions of the twenty-nine chords.

Let us look anew at the chords of the piano : from the first to the second cross, they are “ chords on the dominant ” with appoggiaturas, according to the effect of the stained-glass window of Chapter XIV (article 1) — from the third to the fourth cross, they use the third mode of limited transpositions (see Chapter XVI) — from the fifth to the sixth cross, the second of these modes.

Let us notice also that the melodic pedal of the violoncello is written in the whole-tone scale, the use of which can be tolerated when it is thus mixed with harmonic combinations which are foreign to it.

Let us point out finally that the formulas divided by rests in the violin (a sort of pedal) are written in “ bird style, ” as is the principal song of the clarinet (a model of this style). We shall speak of it again in Chapter IX (“ Bird Song ”).

## Rhythmic Notations

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### 1) First Notation

There are four methods of notating these rhythms whose theory we have detailed since Chapter II. The first consists of writing the exact values, without measure or beat, while saving the use of the bar-line only to indicate periods and to make an end to the effect of accidentals (sharps, flats, etc.). This notation is evidently the best for the composer, since it is the exact expression of his musical conception. It is excellent for one alone or a few performers in a group. As I remarked in the Preface of my *Quatuor pour la fin du Temps*, interpreters who feel a little strained by the rhythms can mentally count all the short values (the sixteenth-notes, for example), but only at the beginning of their work; this procedure could make the performance in public disagreeably dull and would become a real puzzle for them; they ought, in course of time, to keep in themselves the feeling for the values, without more (which will permit them to observe the dynamics, accelerations, retards, all that which makes an interpretation alive and sensitive).

I have used this first notation in my works for organ (*La Nativité du Seigneur, Les Corps glorieux*), in my vocal works (*Poèmes pour Mi* — voice and piano version, *Chants de terre et de ciel*), and in several movements of my *Quatuor pour la fin du Temps*.

### 2) Second Notation

In the orchestra, things are complicated. When all the performers play the same rhythms and these rhythms gather into normal measures, one can pile up metric changes; that is what Stravinsky did in *le Sacre du Printemps*. These changes of meter are very tiring for the orchestra conductor. I used this second notation in my *Offrandes oubliées*.

### 3) Third Notation

Still in the orchestra, if all the performers play the same rhythms and these rhythms *do not gather* into normal meters, it is necessary to divide the music into short measures; a numeral written at the head of each measure indicates

the number of beats in it. These beats are equal or unequal in duration; it is necessary then to have recourse to some rhythmic signs, placed above the beats to indicate their exact duration. In the version of my *Poèmes pour Mi* for voice and orchestra — upon the advice of Roger Désormière, orchestra conductor and inventor of these signs — I used the following rhythmic signs : **example 63**

With these three signs and their doublings : **example 64**

one can notate the most difficult rhythms. This notation necessitates preliminary agreement between musicians and conductor and a rather forbidding effort at the first reading. The thing is nevertheless very possible.

#### 4) Fourth Notation

The easiest for performers since it disarranges their habits in no way. It consists, by means of syncopes, of writing in a normal meter a rhythm which has no relation to it. This procedure is indispensable when it is a question of having performed by several musicians a superposition of several rhythms, complicated and very different from each other. In order to produce the effect, it suffices to multiply the indications of slurs, dynamics, and especially accents exactly where one wants them. This notation is false, since it is in contradiction to the rhythmic conception of the composer; but if the performers observe the indicated accents well, the listener hears the true rhythm. I used this notation in several movements of my *Quatuor pour la fin du Temps*.

Here is a rhythmic fragment as it was conceived by the composer; it is in the first notation : **example 65**

Third notation — the same fragment with rhythmic signs : **example 66**

Second notation — another fragment, with metrical changes : **example 67**

Another fragment as it was conceived by the composer; it is again in the first notation : **example 68**

The same, written in a false meter, with exact accentuation; it is in the fourth notation : **example 69**

I add that one will find in my works and in the examples of this treatise some metrical passages conceived in some meters which are absolutely independent of my rhythmic system. Moreover, — let us repeat it — whether my music is measured or not, the values there are always notated very exactly : *the performer has then only to play the values indicated.*

## 5) Some Metrical Rhythms

In appendix to the present chapter and to all those on rhythm, here are some supplementary examples which do not at all obey the laws of my rhythmic system :

**examples A, B, C, D, E, F, G**

The rhythms of A, B, C, and D retain an impressionistic character. The short tied to the long in example C (at the cross) is of Debussy-like essence; it contrasts with the Stravinsky-like sonorities of the passage. Examples E and F are in "bird style" (see Chapter IX). G offers us an effect of resonance (see Chapter XIV, article 4); further, X, Y, Z are allied to the rhythmic variants of a Jolivet, Y being the inexact augmentation of X, Z being the inexact augmentation of Y (see Chapter IV, article 4).



## CHAPTER VIII

# Melody and Melodic Contours

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Supremacy to melody! The noblest element of music, may melody be the principal aim of our investigations. Let us always work melodically; rhythm remains pliant and gives precedence to melodic development, the harmony chosen being the "true," that is to say, wanted by the melody and the outcome of it. Paul Dukas used often to speak to his students of intervals and their choice. Let us follow his counsel and see which will be our preferred intervals.

### 1) Intervals

Let us encroach a little upon the domain of Chapter XIII and recall that a very fine ear clearly perceives an F-sharp in the natural resonance of a low C. **example 70**

This F-sharp is endowed with an attraction toward the C, which becomes its normal resolution. **example 71**

We are in the presence of the first interval to choose : the descending augmented fourth. **example 72**

Because of the importance of the added sixth in the perfect chord, foreseen by Rameau and established by Debussy (see also Chapter XIII), and because Mozart, that great melodist, often used the descending major sixth, we shall choose that interval anew : **example 73**

We shall not forget, finally, certain returning chromatic formulas which would be the joy of a Béla Bartók : **example 74**

### 2) Melodic Contours

Keeping our choice of intervals thoroughly in mind, let us look now at some beloved melodic contours and endeavor to draw the essence of them. In the shadow of the five notes which open Moussorgsky's *Boris Godounov* : **example 75**

let us try our first formula of melodic cadence : **example 76**

Let us apply to it the added value — at the crosses — (see Chapter III) and the harmonies of the second mode of limited transpositions (see Chapter XVI) : **example 77**

Other uses of this melodic cadence : **examples 78 and 79.**

Grieg's *Chanson de Solveig* : **example 80**

will be the point of departure of this theme : **example 81**

Other uses of the same formula : **examples 82 to 84**

The three notes written by Debussy at the beginning of his *Reflets dans l'eau* : **example 85**

will serve us to engender a great number of melodic contours : **examples 86 to 89**

Here is an example in which descending augmented fourths abound : **example 90**

and another in which descending major sixths sing : **example 91**

Let us think again of returning chromatic formulas. A first example : **example 92**

I have bracketed the returning chromaticisms. Here again we find the added value (at the crosses) and an interpretation of the Hindu *râgavardhana* (see Chapter II) : **example 93**

Another formula, entirely typical, containing our returning chromaticism in B and two intervals of the diminished fifth in A and C (the diminished fifth, enharmonically, is the same thing as the augmented fourth) : **example 94**

Uses of this formula : **examples 95 to 99**

Example 99 develops our formula by contrary motion in A, normal motion in B, retrograde motion in D, by interversion of the notes in C and E (see in Chapter X a long example of this latter form of melodic development); it superposes two modes of limited transpositions : mode 5 upon mode 6 (see Chapter XVI).

### 3) Folk Songs

In old French songs, and especially in Russian folklore, we find some remarkable melodies. Let us remember them, to pass them through the deforming prism

of our language. The Russian song, *Point n'était de vent*, haunted my youth; we find there again the five notes of *Boris* that inspired our first formula of melodic cadence :

**example 100**

One can also create false folk songs, without forgetting the little refrain in onomatopes :

**example 101**

#### **4) Plainchant**

Plainchant is an inexhaustible mine of rare and expressive melodic contours, such as :

**examples 102 to 107**

We shall make use of them, forgetting their modes and rhythms for the use of ours. A single example of this kind of transformation; from a fragment of the *Introït de Noël* :

**example 108**

we shall draw :

**example 109**

The strange choice of timbres, the sixth mode of limited transpositions (see Chapter XVI), the repetitions of the melodic dominant, the final melodic descent, the foundation of chords repeating themselves in groups of eleven eighth-notes, and finally the rhythmic variations of the shrill carillon of the pedal accentuate the change. Let us notice that this pedal carillon is based upon the fragment :

**example 110**

in which we recognize our first formula of melodic cadence (see example 76 of this chapter); and let us not forget that it sounds an octave higher than the notation. More than to the melodic contours of plainchant, we shall apply ourselves to its forms : Anthems, Alleluias, Psalmodies, Kyrie, Sequence, etc. They will be treated more at length in Chapter XII.

#### **5) Hindu Ragas**

Hindu music abounds in curious, exquisite, unexpected melodic contours which the native improvisers repeat and vary following the rules of the raga. Here are two ravishing examples of them, ending on repeated notes :

**examples 111 and 112**

A theme in which the added value (see Chapter III) and Hindu melodic color are united :

**example 113**

The added values are marked by a cross.

## CHAPTER IX

# Bird Song

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Paul Dukas used to say, " Listen to the birds. They are great masters. " I confess not having awaited this advice to admire, analyze, and notate some songs of birds. Through the mixture of their songs, birds make extremely refined jumbles of rhythmic pedals. Their melodic contours, those of merles especially, surpass the human imagination in fantasy. Since they use untempered intervals smaller than the semitone, and as it is ridiculous servilely to copy nature, we are going to give some examples of melodies of the " bird " genre which will be transcription, transformation, and interpretation of the volleys and trills of our little servants of immaterial joy.

A first example, drawn from my *Quatuor pour la fin du Temps* :

**example 114**

In A, an arpeggio on the dominant chord with appoggiaturas (Chapter XIV, article 1) :

**example 115**

See too in Chapter VI, article 7, example 60 ("*Liturgie de cristal*"), also drawn from my *Quatuor*; read there the so fanciful melody of the clarinet, particularly typical of the *bird style*.

The call of a merle :

**example 116**

Four ornamental variations of a theme and its " commentary " (see Chapter XI, article 2) which were suggested to me by the improvisations of a merle :

**example 117**

The vehement tiralirra, always higher, of the lark :

**example 118**

Hymn of the sparrows at daybreak :

**example 119**

## CHAPTER X

# Melodic Development

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### 1) Elimination

Melodic development through elimination was really created by Beethoven. He has left us some immortal models of it; let us recall only the central development of the first movement of the *Fifth Symphony* in C minor. This procedure is at the basis of all thematic life. It consists of repeating a fragment of the theme, taking away from it successively a part of its notes up to concentration upon itself, reduction to a schematic state, shrunken by strife, by crisis. Vincent d'Indy explained that very well in his *Cours de composition musicale*. Let us suppose the following theme :

**example 120**

Let us develop it by elimination :

**example 121**

The thematic fragments are bracketed; one sees that they are of eight notes, then of four notes, then of two notes. On this bass ascent crashes a veritable flood of chords in sixteenth-notes that I cannot quote here. Afterwards, the theme is cut in two :

**example 122**

and once more developed by elimination :

**example 123**

while borrowing its harmonies from the chord of resonance (see Chapter XIV). Amplification is the procedure exactly opposite to the preceding.

### 2) Interversion of Notes

This procedure, analyzed by Marcel Dupré in his remarkable *Traité d'improvisation*, has already been foreseen in Chapter VIII. Let us take again the fragment used there in contrary and normal movement :

**example 124**

We find there all the notes of the fifth mode of limited transpositions :

**example 125**

Let us try to present the notes of this mode in a large number of different orders :

**example 126**

One could multiply the combinations. Let us notice, in the last two, the added values at the crosses and the descents elongated by the addition of the dot at A, B, and C (see Chapter III).

### 3) Change of Register

The low notes of the theme pass to the extreme treble, the treble to the extremely low, in abrupt leaps. Alban Berg used this procedure in the *Suite lyrique*; certain passages of André Jolivet's *Mana* bear evidence of analogous preoccupations :

**example 127**

Augmentation and change of register are going to communicate to this theme a crushing power :

**example 128**

## CHAPTER XI

# Song-Sentence, Binary and Ternary Sentences

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The musical sentence is a succession of periods. The theme is the synthesis of the elements contained in the sentence, of which it generally constitutes the first period. Sentences of one, two, or three different periods; a sentence of four different periods, or square sentence; a suite of ornamental variations of a theme and its commentary (see example 117 of Chapter IX); sentences issued from plainchant forms (see Chapter XII); sentences growing or decreasing, of longer and longer or shorter and shorter periods — one can find infinite forms of diverse sentences. For our work of analysis, let us choose three very characteristic sentences : the song-sentence, cited by d'Indy in his *Cours de composition*; binary and ternary sentences, discussed in detail in Marcel Dupré's *Traité d'improvisation*.

### 1) Song-Sentence

The song-sentence is divided thus : a) theme (antecedent and consequent); b) middle period, inflected toward the dominant; c) final period, an issue of the theme. An example of song-sentence; theme (antecedent) :

**example 129**

This theme is repeated with a different melodic descent (consequent); afterwards, the middle part, exceptionally long and divisible into three periods :

**example 130**

After a cadence in B major, key of the dominant, an ascent with crescendo leads to the final period over the six-four chord in E major, the initial key :

**example 131**

and the sentence is ended in absolute pianissimo. Another example :

**example 132**

In A<sup>1</sup>, the antecedent of the theme; in A<sup>2</sup>, the consequent of the theme. In B, the middle period, developing the fragment Y bracketed in the theme; Y is repeated six times upon different degrees — the first time a melodic variant, the second time a rhythmic variant. In C, the final period, an issue of the theme; it repeats X twice and Z once upon other degrees — Y, developed in the middle period, is absent here.

## 2) Commentary

The commentary is a melodic development of the theme, one in which some fragments of the theme are repeated in the initial key upon different degrees, or in other keys, and are varied rhythmically, melodically, and harmonically. The commentary can also develop elements foreign to the theme, but presenting with the latter a certain agreement of accent. The middle period of example 132 (*Thème et variations*) is a commentary. Binary and ternary sentences alternate theme and commentaries.

## 3) Binary Sentence

The binary sentence is divided thus : a) theme; b) first commentary, modulating more or less, inflected toward the dominant of the initial key; c) theme; d) second commentary, concluding upon the tonic of the original key. An example of the binary sentence, the theme and its repetition a degree lower with harmonic variation :

**example 133**

The first commentary :

**example 134**

Built entirely upon this fragment of the theme :

**example 135**

it uses from X to X the second mode of limited transpositions (see Chapter XVI). Afterwards, restatement of the theme. The second commentary develops the same fragment as the first :

**example 136**

Departing from a lower point, it rises higher and ends in the initial key in the extreme treble.

## 4) Ternary Sentence

The ternary sentence is divided thus : a<sup>1</sup>) theme; a<sup>2</sup>) consequent of the theme; b<sup>1</sup>) commentary; b<sup>2</sup>) consequent of the commentary; c<sup>1</sup>) theme; c<sup>2</sup>) consequent of the theme. An example of the ternary sentence :

**example 137**

In A, the theme. In B, consequent of the theme; the fragment W ends antecedent and consequent, in normal motion in the first, in contrary motion in the second. G is a fragment leading to the commentary at C, which starts out upon X (rhythm of the head of the theme) and H and develops the fragments X, Y, Z. In D, the consequent of the commentary, inflected toward the dominant and developing especially the fragment Y. The recall of H leads to the re-entrance of the theme at E (I was obliged to abridge the quotation). The ante-



cedent of the theme is succeeded by a consequent identical to the preceding consequent and followed by a brief coda in the extreme treble upon the fragment W. All of this sentence mixes the tonality of E major and the second mode of limited transpositions, borrowing constantly from itself in its different transpositions. Let us notice the orchestral distribution in this passage; all the first violins sing muted, very slowly, with love; four second violins soli and five violas soli, all also muted, form around them a halo of mysterious chords; a harmonic tapestry of such softness that one scarcely hears it!

### 5) List of Melodic Periods

Let us set up a list of melodic periods. Each example of the list will comprise one or several connected periods. In paragraph 6 of Chapter XIV, entitled "A Look at Other Styles," we shall try to draw the essence from the procedures of contemporary composers. Here, in the same way, we shall see some shadows of former times float by, we shall salute some great names of modern times; but all these borrowings, like those of the paragraph 6 just mentioned, will be passed through the deforming prism of our language, will receive from our style a different blood, an unexpected melodic and rhythmic color in which fantasy and research will be united to destroy the least resemblance to the model.

**examples 138 to 150**

Examples 138 and 139 evoke Ravel; who would have believed that? Examples 140 and 141 have Adam de la Halle for a patron; that is even more unlikely. 140, by its opposition of dynamics, calls to mind the alternations of solo and tutti. The two periods A and B of 141 could have been used for a refrain; let us note their curious rhythmic symmetry; B responds with ascending intervals to the descending intervals of A and vice versa. 142 mixes Mozart and Manuel de Falla. 143 unites Béla Bartók and André Jolivet, with a touch of bird style (see Chapter IX). 144 and 145 are completely bird style. The repeated notes of 146 are allied to Hindu music. 147 and 148 proceed from Russian songs. 147 is written in the second mode of limited transpositions; its measure A contains a nonretrogradable rhythm (see Chapters XVI and V). Examples 149 and 150 refer to Rameau; they are far away from him!

Example 150 is a complete sentence in five periods, whose shape has some analogy to that of a rigadon. A<sup>1</sup>, the first period, starting upon X; A<sup>2</sup>, the first period repeated and concluding on the third degree. Period B, starting upon X in retrograde and modulating to the dominant. Restatement of the period A, slightly varied. Period C, developing especially X, which will be used to conclude in a rapid arpeggio; the bracketed notes Y, of the first period, are restated here in a new order.

## CHAPTER XII

# Fugue, Sonata, Plainchant Forms

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### 1) Fugue

I repeat my Introduction : “ Supposing the fugue and the sonata to be well-known to the reader, I shall pass over them rather rapidly and talk more at length of less usual forms. ” Without constraining ourselves to making regular fugues, we shall keep the most essential parts of them : the episode and the stretto. The episode is a progression of harmony, concealed by entrances in canonic imitation being reproduced at symmetrical intervals, generally from fifth to fifth; see, in support of this definition, J. S. Bach’s second “ Kyrie ” of the *Mass in B minor*, the first movement of the *Sixth Trio Sonata* for organ, the great *Fugue in G minor*, also for organ. An example of the episode :

**example 151**

In the piano : harmonic progression, symmetrical entrances from fifth to fifth upon the head of the subject elongated by a coda; in the violin : descent, upon the head of the countersubject.

An example of stretto in triple canon at the octave, at one note’s distance :

**example 152**

From A forward, use of the third mode of limited transpositions in its third transposition.

### 2) Sonata

All free instrumental forms are derived more or less from the four movements of the sonata. The sonata-allegro synthesizes the whole sonata. Having written some absolutely regular sonata-allegros, we shall state that one thing in that form has become obsolete : the recapitulation. Then we shall try once more to keep what is most essential : the development. There are two in a sonata-allegro : the middle, modulating development; the terminal development, generally built over understood dominant and tonic pedals. We shall be able to write pieces made of this terminal development alone; I tried it in “ *les Enfants de Dieu* ” of *la Nativité du Seigneur*. Analysis of this piece : a) first element over a dominant pedal in B major. Development by amplification of the second measure of the theme :

**example 153**

- b) A great fortissimo cry, upon a sort of schematic augmentation of the theme.
- c) A tender phrase, forming the conclusion, established over a tonic pedal in B major :

**example 154**

We may also start directly upon the central modulating development and end upon a large sentence forming at once the conclusion, the first complete exposition of the principal theme, and the definite establishment of the principal tonality; I tried it in “ *Combat de la Mort et de la Vie* ” of *les Corps glorieux*.  
Analysis of this piece :

- a) First element of the development. Theme in C minor, in one voice :

**example 155**

followed by a contest of chords alternated tumultuously.

- b) Theme in E minor, in two voices in canon. Then a new tumult of chords.
- c) Theme in A-flat major, in three voices in canon. Theme in D minor in the bass, then the tumult of chords.
- d) A wave of chords falls in contrary movement over an ascent of the theme in the bass. A long development by elimination (see example 121 of Chapter X which quotes this elimination).
- e) The theme is cut in two and continues to be developed by elimination in great fortissimo cries. This last element of development is an understood dominant pedal in F-sharp major.
- f) A large binary sentence (see Chapter XI, article 3), very slow and very long, in which one hears at last, in a state of repose, the principal key, F-sharp major, and especially the complete theme from which the sentence is issued. (You will find in Chapter XIII two fragments of this sentence : examples 194 and 199.)

We are going to study in the two following articles two interesting free forms proceeding from the development of the sonata-allegro.

### **3) Development of Three Themes, Preparing a Final Issued from the First**

This form resembles the preceding. I used it in the ninth part of my *Nativité du Seigneur* : “ *Dieu parmi nous.* ” An analysis of this piece :

- a) Condensed exposition of the three themes in eight measures. First theme, rhythmic :

**example 156**

This first theme is divided into A and B; A is written in the fourth mode of limited transpositions; B is written in the second of these modes; B contains three quarter-notes and three eighth-notes (diminution of the three quarter-notes), a rhythm which recalls to us the Hindu *râgavardhana* and which will be the basis of the final toccata. Like Bach's chorale, *Adam's Fall* (for organ),

like the descent of Ariane, the light, to the midst of the darkness where the wives of Bluebeard suffered (in the opera of Paul Dukas), this element B assimilates rhythmic precipitation and the passage from treble to bass into the idea of fall; but it is a question of the glorious and ineffable fall of the second person of the Holy Trinity into a human form (if it is permissible to employ this term on the subject of the Incarnation of the Word!).

The second theme, melodic and harmonic, expressing the love for Jesus Christ of the communicant, of the Virgin, of the entire Church :

**example 157**

(Without the value added by the dot, at the crosses — see Chapter III — which transforms its rhythmic pace, this theme could have been written in  $\frac{5}{8}$  time.)

Third theme, melodic, a Magnificat, alleluiatic praise in bird style :

**example 158**

b) Development of the first and third themes.

c) Development of the third theme in jubilatory counterpoint in two voices.

d) More impassioned development of the second theme.

e) Element A of the first theme over a dominant pedal in E major. Element B in contrary motion bursts like thunder and engenders a joyous and vigorous toccata.

f) This toccata in E major is the piece itself, all the large development which precedes having been only the preparation of it. Except for a passage recalling the third theme, and a new melodic element :

**example 159**

the whole toccata is built upon the element B of the first theme :

**example 160**

whose four quarter-notes are developed at length, repeated, triturated, hesitating in the bass around F-natural before concluding on the E (tonic) in a triumphant glee.

#### **4) Variations of the First Theme, Separated by Developments of the Second**

The form used in the seventh part of my *Quatuor pour la fin du Temps* : “ *Fouillis d’arcs-en-ciel, pour l’Ange qui annonce la fin du Temps.* ” Analysis of this piece :

a) Exposition of the first theme (melodic) :

**example 161**

A complete sentence, in the second mode of limited transpositions, drifting between the tonalities of A major, F-sharp major, E-flat major. (See example 359 of Chapter XVII where it is quoted completely with its harmonies.)

b) Exposition of the second theme (rhythmic) by the four instruments : violin, clarinet in B-flat, violoncello, and piano :

**example 162**

This second theme is drawn from the second movement of the *Quatuor*.

c) First variation of the first theme, accompanied by the clarinet's counterpoint, still in the second mode, and drifting between the tonalities of F-sharp, E-flat, and C major. (Example 326 of Chapter XVI quotes the first measures of it.)

d) Development of the rhythmic elements A, B, C, D, all drawn from the second theme :

**example 163**

First measures of the second theme. Development of A in the strings over a cluster of chords, X, in the piano drawn from the second movement of the *Quatuor* :

**example 164**

Next measures of the second theme. Development of B and D in the piano, under the cluster of chords, X, retrograded in the violin and clarinet for the two top voices of the chords (the violoncello partially retrogrades the two low voices), with use of the dominant chord with appoggiaturas in B and effects of inferior resonance in D (see Chapter XIV, articles 1 and 4) :

**example 165**

Then, development of C by elimination. (In examples 164 and 165 the clarinet sounds a tone lower than the notation.)

e) Second variation of the first theme. Arabesques in the violin and piano are opposed to the clarinet in the low register and the *col legno* of the violoncello.

f) Combination of the commentary of the second theme :

**example 166**

with this rhythm of the first :

**example 167**

and a clarinet recall, in equal values, of the sixth movement of the *Quatuor* : **example 168**

Development of the trilled chords which end the commentary of the second theme. The cluster of chords, X, in normal and retrograde movement at the same time. Then, a new succession of chords, drawn from the second theme and from the second movement of the *Quatuor*. (One has thus heard again, by fragments, in the course of the developments, the entire second theme.) Finally, the "jumble." Clusters, cascades of chords. The clarinet repeats an arpeggio formula of the dominant chord already heard in the second and third movements of the *Quatuor*. Violin and violoncello, borrowing this diminution from the first theme :

**example 169**

make of it an ascent in development by elimination (see Chapter X), which leads quite naturally to the final variation.

g) Last variation of the first theme. Same mode and same tonal drifting. The sentence is trilled throughout. Short recall of the second theme to conclude.

## 5) Plainchant Forms

One can hardly use the themes of plainchant more and better than Charles Tournemire in his *Orgue mystique*. Leaving these themes and their melodic contours (see Chapter VIII) for a little, we shall turn toward the plainchant forms. Alleluias and great anthems will allure us from the very first. My “ *Subtilité des Corps glorieux* ” (*Les Corps glorieux*) is a large ornamented anthem in one voice without any harmonization; each period in it is terminated by a formula of melodic cadence repeated in echo :

**example 170**

The first period A is repeated twice. Then, period B, also repeated twice, with, the second time, variants of accent, descent, and curves. Restatement of period A. Period C, modulating to the dominant and concluding on the tonic. Period A, varied. Period D, modulating to the dominant, with varied repetitions in crescendo and great vocalise, ending in the period A, deprived of its head. Period E, starting upon a great vocalise and concluding on the tonic, with echoes and rhythmic enlargement.

In “ *Antienne du Silence* ” (*Chants de Terre et de Ciel*) I superposed the principal sentence given to the voice upon a melody in anthem form, surrounded by a quasi-atonal double counterpoint.

As for alleluias, we shall retain the essential part of them : alleluiatic vocalise, whose character our music will often have. My “ *Résurrection* ” serves to furnish us all the useful examples. Alleluiatic melody :

**example 171**

Let us point out (at the crosses) the added values in the song; it is divided into little groups of five sixteenth-notes (a prime number). The vocalise which follows accentuates again the rapid, supple, joyous, triumphant pace of the passage. In the piano, a sort of enormous carillon, irradiated, using an interpretation of the Hindu rhythm, *râgavardhana* (see Chapter II). At A, dominant chord with appoggiaturas (see Chapter XIV), provided with an effect of inferior resonance at B. At C, the chord of resonance with the effect of a stained-glass window (again, see Chapter XIV). Farther on, the initial vocalise is amplified (at A) :

**example 172**

Third jubilatory example :

**example 173**

Notice, in the song, the intervals of the two melodic descents : at A, descending major sixth; at B, descending augmented fourth. In the piano, a dominant chord with appoggiaturas (see Chapter XIV, article 1) used in its different inversions at C, D, E. Still in the piano : close entrances, X; the thematic fragment (which is our first formula of melodic cadence in Chapter VIII) changes rhythm at each entry.

A fourth example, in which the voice turns around a melodic dominant (G-sharp), with a sunny gaiety more and more delirious :

**example 174**

The work ends with this last increase of joy :

**example 175**

The volleys in bird style (at A) contrast with the powerful solemnity of the chords, B, preceded at C by their effect of inferior resonance. At D, chord of the dominant seventh with added sixth (see Chapter XIII). At E, last volley, like a blow of instantaneous light !

Let us see now how one can blend alleluiatic vocalise with psalmody. Afterwards we shall study two plainchant forms : the Kyrie and the sequence.

## 6) Psalmody and Vocalise

Without forgetting that the voice should first *sing* and afterwards turn to the exigences of the text and imitate the inflections of speech, we may occasionally adopt a certain system of declamation more easily applicable if we ourselves write the poems of our vocal works : first, all that seems to belong to the domain of the recitative is psalmody (the words uttered at a very rapid pace on a repeated note, the punctuation underlined by formulas of vocalized melodic cadences); second, any word especially important, moving, rich in meaning, is adorned with a long or even very long vocalise. An example of psalmody :

**example 176**

The melodic cadence contains a returning chromaticism, B, and a melodic contour, A, often quoted in this work (see Chapter VIII). In the following example, the important word *âme* — it is the soul that suffers and prays — is vocalized at length :

**example 177**

## 7) Kyrie

In the plainchant masses, some Kyries are divided thus : first, *Kyrie eleison* (the Father) three times : A, B, A; second, *Christe eleison* (the Son) three times : C, D, C; third, *Kyrie eleison* (the Holy Ghost) three times : E, F; the last Kyrie, longer, takes up the period E again, repeating it twice; it is followed by a melodic conclusion. The music assumed at the word *eleison* (“ have pity upon us ! ”) remains the same for the nine invocations. My “ *Mystère de la Sainte Trinité* ” will give us an example of this form. This organ piece is written in three voices, supplementary homage to the Trinity, the form itself being tripartite : three times three. The top voice sings a distant counterpoint, quasi-tonal, made of upbeats and terminations; the bass unfolds a long rhythmic pedal (see in Chapter XV example 310, drawn exactly from the “ *Mystère de la Sainte Trinité* ”). I quote here only the middle voice, which has the principal song.

**example 178**

This first tercet, A, B, A, is in D. In it the music of X (*eleison*) remains the same. The second tercet, C, D, C, touches upon the key of A. The third tercet, E, F, E :

**example 179**

also begins in A, X being transposed. F is only a restatement of A. Then E is repeated twice, the second time being enlarged by an ornamental melodic variant. Conclusion in D recalling the period D; X (*eleison*) in D, with rhythmic expansion, to finish.

### 8) Sequence

The sequence is a canticle of popular style. Each period in it is heard twice, either consecutively or alternately; all end on the same note. In “*le Verbe*” (fourth part of my *Nativité du Seigneur*), I used a very special form which simultaneously holds to the sequence through its divisions, to the Hindu ragas through its character, to the ornamented chorales of J. S. Bach through its expressive and austere arabesques which overload the solemn, long, slow melody. In it each repetition of a period is varied, provided with a new ornamentation; G, the final of each period, is in the course of the sentence harmonized in nine different ways. The second mode of limited transpositions (the melody) is mixed with the major tonality and the seventh mode of plainchant or the mode on G (the harmonies) — these mixtures will be examined more closely in Chapters XVII and XVIII.

Distribution of the periods : period 1 :

**example 180**

Period 2 repeated twice. Periods 3 and 4 :

**example 181**

Again, periods 3 and 4, varied. Then restatement of period 2, very much elongated and followed by a sort of amen to conclude :

**example 182**



## Harmony, Debussy, Added Notes

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### 1) Added Notes

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

### 2) Added Sixth and Added Augmented Fourth

The most used of these notes is the added sixth. Rameau foresaw it; Chopin, Wagner made use of it (and also some writers of a facile and light temperament, notably Massenet and Chabrier, which proves to what point it is natural!). Debussy and Ravel installed it definitively in the musical language. Here it is on the perfect chord :

**example 183**

on the chord of the dominant seventh :

**example 184**

on the chord of the ninth :

**example 185**

In the resonance of a low C, a very fine ear perceives an F-sharp :

**example 186**

Therefore, we are authorized to treat this F-sharp as an added note in the perfect chord, already provided with an added sixth. Then our perfect chord will be :

**example 187**

and there will be an attraction between the F-sharp and the C, the former tending to resolve itself upon the latter.

**example 188**

### 3) Relation of Added Notes and Added Values

Let us come back to the reflections of Chapter I. The perfect chord with added sixth and added augmented fourth which we have just written will be the typical chord of the second mode of limited transpositions (see Chapter XVI). In Chapter VIII, we had chosen from all intervals the descending augmented fourth and the descending major sixth, a new analogy. Finally, the relation of *notes added* to chords and *values added* to rhythms strikes us. The same charm, one somewhat perverse, is found in these values of supplement which make the rhythms limp deliciously, in these foreign notes which insidiously transform the tint of the chord.

### 4) Use of Added Notes

At the head of this paragraph, I want to write these two chords from *Pelléas* : **example 189**

They will be the genesis of the following example : **example 190**

The added notes are indicated by the crosses. The same chords with new added notes : **example 191**

Use in one of my melodies : “ *La Maison* ” : **example 192**

The first two measures contain four quarter-notes, the third four dotted quarter-notes, without the eighth-note's having changed in value. Another example of added notes : **example 193**

Again, the added notes at the crosses. The fragment A, already quoted in Chapter VIII, constitutes a “ passing group ” (see Chapter XV). At B, the added sixth on the chord of the ninth; in C, use of the second mode of limited transpositions (see Chapter XVI). Another example (added notes still at the crosses) : **example 194**

Very striking use of the added sixth in the ninth chord : **example 195**

The entire example is written on the chord : **example 196**

Except for its first eighth-note, the accent, it is also entirely an extremely gracious and refined rhythmic descent. In the first measure, interpretation of the Hindu *râgavardhana*, divisible into two fragments, A and B; in the second, variant of these two rhythms : A is deprived of its last eighth-note, the third quarter-note of B is dotted. This dot (added value, indicated by the cross)

slackens the rhythmic descent while underlining its caressing nonchalance (see article 3 of Chapter III, which treats rhythmic preparations and descents). Use of the augmented fourth added to the perfect chord at A, of the sixth added to the chord of the dominant seventh at B. Use of added values (I insist no further upon their relationship with added notes). From the beginning to X, the quotation is written in the second mode of limited transpositions :

**example 197**

Again, use of the augmented fourth added to the perfect chord at A, of the added sixth at B; at the crosses, added values; at the last cross, lengthening by the dot, slackening the rhythmic descent :

**example 198**

A last quotation :

**example 199**

At the crosses, the added augmented fourth. The initial contour, A, is an “ embellishment group ” on the D-sharp (see Chapter XV). The entire quotation is written in the second mode of limited transpositions :

**example 200**

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## CHAPTER XIV

# Special Chords, Clusters of Chords, and a List of Connections of Chords

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### 1) The Chord on the Dominant

- It contains all the notes of the major scale : **example 201**
- Here is its supposed resolution : **example 202**
- Let us make appoggiaturas to the added notes : **example 203**
- Let us make multicolor work, bring forth an effect of a stained-glass window and arrange the different inversions of the chord with such appoggiaturas over a common bass note (C-sharp or D-flat) . **example 204**
- Another disposition : **example 205**
- The same, transforming the appoggiaturas into added notes : **example 206**
- Other added notes : **example 207**

### 2) The Chord of Resonance

- Nearly all the notes perceptible, to an extremely fine ear, in the resonance of a low C, figure, *tempered*, in this chord. **example 208**
- Let us make the preceding effect of a stained-glass window, arranging the inversions on a common bass note (C-sharp or D-flat) : **example 209**
- Connected to its second inversion : **example 210**
- the chord of resonance gives all the notes of the third mode of limited transpositions : **example 211**
- A progression alternating our chord and its first inversion : **example 212**

### 3) The Chord in Fourths

- Let us forget the classic chords of superposed thirds to use a chord of augmented and perfect fourths. **example 213**

It contains all the notes of the fifth mode of limited transpositions (see Chapter XVI) : **example 214**

To this chord and this mode belongs the melodic formula : **example 215**

already cited in paragraph 2 of Chapter X, apropos of the interversion of notes.  
This succession : **example 216**

offers us use : in A, of the chord in fourths; in B, of the chord of resonance.

#### 4) Effects of Resonance

Paul Dukas often spoke of “ effects of resonance. ” Effects of pure fantasy, similar by a very distant analogy to the phenomenon of natural resonance. One will find remarkable ones, mingled with learned variations of rhythm, in the *Danses rituelles* and especially in the *Mana* of André Jolivet.

Superior resonance : **example 217**

The cluster of chords, B, is written in the sixth mode of limited transpositions, the cluster of chords, C, in the second of these modes (see Chapter XVI). These two clusters of chords form superior resonance of the chord, A. Inferior resonance (at the cross) : **example 218**

An analogous effect : **example 219**

Third example of inferior resonance : **example 220**

At A (arpeggio of the clarinet and chords of the piano) : chord on the dominant (see article 1 of this chapter). At B : inferior resonance. At C : bird-style melodic contours.

A last effect of resonance : **example 221**

#### 5) Clusters of Chords

See example 217 of the preceding paragraph. Another quotation : **example 222**

In the gentle cascade of blue-orange chords surrounding with its distant carillon the melody, quasi-plainchant, of the strings, let us notice : in A, superposed fourths; in B, a progression upon the chord of resonance (see example 212 of this chapter); in C, the second mode of limited transpositions.

## 6) A Look at Other Styles

Let us recall that these two chords of *Pelléas* :

**example 223**

engendered the “ *Danse générale* ” of Daphnis (Ravel) and a polytonality particularly dear to Milhaud. It is curious to see how, since the *Orfeo* and the extraordinary madrigals of Monteverdi, the harmonic science has evolved from one composer to another. In our turn, let us look at the works of our contemporaries and try to draw the essence from them. Two examples of this transforming “ look. ” A measure of Debussy :

**example 224**

I make a progression of it :

**example 225**

Another transformation :

**example 226**

A measure of Ravel :

**example 227**

I reverse the connection :

**example 228**

Another transformation :

**example 229**

## 7) Natural Harmony

Now we are going to set up a list of connections of chords. In the following chapters we shall try again to enlarge our harmonic horizon by the use of the modes of limited transpositions and of the combination, “ upbeat-accent-termination. ” All these investigations ought not make us forget the natural harmony : the true, unique, voluptuously pretty by essence, willed by the melody, issued from it, pre-existent in it, having always been enclosed in it, awaiting manifestation.

My secret desire of enchanted gorgeousness in harmony has pushed me toward those swords of fire, those sudden stars, those flows of blue-orange lavas, those planets of turquoise, those violet shades, those garnets of long-haired arborescence, those wheelings of sounds and colors in a jumble of rainbows of which I have spoken with love in the Preface of my *Quatuor pour la fin du Temps* ; such a gushing out of chords should necessarily be filtered; it is the sacred instinct of the natural and true harmony which, alone, can so charge itself.

## 8) A List of Connections of Chords

**examples 230 to 245**

Progressions of harmony. Examples 230 and 231 retrograde the second term of the progression (1). We have already seen examples 233 and 238 in paragraph 6. Example 236 is particularly expressive. In 237, the middle pedal on E and the contrary motion of the two upper voices change the aspect of the progression situated in the four lower voices. In 238, 244, and 245, the second term varies the rhythm of the first. 241 and 243 are drawn from "*Vocalise, pour l'Ange qui annonce la fin du Temps.*" Example 244 superposes, at A, two modes of limited transpositions : mode number three over mode number two; at B, the superposition is lowered by a tone; it is drawn from "*Ta voix*" as is example 245.

**examples 246 to 251**

Harmonic litanies. (The harmonic litany is a melodic fragment of two or several notes repeated with different harmonizations.) Examples 247 and 248 are drawn from "*Bail avec Mi*"; 246 figures in "*Un reflet dans le vent,*" 249 in "*Louange à l'Immortalité de Jésus,*" 250 in "*Fouillis d'arcs-en-ciel, pour l'Ange qui annonce la fin du Temps.*"

**examples 252 to 276**

Various connections. Example 253 is written in the seventh mode of limited transpositions, example 256 in the second of these modes. 258 figures in "*le Collier.*" 262 is in A major, in spite of its polytonal appearance. 269 is made from 268. 272 superposes two modes of limited transpositions : mode number three (upper staff) upon mode number two (lower staff); one will find it again, transposed, and with a different rhythm, in "*Arc-en-ciel d'innocence.*" 274 is polytonal. 276 is a contraction of the theme of Debussy's *Mélisande*. **examples 277 to 283**

Superpositions of perfect and augmented fourths, of perfect and diminished fifths. 277 figures in "*Vocalise, pour l'Ange qui annonce la fin du Temps*"; it superposes perfect fourths; at the cross, from the bottom upward, perfect fourth, augmented fourth, perfect fourth. The following examples superpose perfect and diminished fifths. In arranging the chords of 282 and 283 in spaced positions, one finds the same superpositions.

**examples 284 to 287**

Examples of longer duration. They give a quite small glimpse of the gushing out of chords described in paragraph 7. Example 287 curiously mixes three harmonic styles : A evokes Ravel, B, Stravinsky, C, Honegger.

**examples 288 to 293**

More refined examples. Example 288 : measure A is made from a fragment of the "*Fouillis d'arcs-en-ciel, pour l'Ange qui annonce la fin du Temps*"

(1) *Translator's note.* — The sixteenth-note movement under the second eighth-note is the retrograde of that under the first.

(example 289); measure B contracts the resonance of example 290 (drawn from the same work). Example 291 is a transformation of three Ravel-like chords (example 292, Ravel, *Ma Mère l'Oye*). Finally, example 293 uses : at A, the connections of 288; at C, those of 291; at B, the dominant chord with appoggiaturas (see example 204, article 1 of this chapter).

**examples 294 to 301**

Formulas of accompaniment. One should be able to place a theme in a middle voice in 294. 295 ("*Le nombre léger*") calls for a voice above and below it. 296 ("*Paysage*") is written in the second mode of limited transpositions; the theme will be placed above it, in the same mode. The light rustling of 297 superposes a melodic formula in the fifth mode of limited transpositions upon arpeggios using the sixth of these modes; it calls for a voice above and below it. 298 is in bird style; it supposes a voice below it, as do the chiming sonorities of 299 and 300. 301 has us hear voice and accompaniment.



## CHAPTER XV

# Enlargement of Foreign Notes, Upbeats and Terminations

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Dissonances or foreign notes, they are all the same. With our complicated chords, is a dissonance possible? And, in this multitude of added notes, what becomes of the old foreign notes : pedal, passing note, embellishment, appoggiatura? They are indispensable to the expressive and contrapuntal life of music; let us preserve them by enlarging them. The pedal will become the pedal group; the passing note, the passing group; the embellishment, the embellishment group. Each of these groups will contain several foreign notes, forming a complete " whole music " (rhythm, harmony, melody) and being analyzed as : a single pedal, a single passing note, a single embellishment.

We shall forget the anticipation and the escape tone which have only been the prophecy of the added note. The suspension, also, has erased itself little by little before the appoggiatura. This last, the most important and the most expressive of the foreign notes in the classic style, will become the combination : upbeat-accent-termination.

### 1) The Pedal Group

Instead of one sustained note, foreign to the chords which surround it, we shall have a repeated music (repetition and sustaining are equivalent), foreign to another music situated above or below it; each of these musics will have its own rhythm, melody, harmonies.

**example 302**

In this example, the music of the upper staff repeats itself from measure to measure, independent of the music of the lower staff; it is a pedal group. The entire passage is in A major. At the same time it is polymodal and superposes two modes of limited transpositions : the third mode for the upper staff :

**example 303**

and the second mode for the lower staff :

**example 304**

We shall speak again of this polymodality in Chapter XIX.

## 2) The Passing Group

On the spot repetition is the equivalent of sustaining, we said apropos of pedal groups. Likewise, the reproduction of the terms of a progression is the equivalent of the symmetrical movement, ascending or descending, degree by degree, of passing notes.

**example 305**

In the middle voice, in B, a pedal group. In the two outer voices, at A, groups of foreign notes, reproduced symmetrically, in ascending progression for the upper part, descending for the bass; they are passing groups.

## 3) The Embellishment Group

**example 306**

At A and at C, the real note D. In B, an immense scroll forming a single embellishment of the D; it is an embellishment group.

## 4) Upbeats and Terminations

Mozart is the distant herald of them. Schönberg and Alban Berg used them with a rare emotional intensity. But it is Arthur Honegger especially who has carried them to their maximum of effect (see notably *Judith, Horace victorieux, Antigone, Danse des morts*).

Let us preserve what is most essential in the appoggiatura : the expressive accent. Let us prepare this accent by an immense upbeat and resolve it by an immense termination; its expressive power will be augmented in the same proportion. We thus obtain the combination : upbeat-accent-termination. The upbeat and the termination may be separated from the accent by a rest, and even exist in the absence of any accent. In the embellishment group, departure and arrival took place actually on the same long note; here, the last note is short, different from the first, and *all the notes are foreign*. The embellishment group, like the pedal group and the passing group, could possess its own harmonies; the combination upbeat-accent-termination is, on the contrary, exclusively melodic. Finally — and here is the principle — our combination turns around the expressive accent, which is its center and reason for being, whereas the embellishment group does not have an accent.

**example 307**

Course of anguish, of desire, and of horror; in A, panting upbeat; at B, accent; in C, termination.

**example 308**

The direct movement and the cruelty of the chords give to this example a great expressive strength. The accent B is lacerating. In A, upbeat and rhythmic precipitation; in C, termination.

**example 309**

At B, accent. The upbeat A and the termination C are cut by rests; impression of effort for one, of exhaustion for the other. In spite of this cutting into parts, an example of more vigorous character than the preceding. Exceptionally, the combination begins and ends on the same note : E.

**example 310**

Here, the accent B is distant and the upbeat A more calm. In C, a very long termination in quasi-atonal style. In D, a termination not preceded by an accent. Let us notice, in the bass, the rhythmic succession :

**example 311**

already quoted in Chapter VI apropos of rhythmic pedals. It plays this role of rhythmic pedal in the course of the work.

## Modes of Limited Transpositions

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I have already spoken of these modes in the Preface of my *Nativité du Seigneur*. Let us repeat that exposition, amplifying it considerably by examples and more detailed explanations of the mechanism of the modes. To lighten my text, I shall not constantly use the term, "modes of limited transpositions," which is a little long, but I shall designate each mode by its numeral: second mode, third mode, etc., or mode 2, mode 3, etc.

All the examples of this chapter use the chosen mode melodically and harmonically, that is to say, *all* their notes belong to the mode. In the contrary cases, I indicate the notes foreign to the mode.

### I) Theory of the Modes of Limited Transpositions

Based on our present chromatic system, a tempered system of twelve sounds, these modes are formed of several symmetrical groups, the last note of each group always being common with the first of the following group. At the end of a certain number of chromatic transpositions which varies with each mode, they are no longer transposable, the fourth transposition giving exactly the same notes as the first, for example, the fifth giving exactly the same notes as the second, etc. (When I say "the same notes," I speak enharmonically and always according to our tempered system, C-sharp being equal to D-flat.) There are three modes of this type. There are four other modes, transposable six times, and presenting less interest, for the very reason of their too great number of transpositions. All the modes of limited transpositions can be used melodically, and especially harmonically, melody and harmonies never leaving the notes of the mode. We spoke in Chapter I of the charm of impossibilities; 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. Their series is closed. It is mathematically impossible to find others of them, at least in our tempered system of twelve semitones. In the tempered system in quarter-tones, extolled by Haba and Wischnegradsky, there exists a corresponding series (unfortunately, I cannot busy myself here with it, no more

than with the other particularities of quarter-tone music, no more than with the relations between tempered and untempered music, all questions which will impassion the musicians of the future, but passing the boundaries of this work). I add that the modes of limited transpositions have nothing in common with the three great modal systems of India, China, and ancient Greece, no more than with the modes of plainchant (relatives of the Greek modes), all these scales being transposable twelve times.

## 2) First Mode of Limited Transpositions

The first mode is divided into six groups of two notes each; it is transposable twice. It is the whole-tone scale. Claude Debussy, in *Pelléas et Mélisande*, and after him Paul Dukas, in *Ariane et Barbe-Bleue*, have made such remarkable use of it that there is nothing more to add. Then we shall carefully avoid making use of it, unless it is concealed in a superposition of modes which renders it unrecognizable, as in example 43 of Chapter VI, paragraph 3.

## 3) Second Mode of Limited Transpositions

One already finds traces of it in *Sadko* by Rimsky-Korsakov; Scriabine uses it in a more conscious fashion; Ravel and Stravinsky have used it transiently. But all that remains in the state of timid sketch, the modal effect being more or less absorbed by classified sonorities.

Mode 2 is transposable three times, as is the chord of the diminished seventh. It is divided into four symmetrical groups of three notes each. These "trichords," taken in ascending movement, are themselves divided into two intervals: a semitone and a tone. Here is the first transposition :

**example 312**

Here are the second and third transpositions :

**examples 313 and 314**

The fourth transposition gives exactly the same notes as the first (enharmonically speaking) :

**example 315**

The fifth transposition gives the same notes as the second, the sixth the same as the third, and so on. One can begin the scale on the second degree; we shall thus have in each group the intervals of a tone, a semitone (instead of a semitone, a tone, as previously); but that changes nothing in the chords created by the mode, and we fall again, enharmonically, into the notes of the first transposition :

**example 316**

Mode 2, first transposition, in parallel succession of chords (each voice realizes the entire mode, starting on a different degree) :

**example 317**

This succession alternates the six-four chord with added augmented fourth and the dominant seventh chord with added sixth (see Chapter XIII).

Contrary motion, same transposition :

**example 318**

Typical chord of the mode, same transposition :

**example 319**

Chord containing all the notes of the mode, in its second transposition :

**example 320**

Various formulas of cadence belonging to the second mode :

**examples 321 to 324**

The first formula is the typical cadence of the mode, first transposition; we have already seen it in Chapter VIII (example 77, “ *la Vierge et l'Enfant* ”). The second formula uses the mode in its second transposition. The third formula is a progression of harmony; at A, first term, third transposition; at the cross, added value, giving more force to the preparation of the accent; at B, second term, first transposition, rhythmic variation; at the cross, value elongated by addition of the dot, slackening the descent. The fourth formula uses the second transposition.

I have already pointed out, in the examples of the preceding chapters, frequent borrowings from the second mode. New examples of its use :

**examples 325 to 327**

The three examples do not leave the notes of the mode in its first transposition. The third example contains, in the piano, an interesting formula of accompaniment (see Chapter XIV, paragraph 8); compare its melodic movement with example 113 of Chapter VIII (“ *l'Ange aux parfums* ”).

**example 328**

This last example uses mode 2 : at A, in its third transposition; at B, in its first transposition.

#### **4) Third Mode of Limited Transpositions**

It is transposable four times, as is the chord of the augmented fifth. It is divided into three symmetrical groups of four notes each. These “ tetrachords, ” taken in ascending movement, are divided themselves into three intervals : a tone and two semitones. Here is the first transposition :

**example 329**

Here are the second, third, and fourth transpositions :

**examples 330 to 332**

The fifth transposition gives the same notes as the first, the sixth the same notes as the second, and so on, according to the phenomenon observed in mode 2. One can begin the scale on the second or on the third degree, but (as we have seen also for the second mode) there follows only a new order of tones and semitones

for each group, no change of the notes constituting the mode or of the chords called for by it.

Mode 3, first transposition, in parallel succession of chords (each voice realizes the entire mode starting on a different degree) :

**example 333**

Contrary motion, second transposition :

**example 334**

Typical chord, first transposition :

**example 335**

Chord containing all the notes of the mode, same transposition :

**example 336**

Two cadence formulas, the first in the fourth transposition :

**example 337**

the second, in contrary motion, in the first transposition :

**example 338**

Use of the third mode :

**example 339**

This fragment does not leave the notes of the mode in its first transposition. The cluster of chords, which is repeated from measure to measure in the upper staff of the piano, constitutes a pedal group (see Chapter XV). Another use of the third mode :

**example 340**

Use of the cadence formulas of examples 337 and 338, of the contrary motion of example 334. At A, fourth transposition; at B, first transposition; at C, second transposition. The three letters D indicate notes foreign to the mode, forming effects of superior and inferior resonances (see Chapter XIV, article 4).

### 5) Modes 4, 5, 6, and 7

These modes are transposable six times, like the interval of the augmented fourth. They are divided into two symmetrical groups. There are four of them, which carries the total number of modes of limited transpositions to seven. One cannot find others of them transposable six times, because all the other combinations dividing the octave into two symmetrical groups must : commence the scales of modes 4, 5, 6, and 7 upon other degrees than the first (which changes the order of the intervals, but not the notes or the chords of the modes — we have already established that); or form arpeggios of classified chords; or form truncated modes 2, such as :

**examples 341 and 342**

or form truncated modes 5 :

**examples 343 and 344**

Here is mode 4 :

**example 345**

The same in parallel succession of chords :

**example 346**

I have used this mode in “ *Prière exaucée* ” from my *Poèmes pour Mi*.

The same scale, less two notes; it is mode 5 :

**example 347**

This mode 5, being a truncated mode 4, has the right of quotation here only because it engenders the melodic formula (already seen in Chapter X) :

**example 348**

and the chord in fourths, analyzed in Chapter XIV, paragraph 3 :

**example 349**

Both the chord in fourths and the melodic formula contain all the notes of mode 5.

Now here is mode 6 :

**example 350**

Contrary movement in this mode :

**example 351**

Another contrary movement :

**example 352**

Same mode, parallel succession of chords over a sustained augmented fourth :

**example 353**

For the use of mode 6, see in Chapter III, paragraph 2, example 12 (“ *les Bergers* ”), which uses the mode in its fifth transposition; and in Chapter VIII, paragraph 4, example 109 (“ *la Vierge et l'Enfant* ”), which uses the mode in its first transposition.

Finally, here is mode 7 :

**example 354**

The same, in parallel succession of chords :

**example 355**

I have used this mode in the fourth part of *l'Ascension* · “ *Prière du Christ montant vers son Père.* ” Let us recall example 253 of the list of chord connections (Chapter XIV, paragraph 8) :

**example 356**

which uses all the notes of mode 7 in its fifth transposition :

**example 357**

## **6) Relation of Modes of Limited Transpositions and Nonretrogradable Rhythms**

Let us return to the reflections of Chapter V, article 3. There it is said : “ The modes of limited transpositions realize in the vertical direction (transposition) what nonretrogradable rhythms realize in the horizontal direction (retrogradation). In fact, these modes cannot be transposed beyond a certain number of transpositions without falling again into the same notes, enharmonically speaking; likewise, these rhythms cannot be read in a retrograde sense without one's finding again exactly the same order of values as in the right sense. These modes cannot be transposed because they are — without polytonality — in the



modal atmosphere of several keys at once and contain in themselves small transpositions; these rhythms cannot be retrograded because they contain in themselves small retrogradations. These modes are divisible into symmetrical groups; these rhythms, also, with this difference : the symmetry of the rhythmic groups is a retrograde symmetry. Finally, 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. ”

Again in the same article 3 of Chapter V, it is said : “ Let us think of the hearer of our modal and rhythmic music; he will not have time at the concert to inspect the nontranspositions and the nonretrogradations, and, at that moment, these questions will not interest him further; to be charmed will be his only desire. And that is precisely what will happen; in spite of himself he will submit to the strange charm of impossibilities : a certain effect of tonal ubiquity in the nontranspositions, a certain unity of movement (where beginning and end are confused because identical) in the nonretrogradation, all things which will lead him progressively to that sort of *theological rainbow* which the musical language, of which we seek edification and theory, attempts to be. ”

Arrived at this place in our treatise, is it not useful to repeat these lines?

## Modulations of These Modes and Their Relation to the Major Tonality

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As previously, all the examples of this chapter use the chosen mode melodically and harmonically, that is to say, *all* their notes belong to the mode. Everywhere I point out the change of mode and the notes foreign to the mode.

### I) Relation to the Major Tonality

We have already remarked that the modes of limited transpositions are “ in the atmosphere of several tonalities at once, *without polytonality*, the composer being free to give predominance to one of the tonalities or to leave the tonal impression unsettled.” Thus, mode 2 in its first transposition :

**example 358**

can hesitate between the four major tonalities of C, E-flat, F-sharp, and A. Use of this tonal indecision of mode 2, same transposition (to abridge, I quote only the song of the violoncello and the chords, leaving aside the accompaniment formula of the piano) :

**example 359**

We do not leave the notes of the mode; the three stops on the six-four chords of A, F-sharp, and E-flat major accentuate the unsettledness.

By the frequent return of the tonic of the chosen key or by the use of the dominant seventh chord in that key (this last means being the most efficacious), we mix the mode with the major tonality.

**example 360**

This example, written entirely in mode 2, third transposition, remains in B major, the holding of B in the bass strongly setting up the tonality. (The slurs between common notes concern execution on the organ.)

In the following paragraph, example 363 (*le Banquet céleste*) will prove to us that nothing is so valuable as the dominant seventh for the affirmation of a tonality. We can also mix our modes with tonalities whose tonics do not figure in the notes of the chosen mode.

**example 361**

The song of the first two measures is in mode 2, third transposition; the notes e , g' (tonic and third), which accompany it, do not make a part of the mode.

Measure X is in mode 3, second transposition; its expressive and profoundly grievous effort soothes itself on the fifth, b' to f-sharp', dominant of E. Tonal impression of E minor.

In the same order of ideas, here is a small fragment in mode 2, third transposition, the b-flat" excepted (upper staff), superposed upon chords made of perfect fourths foreign to the mode (lower staff) :

**example 362**

## 2) Modulation of a Mode to Itself

Our modes can modulate to themselves or borrow from themselves in their different transpositions. Example 137 of Chapter XI (*Les Offrandes oubliées*), in which mode 2 borrows from itself in almost every chord, bears witness to this. Another example :

**example 363**

First measure : dominant seventh of F-sharp major, mode 2 in its second transposition :

**example 364**

Second measure : perfect chord of F-sharp major, mode 2 in its first transposition :

**example 365**

The e-sharp" in the second measure does not belong to the mode. Very intense tonal impression of F-sharp major, and modulation of the mode to itself without the tonality's giving way. The pedal, played in droplet-like staccato, sounds an octave above the notation; the true bass is thus in the left hand.

Last example, using exactly the same effect, but in a more striking fashion :

**example 366**

At A — upper staff : mode 2, second transposition; lower staff : third inversion of the dominant seventh chord of F-sharp major. At B — upper staff : mode 2, first transposition; lower staff : first inversion of the perfect chord of F-sharp major.

## 3) Modulation of a Mode to Another Mode

Modulation of the third mode to the second mode :

**example 367**

At A, third mode, fourth transposition; at B, second mode, first transposition; at C, major tonality; at D, third mode. General impression of G major by the frequent return of the tonic G and by the dominant seventh at the letter C.

Modulation of the second mode to the third mode :

**example 368**

From A to C, second mode, first transposition; at B, cadence formula of this mode (see Chapter XVI, example 321); at C, third mode, first transposition; at D, second mode, second transposition.

Alternation of the third mode and the second mode, in progression :

**example 369**

At A, third mode; at B, second mode; at C, third mode; at D, second mode.  
At E, second mode transposed; at F, another transposition of the second mode.  
Modulation from mode 2 to modes 6 and 4 :

**example 370**

Melodic contours somewhat like Mozart. The harmonies of the lower staff are simple and tonal; the modes mingled there suffice to communicate to them infinite tenderness and divine love. The numerals indicate the modes. We thus pass successively through : mode 2 (third transposition), mode 2 (second transposition), mode 6, mode 2, mode 6, mode 2 (second transposition), mode 2 (first transposition), mode 4, mode 2 (second, then third, then second transpositions). It is evident that we are in G major.

## CHAPTER XVIII

# Relation of These Modes to Modal, Atonal, Polytonal, and Quarter-Tone Music

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Our modes can be mixed with major tonality; we have just seen it. Also, they can oppose it — it seems to me useless to give examples of it. I have already said that they have nothing in common with the three great modal systems of India, China, and ancient Greece, no more than with modes of plainchant — and it is these different modes that I call “modal music.” Ours can be opposed to or mixed with all. In paragraph 8 of Chapter XII, example 182 (“*le Verbe*”) mixes the second mode of limited transpositions (the song) with tonal harmonies and the seventh mode of plainchant or the mode on G.

Example 310 of Chapter XV (“*le Mystère de la Sainte Trinité*”) shows us how one can mix our modes with atonal music; the principal melody, which is given to the intermediate voice, is written in the second mode of limited transpositions (third transposition for the first measure, first transposition afterwards); the upbeat and the terminations of the upper voice and the rhythmic pedal of the bass are written in atonal style; general sensation of the key of D.

Our modes offer the listener the atmosphere of several tonalities at once, *without polytonality* — that has been said in Chapter XVI. The chords, the combinations of notes which they call for, can be made equivocal with polytonal sonorities; the modal force always absorbs them. By polymodality (see Chapter XIX), we superpose our modes, and there again, we are present at the hatching of polytonal aggregations, completely drowned in the chosen polymodality.

For quarter-tone music, I pause to repeat (see Chapter XVI, article 1) that the tempered quarter-tone system, extolled by Haba and Wischnegradsky, offers us a series of modes of limited transpositions which continues ours; let us cite, among these modes, the scale of eight sounds in three-quarters of a tone, of which each degree forms with its neighbor an interval of three-quarters of a tone or a neuter second (smaller by a quarter of a tone than the major second). This system, comprising twenty-four sounds, twenty-four intervals, twenty-four transpositions, entirely new melodies and chords, necessitates a special notation and special instruments; I cannot then extend myself more at length on a question which alone would fill several treatises.

## Polymodality

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In all this chapter, it will be only a question of modes of limited transpositions. We shall see the superposition of these modes, or polymodality; then the connection of one polymodality to another, or *polymodal modulation*.

In each example the modes will be used melodically and harmonically; then, when I say "upper staff, such and such a mode," *all* the notes of the upper staff belong to the mode, and "lower staff, such and such a mode," *all* the notes of the lower staff belong to the mode.

### 1) Two Superposed Modes

We have already pointed out, in the course of the preceding chapters, several superpositions of our modes. See in Chapter VI, article 4, example 49 (" *Action de grâces* ") which superposes mode 3 (second transposition) upon mode 2 (first transposition) — except for the last measure which is in mode 6 and creates thus a modulation from polymodality to modality. This fragment is a model of rhythmic canon.

See in Chapter XV, article 1, example 302, (" *Les sons impalpables du rêve* ") which superposes mode 3 (third transposition) upon mode 2 (first transposition). The music of the upper staff of this fragment is a model of pedal group.

Another example. Upper staff : repetitions of a fragment of five chords in mode 3 (third transposition); lower staff : repetitions of a fragment of four chords in mode 2 (first transposition). These two pedal groups of unequal length are repeated, one above the other, until they meet again at the point of departure :

**example 371**

The following example proceeds from the same principle. With this difference : the pedal groups there undergo rhythmic variants. Upper staff : repetitions of a fragment of seven chords in mode 3 (third transposition); lower staff : repetitions of a fragment of five chords in mode 2 (first transposition) — this second fragment is abbreviated at each repetition; its total duration is of ten, then nine, then seven, then five eighth-notes.

**example 372**

Again mode 3, first transposition (upper staff), upon mode 2, second transposition (lower staff). The second measure transposes the polymodality a tone lower :

**example 373**

Superposition of mode 2, second transposition (upper staff of the piano), upon mode 7, first transposition (song and lower staff of the piano) :

**example 374**

Superposition of mode 4, third transposition (upper staff), upon mode 6, first transposition (lower staff) :

**example 375**

See again in Chapter XIV, article 4, example 217 (“ *Cloches d’angoisse et larmes d’adieu* ”) which superposes mode 6, first transposition (cluster of chords B), upon mode 2, second transposition (cluster of chords C).

## 2) Three Modes Superposed

See in Chapter VI, article 3, example 43 (“ *l’Ange aux parfums* ”) which superposes three rhythmic pedals, the second being the retrograde of the first, the third being nonretrogradable. This example unites polyrhythm and polymodality. In fact it uses : upper staff : mode 2, first transposition; middle staff : mode 3, third transposition; lower staff : the whole-tone scale. (This last is transformed by the polymodal sonority, and that excuses its use, forbidden in our language — see Chapter XVI.)

## 3) Polymodal Modulation

This is the passage from one polymodality to another.

First case. Modulation by a change of transposition of the superposed modes : **example 376**

At A, mode 3, first transposition (voice and upper staff of the piano), upon mode 2, second transposition (lower staff of the piano). Here are the two modes : **example 377**

At B, mode 3, third transposition (voice and upper staff of the piano), upon mode 2, third transposition (lower staff of the piano). Here are the two modes : **example 378**

Let us notice, in the last measure of example 376, at the cross, the lengthening of the rhythmic descent by the addition of the dot, and in its first three measures the use of the often quoted rhythmic succession :

**example 379**

Second case. Modulation by inversion of the superposed modes.

**example 380**

We have already seen this fragment in Chapter III, example 14, apropos of the preparation of the rhythmic accent elongated by the added value. It superposes : at A, mode 3, first transposition (upper staff of the piano), upon mode 2,

second transposition (lower staff); at B, mode 2, second transposition (upper staff of the piano), upon mode 3, first transposition (lower staff). This second polymodality is exactly the inverse of the preceding. In the last measure of the example, a new inversion; we find again the first polymodality.

Third case. Modulation to a different polymodality, using at least one new mode :

**example 381**

In order to read this example well, let us remember that the part of the pedal sounds an octave higher than the notation, that the true bass is the counterpoint in sixteenth-notes of the left hand, and finally that this true bass has a very particular timbre due to the harmonics (fifth and third) which the mixtures give it. As for the chords of the right hand, the sixteen-foot doubles them at the lower octave. At A, mode 3 in the hands (first transposition) over mode 2 in the pedal (first transposition). At B, the same polymodality lowered a semitone; mode 3 in the hands (fourth transposition) over mode 2 in the pedal (third transposition); the sixteenth-notes cause to be heard some notes foreign to mode 3; in all this fragment B, not a single E natural, the union of our two modes using all the notes of the chromatic scale except one, the E. The arrival of this note will augment the effect of the following modulation. At C, new polymodality : mode 2 in the hands (second transposition) over the whole-tone scale in the pedal; the sixteenth-notes repeat the expected E.

Another example of modulation to a different polymodality :

**example 382**

At A, mode 3, first transposition (chords in sixteenth-notes), upon mode 2, second transposition (voice and chords in eighth-notes); at B, the same thing lowered a tone. At C, new polymodality : mode 2, second transposition (sixteenth-notes), over mode 7, first transposition (eighth-notes). At D, the same mode 2 (sixteenth-notes) over mode 3, second transposition (eighth-notes); at E, chord of the tritone.



# OLIVIER MESSIAEN

(born 10 December 1908, in Avignon, Vaucluse)

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## Catalogue of Works

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After each work, I have indicated the place and the year of its composition, the name of its publisher. The works which are characteristic of my musical language are marked with an asterisk, the works very characteristic with two asterisks.

Several numbers of this catalogue treat secular subjects; some are in the domain of pure music; most of them are attached to the meditation of the Truths of our Catholic faith, borrowing from the inexhaustible sources of the Bible, the Missal, the Fathers of the Church, *The Imitation of Christ*. The two cycles for voice and piano entitled *Poèmes pour Mi* and *Chants de Terre et de Ciel* have unfortunately been quoted very little in the present work. Since they are particularly “ true ” in sentiment and typical of my manner, I advise the reader who desires to understand my music better to begin by reading them.

### PIANO

**La dame de Shalott** (Grenoble, 1917).

**La tristesse d'un grand ciel blanc** (Paris, 1925).

★ **Préludes** (Fuligny, Aube, 1929. Durand, publisher).

La colombe — Chant d'extase dans un paysage triste — Le nombre léger — Instants défunts — Les sons impalpables du rêve — Cloches d'angoisse et larmes d'adieu — Plainte calme — Un reflet dans le vent.

★ **Les Offrandes oubliées** (Fuligny, Aube, 1930. Durand, publisher).  
(Piano reduction by the composer.)

La Croix — le péché — l'Eucharistie.

**Fantaisie burlesque** (Paris, 1932. Durand, publisher).

**Pièce pour le Tombeau de Paul Dukas** (Grenoble, 1935. *Revue musicale* of May-June 1936).

**Rondeau** (Paris, 1943. Leduc, publisher).

★★ **Visions de l'Amen** (Paris, 1943).  
(For two pianos.)

Amen de la Création — Amen des étoiles, de la planète à l'anneau — Amen de l'agonie de Jésus — Amen du Désir — Amen des anges, des saints, du chant des oiseaux — Amen du Jugement — Amen de la Consommation.

## INSTRUMENTAL MUSIC

- ★ **Thème et variations** (Paris, 1932. Leduc, publisher).  
(For violin and piano.)
- Fantaisie** (Paris, 1933).  
(For violin and piano.)
- ★★ **Quatuor pour la fin du Temps** (Görlitz, Silésie, 1941. Durand, publisher).  
(For violin, B-flat clarinet, violoncello and piano — written while a prisoner.)
- Liturgie de cristal — Vocalise, pour l'Ange qui annonce la fin du Temps — Abîme des oiseaux — Intermède — Louange à l'Éternité de Jésus — Danse de la fureur, pour les sept trompettes — Fouillis d'arcs-en-ciel, pour l'Ange qui annonce la fin du Temps — Louange à l'Immortalité de Jésus.

## VOCAL MUSIC

- Deux Ballades de Villon** (Paris, 1921).  
(For voice and piano.)
- Épître à ses amis — Ballade des pendus.
- Trois Mélodies** (Paris, 1930. Durand, publisher).  
(For soprano and piano.)
- Pourquoi? — Le sourire — La fiancée perdue.
- La mort du Nombre** (Paris, 1930. Durand, publisher).  
(For soprano, tenor, violin and piano — poem and music by Olivier Messiaen.)
- Messe** (Neussargues, Cantal, 1933).  
(For 8 sopranos and 4 violins.)
- Kyrie — Gloria — Credo — Sanctus — Agnus.
- ★ **Vocalise** (Paris, 1935. Leduc, publisher; Hettich collection)  
(For soprano and piano.)
- ★★ **Poèmes pour Mi** (Petichet, Isère, 1936. Durand, publisher).  
(For soprano and piano — poems and music by Olivier Messiaen.)
- Premier Livre : Action de grâces — Paysage — La maison — Épouvante.  
Deuxième Livre : L'Épouse — Ta voix — Les deux guerriers — Le collier — Prière exaucée.
- O sacrum convivium!** (Paris, 1937. Durand, publisher).  
(For mixed chorus in four parts, a cappella — or for soprano and organ.)
- ★★ **Chants de Terre et de Ciel** (Petichet, Isère, 1938. Durand, publisher).  
(For soprano and piano — poems and music by Olivier Messiaen.)
- Bail avec Mi (pour ma femme) — Antienne du silence (pour le jour des Anges gardiens) — Danse du bébé-Pilule (pour mon petit Pascal) — Arc-en-ciel d'innocence (pour mon petit Pascal) — Minuit pile et face (pour la Mort) — Résurrection (pour le jour de Pâques).
- Chœurs pour une Jeanne d'Arc** (Neussargues, Cantal, 1941).  
(For a large and small chorus, mixed, a cappella.)
- Te Deum — Impropères.

## ONDE MARTENOT

- ★ **Fête des belles eaux** (Paris, 1937).  
(Six Ondes Martenot — written for the “ festivities of water and light, ” at the Exposition of 1937).
- ★ **Deux Monodies en quarts de ton** (Paris, 1938).  
(For one Onde Martenot alone.)
- Musique de scène pour un Œdipe** (Paris, 1942).  
(For one Onde Martenot alone.)

## ORGAN

- Esquisse modale** (Paris, 1927).
- Variations écossaises** (Paris, 1928).
- ★ **Le Banquet céleste** (Fuligny, Aube, 1928. Leduc, publisher).  
**L'hôte aimable des âmes** (Fuligny, Aube, 1928).  
**Diptyque** (Paris, 1930. Durand, publisher).  
(Essay on terrestrial life and blessed eternity.)
- ★ **Apparition de l'Église éternelle** (Paris, 1932. Lemoine, publisher).  
**L'Ascension** (Neussargues, Cantal, 1933. Leduc, publisher).  
(Version for organ.)  
Majesté du Christ demandant sa gloire à son Père — Alléluias sereins d'une âme qui désire le ciel — Transports de joie d'une âme devant la gloire du Christ qui est la sienne — Prières du Christ montant vers son Père.
- ★★ **La Nativité du Seigneur** (Grenoble, 1935. Leduc, publisher).  
(Nine meditations for organ.)  
Premier Livre : La Vierge et l'Enfant — Les bergers — Desseins éternels.  
Deuxième Livre : Le Verbe — Les enfants de Dieu.  
Troisième Livre : Les Anges — Jésus accepte la souffrance — Les Mages.  
Quatrième Livre : Dieu parmi nous.
- ★★ **Les corps glorieux** (Peitchet, Isère, 1939. Leduc, publisher).  
(Seven short visions of the life of the Resurrected).  
Premier Livre : Subtilité des corps glorieux — Les eaux de la grâce — L'Ange aux parfums.  
Deuxième Livre : Combat de la Mort et de la Vie.  
Troisième Livre : Force et agilité des corps glorieux — Joie et clarté des corps glorieux — Le Mystère de la Sainte Trinité.

## ORCHESTRA

- Fugue en ré mineur** (Paris, 1928).
- Le Banquet Eucharistique** (Fuligny, Aube, 1928).
- Simple chant d'une âme** (Paris, 1930).

★ **Les Offrandes oubliées** (Fuligny, Aube, 1930. Durand, publisher).  
(Symphonic meditation.)

La Croix — le péché — l'Eucharistie.

**Le tombeau resplendissant** (Fuligny, Aube, 1931).

(Manuscript, on hire, is at the House of Durand, publisher.)

★ **Hymne au Saint Sacrement** (Paris, 1932).

(Manuscript, on hire, is at the House of Durand, publisher.)

**L'Ascension** (Monaco, 1934).

(Orchestral version — manuscript, on hire, is at the House of Leduc, publisher.)

Majesté du Christ demandant sa gloire à son Père — Alléluias sereins d'une âme qui désire le ciel — Alléluia sur la trompette, alléluia sur la cymbale! — Prière du Christ montant vers son Père.

★★ **Poèmes pour Mi** (Paris, 1937. Durand, publisher).

(Orchestral version — for dramatic soprano and orchestra.)

Premier Livre : Action de grâces — Paysage — La maison — Épouvante.

Deuxième Livre : L'Épouse — Ta voix — Les deux guerriers — Le collier — Prière exaucée.

## PEDAGOGICAL WORKS

**Vingt leçons de solfège modernes** (Neussargues, Cantal, 1933. Lemoine, publisher).

(Only five of these lessons are by Olivier Messiaen).

**Vingt leçons d'harmonie** (Paris, 1939. Leduc, publisher).

(In the styles of several composers important to the history of harmony, from Monteverdi to Ravel).

★★ **Technique de mon langage musical** (Neussargues, Cantal, 1942. Leduc, publisher).

(With the present publication, available in English as *The Technique of My Musical Language*).

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# OUVRAGES THÉORIQUES — TRAITÉS

**BOZZA.** TABLEAU INSTRUMENTAL indiquant l'étendue, la notation écrite et les sons réels de tous les instruments principaux des orchestres symphoniques et militaires, complété par un tableau annexe concernant les instruments divers, les claviers et les instruments à percussion. Grand dépliant mural facile à afficher.

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Les programmes de solfège du Conservatoire ayant été récemment modifiés, le besoin se faisait sentir d'un ouvrage qui répondît aux nouvelles directives.

La division de cet ouvrage correspond à celle fixée pour chacun des trois degrés de l'enseignement du solfège tel qu'il est défini au Conservatoire depuis 1941. Conforme aux directives de cet enseignement, il reporte délibérément à l'arrière-plan toute donnée mathématique ou théorique abstraite pour s'attacher avant tout à la formation de l'oreille musicale.

**CHAILLEY.** TRAITÉ HISTORIQUE D'ANALYSE MUSICALE.

Cet traité s'adresse à tous les musiciens qui veulent avoir une parfaite compréhension des œuvres qu'ils interprètent ou qu'ils écoutent. L'auteur étudie les gammes, modes (antiques, liturgiques, etc...) pour aboutir, après les polyphonistes de la Renaissance, de l'époque classique et de l'époque contemporaine, aux écoles ultra-modernes de la polytonalité, de l'atonalité et de l'écriture dodécaphonique.

— LES NOTATIONS MUSICALES NOUVELLES.

Notre graphisme musical actuel présente encore de nombreux inconvénients. Bien des systèmes ont été imaginés pour simplifier l'écriture. J. Chailley, avec de pertinentes remarques, présente, en une suite d'intéressants tableaux, les diverses solutions proposées pour y remédier.

**DUPRÉ (M.).** COURS D'HARMONIE ANALYTIQUE, 2 volumes :

1<sup>re</sup> Année. — 2<sup>e</sup> Année.

Extrêmement bien fait, l'ouvrage de Marcel Dupré possède une valeur pédagogique de tout premier ordre : 1<sup>o</sup> parce qu'il est très clair et très précis ; 2<sup>o</sup> parce que la progression des études est très judicieusement établie. Cet ouvrage est un guide indispensable de premier plan pour le professeur, car son enseignement est tout tracé sur la voie la plus directe, la plus aisée, la plus sûre.

— COURS DE CONTREPOINT.

Si la doctrine d'écriture rigoureuse exposée entièrement dans ce livre est scrupuleusement respectée, l'élève sera certain d'acquérir la souplesse et la sûreté indispensables à tout compositeur honnête et sérieux.

— COURS COMPLET DE FUGUE, 2 volumes :

1<sup>er</sup> Volume : Cours de Fugue.

2<sup>e</sup> Volume : Corrigés du cours de Fugue.

Ce Cours de Fugue complète le cycle commencé par les Cours d'Harmonie analytique et de Contrepoint. Chacune de ses 12 leçons explique d'une façon claire et concise ce qu'il faut savoir et est suivie d'exercices détaillés appliqués à chacune des parties d'une fugue, sur des sujets ou fragments de sujets appropriés. Le corrigé, publié séparément, est destiné au professeur. L'élève aura tout avantage à ne pas s'en servir et à trouver par lui-même les solutions demandées.

— COURS COMPLET D'IMPROVISATION A L'ORGUE, 2 volumes :

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2<sup>e</sup> Volume : Traité d'improvisation à l'orgue.

— MANUEL D'ACCOMPAGNEMENT DU PLAIN CHANT GREGORIEN.

**DURAND (E.).** THÉORIE MUSICALE.

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Cet traité d'harmonie est le plus clair et le plus complet qui ait été publié jusqu'à ce jour.

Aucun accord nouveau, aucune formule nouvelle n'ont échappé à l'auteur. Une table alphabétique permettant de trouver immédiatement les mots, termes, expressions, etc..., aux pages où ils sont expliqués ou employés, a été placée à la fin du traité.

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Ces deux livres, si riches d'aperçus musicaux, n'ont pu être écrits que par un très grand musicien ayant une claire vision de l'évolution naturelle de son art.

— VINGT LEÇONS D'HARMONIE, dans le style de quelques auteurs importants de l'« Histoire Harmonique » de la musique depuis Monteverdi jusqu'à Ravel.

**RIMSKY-KORSAKOFF (N.).** TRAITÉ D'HARMONIE.

Cet ouvrage s'attache tout particulièrement à exposer avec clarté les procédés de réalisation d'un chant et ceux de la modulation. Ne nécessitant qu'une seule année d'étude, il amène rapidement à pouvoir poursuivre les études sans l'aide continue du professeur.

**BERTRAND (P.).** PRÉCIS D'HISTOIRE DE LA MUSIQUE.

Les *Époques*, exposant les transformations de l'Art musical en fonction de ses éléments constitutifs.

Les *Écoles*, montrant comment la musique s'est diversifiée selon les tendances différentes des races.

Les *Formes*, étudiant comment, d'après les Époques et les Écoles, la musique s'est concrétisée dans un certain nombre de grandes formes caractéristiques.

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