

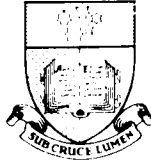
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THE THEORIES OF OLIVIER MESSIAEN:  
THEIR ORIGINS AND THEIR APPLICATION  
IN HIS PIANO MUSIC

by

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V O L U M E T W O



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*PART FOUR*

*STYLISTIC APPLICATIONS.*



## INTRODUCTION

The final part of this dissertation, comprising an analysis of Messiaen's piano works, has three main purposes. The first is to trace the evolution of Messiaen's musical language through his piano works, the second is to illustrate how the influences and theories outlined in sections two and three are applied in the piano music and the third is to draw thereby the unifying principle which underlies Messiaen's creative process.

The analysis treats the works chronologically within the following categories: Formal, Rhythmic, Melodic, Harmonic and Timbral Structures. It follows in detail the separate evolution of each of these elements in the piano works, concentrating on works which are exemplary.

For the present study the piano works have been divided into six classes as follows:

1. Préludes (1929).
2. Fantaisie Burlesque (1932), Pièce pour le Tombeau de Paul Dukas (1936), Rondeau (1943).
3. Visions de l'Amen' (1943).
4. Vingt Regards sur l'Enfant-Jésus (1944).
5. Cantéyodjayâ (1948), Quatre Etudes de rythme (1949-1950).
6. Catalogue d'Oiseaux (1956-1958), La Fauvette des Jardins (1970).

This division is chronological, but more importantly, it groups the works according to the changes of style which occur in the evolution

of Messiaen's language.<sup>(1)</sup>

The Préludes are a student work, written while still in Dukas' class at the Conservatoire.<sup>(2)</sup> The second group of works are all uncharacteristic, written over a period of ten years. The Fantaisie Burlesque is a light "genre" piece, the Pièce pour le Tombeau de Paul Dukas was written as a short homage for a collection of pieces published in a special edition of the Revue Musicale the year after Dukas' death,<sup>(3)</sup> and the Rondeau was written to be used as a set work for the Conservatoire piano examinations. The Visions de l'Amen is the first long cyclic work, and is the only one written for two pianos. The techniques of the period up to and including the Visions de l'Amen have been systematized in the Technique de mon Langage Musical.

The Vingt Regards sur l'Enfant-Jésus is the second long cycle, and is the point of departure for many of the formal, rhythmic and harmonic innovations which find their culmination in the Catalogue d'Oiseaux and La Fauvette des Jardins. Cantéyodjayâ and the Quatre Etudes de Rythme are the first works in the piano repertoire to explore complete serialism, and in them Messiaen develops his rhythmic technique as well as exploring more complex formal and harmonic structures. The Catalogue d'Oiseaux and La Fauvette des Jardins are

1. Les Offrandes Oubliées, written in 1930, (See Part I, Chap.I, p.13), also exists in a piano reduction by the author. However, as it is not generally considered among the piano works of Messiaen, a brief formal analysis only of this work is given, following the analyses of the Préludes.
2. See Part I, Chap.I, p.12.
3. See Part I, Chap.II, pp.18-19.

works of synthesis, incorporating all of the techniques of the previous works, as well as including further harmonic researches in order to render the different timbres of the birdsongs represented in them.

In order that the analyses might be as concise as possible and thus more readily comprehensible to the reader, it has been decided to keep all verbal explanations to a minimum and to use a system of symbols and diagrams which are as self-explanatory as possible. The symbols used are explained as follows.

Page numbers are designated p.1, pp.1-8; bar numbers are shown in brackets; (1), (2), and, if consecutive, are enclosed in the same bracket; - (1-10). For the sake of consistency, all the bars within a work have been counted, including incomplete bars at the beginning of those works with time-signatures.

The letters, R.H., refer to the upper stave which is generally played by the right hand, and the letters, L.H., to the left hand or lower stave.

In the formal analyses the large sections of a work which include smaller sections are designated by a capital letter in square brackets; [A], and the sub-sections either by capital letters; A, B, C, D, or, as is the case in the Catalogue d'Oiseaux and La Fauvette des Jardins, by numbers; 1, 2, 3, 4. Lower case letters are used for the smallest, complete sections or elements within a work, including also the periods within a sentence; a, b, c, d, e. When these are used to represent the different elements from which a work is constructed, for example, the different birdsongs in the Catalogue d'Oiseaux, variations within the same elements, when structurally important, are shown thus;

a', b', for the first variation, a'', b'', for the second, and so on. Augmentation of an element, if it is important that it be pointed out, is shown;  $a^+$ ,  $b^+$ , and diminution,  $a^-$ ,  $b^-$ . Occasionally, in the Catalogue d'Oiseaux and La Fauvette des Jardins, a particular element will be greatly augmented and also hold a structurally important place; if this is so, it is designated by a capital letter.

If two elements are structurally linked, or closely associated, they are shown thus; a b. and if they are superposed; (a b). Repetition of an element, when structurally important, and partitioning, that is, the immediate repetition of an element which has been separated by a new element, is shown thus;  $\overline{a b a}$ . Partitioning may also be applied to two elements which have generally been associated, and have been separated by a new element; a b a b  $\overline{a x b}$ . This sign is also used to indicate the replacement of one element by another; a b  $\overline{a c b}$   $\overline{a c x}$ . The sign, /, designates the end of a phrase, or a structural division, and the end of a section is shown thus, //, a b a b a b c / d e d e d e f / c f // .

For the rhythmic analyses the rhythmic unit is generally considered to be the semiquaver, unless otherwise stated. Thus rhythms are notated numerically as follows; 1, 2, 3, which indicates a series of three notes of one, two and three semiquavers duration. The direction of motion of a particular rhythm is indicated by an arrow;  $\longrightarrow$  indicates normal direction, and  $\longleftarrow$ , retrograde motion. The letters N.R. designate a non-retrogradable rhythm.

Melodic intervals are shown numerically, and are combined with the following symbols:

maj = major;  
 min = minor;  
 aug = augmented;  
 dim = diminished.

Therefore, maj 3, min 6, aug 4, and dim 5, represent the intervals major third, minor sixth, augmented fourth and diminished fifth. For the transposition of melodic lines, or of the sections of a work, the following signs have been used; ↑, ↓. Thus ↑ maj 3, shows that a melody or section has been transposed up a major third.

Melodic formal structures are analysed using as a basis the definitions outlined in the Technique de mon Langage Musical.<sup>(4)</sup> A musical sentence is defined as a succession of periods, and the theme as the synthesis of the elements contained in the sentence. The theme generally comprises the first period within the sentence, and the periods which follow either develop, vary or repeat the elements of the theme. A commentary is a period which is a melodic development of the theme.

The three sentence types which Messiaen has analysed in detail are the following:

Song Sentence: a, Theme (antecedent and consequent);  
 b, Middle period (inflected toward the dominant);  
 c, Final period (an issue of the theme).

Binary Sentence: a, Theme;  
 b, First commentary (inflected toward the dominant);  
 c, Theme;  
 d, Second commentary (concluding upon the tonic).

Ternary Sentence: a1, Theme;

---

4. Vol.I, Chap.XI, pp.37-39.

- a2, Consequent of the theme;
- b1, Commentary;
- b2, Consequent of the commentary;
- c1, Theme;
- c2, Consequent of the theme.

In this analysis, the melodic sentence structures have been analysed within the chapter dealing with formal structures, for it has been necessary, particularly in the early works, to give these in order to indicate clearly the structural detail of the forms used.

The third part of this dissertation provides most of the background information necessary for an understanding of the analyses comprising this section. As well as examining the main sources of Messiaen's musical language, it details certain important explanations which Messiaen has given concerning his own compositional techniques, and it also collates a large number of observations and commentaries given by writers on Messiaen. It therefore has a double function in relation to the study of the stylistic applications in Messiaen's piano music; the first is to examine the sources of Messiaen's language, and the second is to act as a theoretical introduction to the analysis of the piano works. The theoretical details which have not been explained in part three will be discussed in the appropriate chapters in this section.

Musical examples illustrating the main points of the analyses have been provided at the end of each chapter. As well, detailed references have

been given to the page and bar numbers of each particular work so that, if desired, the analyses may be followed in close conjunction with the scores. With reference to the formal analyses of the Catalogue d'Oiseaux and La Fauvette des Jardins, the constituent elements, including the bird calls, have been labelled by Messiaen in the scores and are thus readily located. Each of the analyses is preceded by a table designating the letters assigned to the various elements, given in the order of their appearance in each piece.

## CHAPTER ONE

FORMAL STRUCTURES1. Préludesi. La Colombe

Binary Sentence: *Ex. 1*

a, (1- 6);

b, (7-11), inflected toward the dominant;

c, (12-16);

d, (17-24), concluding on the tonic, and including a short coda, (22-24).

ii. Chant d'extase dans un paysage triste

[A1] [B] [A2]

[A1] Theme 1, Ternary Sentence: *Ex. 2*

a1, (1-4); a2, (5-8);

b1, (9-13); b2, (13-16);

c1, (17-20); c2, (21-24).

[B] Theme 2, Ternary Sentence: *Ex. 3*

a1, (25-28); a2, (29-32);

b1, (33-36); b2, (37-40);

c1, (41-44); c2, (45-48).

[A2] Theme 1, Ternary Sentence:

a1, (49-52); a2, (53-56);



b1, (57-61); b2, (61-64);

c1, (65-68); c2, (69-74), including coda, (73-74).

iii. Le nombre léger

[A1] [B1] [A2] [B2] [A3]

[A1] Three part sentence: *Ex. 4*

a, (1-4);

b, (5-8);

c, (9-12).

[B1] Divertissement: (13-17).

[A2] Theme transposed to dominant, with middle period of sentence omitted:

a, (18-21);

c, (22-25).

[B2] Divertissement, extended, also in dominant, modulating to tonic: (26-34).

[A3] Three part sentence, in tonic, with theme in canon:

a, (35-38);

b, (39-42);

c, (43-52), extended to form coda at (46-52).

iv. Instant défunts

[A] [B] [C]

[A] A. Theme 1: <sup>Ex. 5</sup>

antecedent, (1-4);

consequent, (5-8).

B. Theme 2: <sup>Ex. 6</sup>

antecedent, (9-12);

consequent, (13-18).

[B] A. Consequent of Theme 1: (19-22).

B. Theme 2, extended and varied:

antecedent, (23-26), concluding with motif from

L.H. of Theme 1, (27-29);

consequent, (30-35).

[C] A. Recall of first motif from Theme 1, which is gradually  
eliminated: (36-38).

B. Coda, derived from (11-12) of Theme 2: (39-46).

v. Les sons impalpables du rêve...

[A1] [B] [A2] Coda.

[A1] Theme 1, Ternary Sentence: <sup>Ex. 7</sup>

a1, (2-4); a2, (5-6);

b1, (7); b2, (8-9).

Divertissement, in dominant, modulating to tonic: (10-16);

c1, (17-19); c2, (20-21).

[B] Theme 2, Three part sentence: <sup>Ex. 8</sup>

a, (22-26);

b, (26-28);

c, (29-32).

Divertissement, extended: (33-43).

[A2] Theme 1, Ternary Sentence:

a1, (44-46); a2 (47-48);

b1, (49); b2, (50-51).

Divertissement, (52-58);

c1, (59-61); c2, (62-64).

Coda, derived from Commentary of Theme 1: (65-68).

vi. Cloches d'angoisse et larmes d'adieu

[A] [B] Coda

[A] A1. Theme 1: antecedent, (1-5); <sup>Ex. 9</sup>  
consequent, (6-13).

B. Theme 2: (14-20). <sup>Ex. 10</sup>

A2. Theme 1:

antecedent, (21-25);

modulatory fragment, (26);

consequent, extended, (27-38).

[B] Ternary Sentence, motivically related to Theme 2:

a1, (39-43); a2, (44-48);

b1, (49-52); b2, (53-54);

c1, (55-60); c2, last phrase elided, (61-63).

Coda, based on rising aug 4 motif from above sentence,  
integrated with motif from Theme 1: (63-74).

vii. Plainte calme

Ternary Sentence: *Ex.11*

a1, (1-7), transition fragment, (7-9);

a2, (9-15);

b1, (16-20); b2, (21-25);

c1, omitted; c2, (25-33).

viii. Un reflet dans le vent...

[A] [B] Coda

[A] Exposition.

Theme 1, Binary Sentence: *Ex.12*

a, (1-8);

b, (9-14), concluding on dominant;

c, (15-23);

d, (24-32).

Theme 2, Ternary Sentence, in dominant of main key: *Ex.13*

a1, (33-38); a2, (39-44);

b1, (45-51); b2, (52-60);

c1, (61-66); c2, (67-74).

[B] Development.

Recall of rising motif from Theme 1: (75-90);

Motif developed thematically:

- a, (91-96);
- b, (97-108).

Recapitulation.

Transition fragment: (109-115);

Theme 1, Binary Sentence:

- a, (116-124);
- b, (125-130);
- c, (131-139);
- d, (140-148).

Theme 2, Ternary Sentence, in tonic:

- a1, (149-154); a2, (155-160);
- b1, (161-167); b2, (168-176);
- c1, (177-182); c2, (183-190).

Coda, derived from rising motif from Theme 1: (191-202).

When speaking of the Préludes, Messiaen said:

Il y a...quelques exercices de forme; ainsi, on trouve dans ces Préludes ce qu'on n'a jamais trouvé chez Debussy: une "forme sonate", une "forme à milieu" où toutes les phrases sont "Ternaires", et un prélude construit comme ceux des fugues de Bach.<sup>1</sup>

In this quotation, Messiaen distinguishes between his use of form in the Préludes and Debussy's in his set of preludes, and shows his

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<sup>1</sup> Samuel, C., Entretiens avec Olivier Messiaen, (Paris, 1967), 125.

predilection for clearly defined, even classical, forms. The three "exercices de forme" which he refers to are the following: the "forme sonate" is the eighth prelude, Un reflet dans le vent...; the "forme à milieu", is the second, Chant d'extase dans un paysage triste; and the prelude constructed like those of the fugues of Bach, is the seventh, Plainte calme.

The other preludes are either binary or ternary in structure, with the third constructed as a rondo. Thus Messiaen's tendency to compose with clearly delineated sections is already marked in these early works; a tendency which remains constant throughout his development. In the Préludes, the micro-structures of these sections generally fall into the categories outlined in the introduction to this part of the dissertation.

Another of Messiaen's characteristics is also evident in this work. This is his preference for different, often contrasting, material in the different sections of a piece. Of the eight preludes, only three are through-composed, namely, the first, fourth and seventh. The others, especially the second, fifth and sixth, use different thematic material in each new section. They also contain direct repetitions of whole sections, with variation and decoration taking the place of transformation and development, a characteristic which is clearly evident in all the piano works up to and including the Vingt Regards sur l'Enfant-Jésus.

Les Offrandes oubliées

[A] [B] [C]

[A] La CroixTheme: (1-5); *Ex. 14*

Consequent of theme: (6-9).

Transition to [B]: (10-13), derived from bar (7).

[B] Le Péché

Introduction: (14-17).

A. a, (18-29); *Ex. 15*

b, (30-36);

c, (37-48).

B. a, (49-65); *Ex. 16*

b, (66-75);

c, (76-92).

Coda: (93-106).

Transition to [C]: (107-110), same motif as Transition in

Section [A]

[C] L'EucharistieTernary Sentence: *Ex. 17*

a1, (111-113), theme based on transition motif; a2, (114-117);

b1, (118-121); b2, (122-126);

c1, (127-129); c2, (130-132);

Coda: (133-137).

2. i. Fantaisie Burlesque

[A1] [B] [A2] Coda

[A1] Ternary Sentence: *Ex. 18*

a1, (1-10); a2, (11-22);  
 b1, (23-33); b2, (34-42);  
 Codetta, (43-52);  
 c1, (53-62); c2, (63-74).

[B] A1. Ternary Sentence: *Ex. 19*

a1, (75-78); a2, (79-81);  
 b1, (82-84); b2, (85-88);  
 c1, (89-92); c2, elided, (93).

B. Binary Structure: *Ex. 20*

a, (94-96);  
 b, (97-100);  
 c, (101-103);  
 d, (104-106).

A2. Ternary Sentence:

a1 and a2 omitted:  
 b1, (107-109); b2, (110-113);  
 c1, (114-117); c2, (118-120).

[A2] Theme 1, Ternary Sentence:

a1, (121-130); a2, (131-142);  
 b1, (143-153); b2, (154-172);



c1, (173-182); c2, (183-194).

Coda, based on material from commentary: (195-213).

ii. Pièce pour le Tombeau de Paul Dukas *Ex. 21*

For this piece Messiaen has used a plainchant form, namely, the sequence. He defines this as a canticle of a popular character in which each period is repeated, either consecutively or alternatively, and all end on the same note.<sup>(2)</sup>

a1, (1-2);  
 b1, (3-4);  
 b2, †maj.2; (5-6);  
 a2, (7);  
 c1, (8-9);  
 c2, (10-13).

iii. Rondeau

[A1] [B1] [A2] [B2] [A3]

[A1] Theme 1: antecedent, (1- 7); consequent, (7-13). *Ex. 22*

Repeat of Theme 1:

antecedent, (13-19)  
 consequent, extended, (19-24).

[B1] Theme 2: antecedent, (24-28); consequent, (28-30); *Ex. 23*

Commentary: antecedent, (30-33); consequent, (33-38);

Codetta; (39-43).

[A2] Theme 1: antecedent, (43-49); consequent, (49-59).

[B2] Theme 2: antecedent, (59-63); consequent, (63-65);  
 Commentary: antecedent, (65-68); consequent, (68-74);  
 Codetta: (75-83).

[A3] Coda: antecedent only of Theme 1, (83-90).

### 3. Visions de l'Amen

#### i. Amen de la Création

Binary Sentence: Theme of Creation, *Ex. 24*

a, (1-8);

b, The Theme is repeated in place of a commentary, (9-16);

c, (17-24);

d, Commentary, (25-39).

#### ii. Amen des étoiles, de la planète à l'anneau

[A1] [B] [A2]

[A1] Theme of dance of planets: (1-48). *Ex. 25*

Sentence of five periods:

a1, antecedent, (1-6); consequent, (7-10);

a2, Repeat of a1, antecedent, (11-16);

consequent, elided, to mediant, (17-19);

b, Commentary, antecedent, (19-24); consequent,  
 (24-28);

- a3, antecedent, (29-34);
- consequent, to tonic, (35-37);
- c, Second commentary, antecedent, (38-42);
- consequent, (43-48).

- [B] A. First development of theme, comprising melodic and rhythmic variations of first five notes of theme, accompanied by polymodal ostinato: (49-79).
- B. Second development, in which the first five notes of theme are developed by elimination,<sup>(3)</sup> both in original and contrary motion: (80-106).
- C. Third development, in which the first five notes of the theme in rhythmic pedal are superposed with the same fragment varied by changes of register:<sup>(4)</sup> (107-146).

[A2] Recapitulation of [A1], accompanied by harmonic progressions recalling [B]:

- a1, (147-156);
- a2, (157-165);
- b, (165-174);
- a3, (175-183);
- c, (184-196);

Coda: (197-198).

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3. A procedure of melodic development where a fragment of the theme is repeated while successively reducing the number of notes. See Technique, Vol.I, 35.
4. See Technique, Vol. I, 36.

iii. Amen de l'agonie de Jésus

[A1] [A2] [B]

[A1] A. a, Theme 1, "la malediction du Père", <sup>Ex. 26</sup>

antecedent, (1-7);

consequent, (8-12).

b, Theme 2, "un cri", (13-16). <sup>Ex. 27</sup>B. Theme 3, quotation from La Nativité, "La vierge et l'enfant", <sup>(5)</sup> (17-28). <sup>Ex. 28</sup>C. Theme 4, "une plainte déchirante", four-note theme: <sup>Ex. 29</sup>  
(29-43).

[A2] A. a, Theme 1,

antecedent, (44-50);

consequent, extended, (51-56).

b, Theme 2, extended at accent, (57-62).

B. Theme 3, "la vierge et l'enfant", addition of rhythmic ostinato, (63-74).

C. Theme 4, continuation of rhythmic ostinato from B,  
(75-93).[B] Coda, based on two fragments from Theme of Creation;  
(95-102).

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5. La Nativité du Seigneur, (Leduc, Paris, 1936), No. I, La Vierge et l'Enfant.

iv. Amen du Désir

[A1] [B1] [A2] [B2] [A3]

[A1] Theme 1, Song Sentence: *Ex. 30*

- a, antecedent, (1-2); consequent, (3-4);
- b, (5-8);
- c, (9-10).

[B1] Theme 2, Three part sentence: *Ex. 31*

- A. a1, antecedent, (11-18); consequent, (19-25);  
a2, Repeat of a1,  $\downarrow$  min. 3, (26-40).
- B. Commentary, antecedent, (41-48);  
consequent, developed by elimination, (49-54);  
Passing group, (55-58), leading to final section.
- C. c1, (59-64);  
c2, Repeat of c1,  $\downarrow$  maj. 2, (65-70);  
c3, (71-86), including pedal on dominant of  
initial key, (75-86).

[A2] Theme 1, Song Sentence, decorated by piano 1:

- a, (87-90);
- b, (91-94);
- c, (95-96).

[B2] Theme 2, Repeat of [B1] accompanied by set of N.R.

rhythms and decorative passages:

Introduction of N.R. rhythms, (97-99);

- A. a1, (100-114);  
a2, (115-129);
- B. (130-143);  
Passing group, (144-147);
- C. c1, (148-153);  
c2, (154-159);  
c3, (160-175).

[A3] Theme 1, melodically and harmonically varied:  
antecedent, (176-178); consequent, (179-182);  
Coda: (182-184).

v. Amen des anges, des saints, du chant des oiseaux

[A1] [B] [A2] Coda.

[A1] "Chant des Anges et des Saints".

A1. Theme 1: *Ex. 32*

a, (1-8);

b, transition to Theme 2, (9-11).

B. Theme 2, from Theme of Creation: *Ex. 33*

antecedent, (12-18); consequent, (19-23).

Repeat of Theme, decorated:

antecedent, (24-30);

consequent, last two bars elided, (31-33).

A2. Theme 1: (34-43).

[B] A1. Theme 3, piano II: *Ex. 34*

antecedent, (45-51);

consequent, (52-64).

Stylized birdsong, piano I, three periods:

a, (45-49);

b, (50-56);

c, (57-64).

B1. Codetta: (65-71).

A2. Theme 3, Piano II:

antecedent, (72-78);

consequent, (79-91).

Stylized birdsong, piano I, first period only:

(72-76).

Theme 4, "chant des oiseaux", piano I, Binary Sentence: *Ex. 35*

a, (77-80);

b, (81-87);

c, (88-92);

d, (93-96).

B2. Codetta: (92-98).

A3. Theme 3, piano II:

antecedent, (99-105);

consequent, last six bars elided, (106-112);

Repeat of Theme 3:

antecedent, (113-119);

consequent, (120-132).

Stylized birdsong, piano I:

a, (99-103);

b, (104-110);

c, first two bars only, (111-112):

completed, (127-132).

Theme 4, "chant des oiseaux", theme and first

commentary only:

a, (113-117);

b, (119-125).

B3. Codetta, extended: (133-148).

[A2] "Chant des Anges et des Saints"

A1. Theme 1:

a, (149-156);

b, transition to Theme 2, (157-159).

B. Theme 2, from Theme of Creation:

antecedent, (160-166);

consequent, (167-171).

Repeat of Theme 2, decorated:

antecedent, (172-178);

consequent, last two bars elided, (179-181).



A2. Theme 1: (182-191).

Coda, based on Theme 3 and stylized birdsong from [B]:  
(193-198).

vi. Amen du Jugement

*Ex. 36*

Ternary Sentence:

Theme, a1, (1-8); a2, (9-19);

Commentary, b1, (20-27); b2, (28-38);

Theme, c1, (39-46); c2, varied, (47-57).

Coda: (58-59).

vii. Amen de la Consommation

[A] [B] [C] Coda.

[A] A. Three statements of Theme of Creation each with  
Commentary:

a1, Theme, (1-8); *Ex. 37*

b1, Commentary 1, (9-17);

a2, Theme↑maj.3, (18-25);

b2, Commentary 2, (from Amen de la Création),  
(26-36);

a3, Theme,↑maj.3, (37-44);

b3, Commentary 1, (45-53).

B. Development of Theme: (54-69). *Ex. 38*

- [B] A. a1, Theme, in tonic, (70-77);  
 b, Commentary 2, (78-89);  
 a2, Head of theme only, stated twice, (90-93).
- B. Extended commentary on theme: (94-107).
- [C] Coda: (108-122).

Formally, the Visions de l'Amen may be seen as a summation and extension of the forms used in the piano works up to this period. There is evidence of a beginning of the tendency to use different thematic material for each period, which characterises Messiaen's later works, but there is only one piece constructed on this principle, namely, Amen de l'agonie de Jésus. One theme, the Theme of Creation, acts as a cyclic theme throughout the work, appearing in its full form in the first piece, and reappearing in the third, fifth and last pieces.

The macro-forms, still well-separated as with the Préludes, comprise clearly marked sentence structures, and give examples of extensions upon those defined previously; for instance, the five-period sentence of the first section of Amen des étoiles..., the three-part sentence comprising six periods of the second theme of Amen du Désir, and the six period sentence of section [A], A, of Amen de la Consommation, which consists of three statements of the theme each with its commentary.

However, the traditional structures are in the majority; for example, the first piece is composed as a binary sentence, the first theme of Amen du Désir is a song sentence, and the fourth theme of the

fifth piece, Amen des anges..., is arranged as a binary sentence. Sections [A1] and [A2] of the same piece, although containing two themes, are composed along the lines of a song sentence. As well, the sixth piece, Amen du Jugement, is composed as a ternary sentence. Notice also, the use of Sonata form in number two, Amen des Etoiles...

The observation made with the Préludes that each of the main sections tended to have its own thematic material, and that the sections were generally contrasted is also evident in the Visions de l'Amen. However, in the Visions, the contrasts are made, not so much by the thematic material as by the accompanying material, for of the seven pieces, four are through-composed. These are numbers one, two, six and seven. Messiaen however, uses the structural thread thus set up within the works to introduce new rhythmic and harmonic material as accompaniment and decoration.

As was found in the Préludes, sections which are repeated 'verbatim' depend on the accompanying material for variation. This may be seen particularly in Amen des étoiles..., Amen de l'agonie de Jésus, and Amen du Désir.

Therefore, formally, this work is summative rather than innovative, however the main structures are used to introduce, as accompaniment and decoration, the harmonic and rhythmic functions which predominate in the later works.

4. Vingt Regards sur l'Enfant-Jésusi. Regard du Père

Song Sentence: "Thème de Dieu", *Ex. 39*

- a, (1-9);
- b, (9-17);
- c, (17-19).

ii. Regard de l'étoile

[A1] [B1] [A2] [B2] [A3]

[A1] Three elements forming an introduction to the theme:

- a, (1); b, (2); c, (3-5).

[B1] "Thème de l'étoile et de la croix",

Three period sentence:

- a, (6-9);
- b, (10-13);
- c, (14-17).

[A2] Repeat of [A1]: (18-22).

[B2] "Thème de l'étoile et de la croix", decorated: *Ex. 40*

- a, (23-26);
- b, (27-30);
- c, (31-34).

[A3] Repeat of [A1]: (35-39).

Coda, comprising last half of period "c" of theme: (40-41).

iii. L'échange

This piece is composed totally on the principle of "agrandissement asymétrique", whereby a theme is varied by transposing certain notes up a semitone, and certain others down a semitone at each repetition of the theme.

Statement of theme: (1-2). *Ex. 41*

The thirds in bar (1), plus the accompanying F and E remain static. The L.H. E and F rise a semitone at each repetition, while the D sharp falls. In bar (2) all of the first element rises excepting the A flat and G natural which fall. Of the second element, all of the notes in the L.H. rise as well as the D and B natural in the R.H. The others fall excepting the E natural of the R.H. which remains static. The theme is transposed through all the twelve degrees of the scale: (3-24).

Coda: (25-31).

iv. Regard de la Vierge

[A] [B] [C] Coda.

[A1] A1. Theme 1, "la pureté", is in Litanic form: <sup>(6)</sup> *Ex. 42*

a1, (1-5);

a2, (6-10)

a3, (11-15).

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6. See Part Three, Chap. IX, pp.179-181 and p.188.

B. Single period: (16-24).

A2. Theme 1:

a1, (25-29);

a2, elided;

a3, (30-34).

[B] Theme 2, Sentence of four periods: *Ex. 43*

a, (35-39);

b1, (40-46);

b2, Repeat of b1 extended, (47-57);

c, (58-62).

[C] A1. Themes 1 and 2 combined:

a1, (63-67);

a2, (68-72);

a3, (73-75).

B. Includes motif from [B] b, bar (45): (76-86).

A2. a1, (87-91);

a2, elided;

a3, (92-94).

Coda: Theme 2:

First period only, a, (95-99);

with motif, bars (59-60) of final period, (100-101);

and brief statement of motif from period b, (102).

v. Regard du Fils sur le Fils

Song Sentence on "Thème de Dieu", accompanied by a rhythmic canon and birdsong:

a, (2-34);

b, (34-66);

c, (66-77).

vi. Par Lui tout a été fait

[A] [B] [C] Coda.

[A] This section is constructed as a fugue where the subject is continually varied. The second half is an exact retrograde of the first.

A. a, (1-6); *Ex. 44*

b, (7-12);

c, (13-25);

d, (26-42);

e, (43-49).

B1. Fragment of subject in "agrandissement asymétrique":  
(50-58);

Statement of subject: (59-61).

C. Groups forming very short and very long values:  
(62-68).

B2. Repeat of B1 in retrograde: (69-80).

A2. Repeat of A1 in retrograde:

- e, (81-87);
- d, (88-104);
- c, (105-117);
- b, (118-123);
- a, (124-129).

[B] A. Stretto of subject in "agrandissement asymétrique":  
(130-141);

B. Subject with counter subject in "agrandissement  
asymétrique": (142-160).

[C] Based on "Thème de Dieu" and "Thème d'amour": <sup>Ex.45</sup>

A. Three periods:

- a1, (161-171);
- a2, ↑maj.3, extended, (172-184);
- a3, ↑maj.3, extended, (185-204).

B. Canon on "Thème de Dieu" followed by "Thème d'amour":  
(205-221).

C. Groups forming very short and very long values:  
(222-228).

Coda: Based on subject of fugue in canon, (230-231).



vii. Regard de la Croix

Sentence on "Thème de l'étoile et de la croix":

- a, (1-8);
- b, (9-19);
- c, (20-29).

viii. Regard des hauteurs

[A1] [B] [A2] Coda.

[A1] a, Two introductory elements, (1-3);

b, "Le rossignol", (5-8).

[B] "L'alouette", Ternary Sentence: <sup>Ex. 46</sup>

a1, (9-13); a2, (14-21);

b1, (22-30); b2, (31-43);

c1, (44-47); c2, (48-55).

[A2] a, Two introductory elements, (56-58);

b, "Le merle et tous les oiseaux", (60-61).

Coda: (62-64).

ix. Regard du temps

Litanic Form: [A1] [A2] [A3] Coda.

[A1] A1. First period of theme: a1, (1-2); <sup>Ex. 47</sup>

B1. Rhythmic canon: (2-6);

A2. Second period of theme: a2, (7-8);

B2. Rhythmic Canon: (9-11);

A3. Third period of theme: b, (12-13);

B3. Rhythmic canon: (14-18).

[A2] A. First two periods of theme:

a1, (19-20);

a2, (21-22);

B. Rhythmic canon: (22-32).

[A3] A. Statement of whole theme:

a1, (33-34);

a2, (35-36);

b, (37-38);

B. Rhythmic canon: (38-42).

Coda: (43-44).

x. Regard de l'Esprit de joie

[A1] [B1] [C] [B2] [A2] Coda.

[A1] "Thème de danse orientale et plain-chantesque". *Ex. 48*

Continuous variation upon seven notes arranged in groups like the neumes of plainchant. The theme is in fourteen periods, each of which is marked by the accented chord which first appears at bar (2): (1-32).

[B1] A. First development, on "Thème de joie": *Ex. 49*

Three periods,

a1, E flat maj., (33-35);

a2, ↓min.3, C maj., (36-38);

a3, ↓min.3, A maj., (39-40).

- B. a, "Agrandissements asymétriques", each statement  
of which ends on E, dominant of A maj., (41-53);  
b, Pedal on dominant of A maj., (54-59).

[C] "Air de chasse", in three variations: *Ex.50*

A. Three period sentence, A maj.,

a, (60-65);

b, (66-71);

c, (72-83).

B. Three period sentence, ↑maj.3, D flat maj.,

a, (84-89);

b, (90-95);

c, (96-107).

C. Three period sentence, ↑maj.3, F maj.,

a, (108-113);

b, (114-119);

c, (120-131).

[B2] Second development, on "Thème de joie" and "Thème de Dieu":

A1. "Thème de joie", three period sentence:

a, (132-135);

b, (136-139);

c, (140-143).

B. "Thème de Dieu", two periods:

a1, (144-158);

a2,  $\uparrow$  min.3, (159-174).

A2. a, "Thème de joie", (175-177);

b, Passing group, (178-181);

c, "Thème de joie", (182-184).

[A2] "Thème de danse orientale", doubled in 4ths with  
ostinato accompaniment:

Repeat of [A1], (185-216).

Coda: a, "Thème de joie", (217-219);

b, arpeggio on F sharp maj., with pedal on  
dominant: (220-228);

c, Motif from "air de chasse", F sharp maj.,  
(229-231).

xi. Première communion de la Vierge

[A] [B] Coda

[A] A. "Thème de Dieu", four period sentence: *Ex. 51*

a, (1-4);

b, (5-8);

c, (9-12);

d, (13-16).

B. Codetta on "La Vierge et l'Enfant": (17-20). <sup>Ex. 52</sup>

[B] A. Three periods based on "Thème de Dieu":

a, (21-28);

b, (29-36);

c, including passing group (39-42), (37-42).

B. Chordal variations in rhythmic augmentation, with pedal on dominant of main key, B flat maj.:

a, Chordal variations, (43-60);

b, Dominant pedal, (61-72).

C. Superposition of ornamentation from [A] over arpeggiated dominant of B flat maj.: (73-74).

Coda, "Thème de Dieu": (75-80).

xii. La parole toute-puissante

Three part Sentence:

A. a1, Theme, antecedent, (1-5); consequent, (6-9); <sup>Ex. 53</sup>

a2, Repeat of theme, varied, (10-15);

B. Middle part of three periods,

a, (16-26);

b, (27-33);

c, (34-43).

C. Final period, an issue of the first period, (44-58), including an extended cadence, (51-58).

xiii. Noël

[A1] [B] [A2] Coda.

[A1] A1. "Les cloches": (1-7).

B. Theme 1, Three part Sentence in Litanic Form: *Ex. 54*

a, (8-12);

b, (13-17);

c, (18-20).

A2. "Les cloches": (21-25).

[B] Sentence of four periods:

a, Theme 2, *Ex. 55*

antecedent, (26-30);

consequent, (30-34);

b, Theme 3, "La Vierge et l'Enfant", (36-40);

c, Theme 2 in inversion, (42-46);

d, Motifs from both themes, (48-52).

[A2] A1. "Les cloches": (53-57).

B. Theme 1, three periods:

a, (58-60);

b, (61-63);

c, (64) leading to;

A2. "Les cloches", with development of last three chords:  
(65-76).

Coda, based on Theme 2: (77-80).

xiv. Regard des Anges

[A] [B] [C]

[A] Three Strophes, each composed of the same five elements.

Except for the first and third elements which remain constant, each element is augmented at each repetition.

A1. a, (1-4);

b, "Thème d'accords", (5-6); *Ex. 56*

c, Trill, (7-8);

d, Rhythmic canon, (9-13);

e; "Trombones", (14-18). *Ex. 57*

A2. a, (19-22);

b, (23-26);

c, (27-28);

d, (29-37);

e, (38-43).

A3. a, (44-47);

b, birdsong introduced, (48-52);

c, (53-54);

d, (55-68);

e, (69-77).

[B] Fourth Strophe, "Chant des Oiseaux";

*Ex. 58*  
Set of six variations on birdsong theme:

a, (78-83);

- b, (86-88);
- c, (89-96);
- d, (99-105);
- e, (106-114);
- f, (117-127).

Codetta: (128-131).

The accompaniment of the birdsong variation is derived from the first, second and fourth elements of the first strophe, section [A].

- [C] Fifth Strophe, "La stupeur des anges s'agrandit";  
Introduction, comprising element "e" of the first strophe, from which this strophe is derived, (132-133);  
Agrandissement, "la stupeur des anges", (134-156).

xv. Le baiser de l'Enfant-Jésus

[A] [B] [C] [D] Coda.

[A] Three part Sentence on "Thème de Dieu";

A. "Thème de Dieu", *Ex. 59*

- a1, antecedent, (1-5);
- a2, consequent, (6-10).

B. Middle part, consisting of three periods:

- a1, antecedent, (11-15); a2, consequent, (16-20);
- b, Repeat of consequent of A, (21-25);
- c1, antecedent, (26-32); c2, consequent, (33-39).



- C. Repeat of theme, decorated:  
a1,(40-46); a2, (47-52), consequent extended by  
cadenza, (53-62).
- [B] A. "Le jardin", five variations on "Thème de Dieu":  
a, (63-65);  
b, (65-67);  
c, (67-69);  
d, (69-71);  
e, (71-72).
- B. Bridge Passage, based on chordal variations:  
(73-78).
- C. "Les bras tendus vers l'amour...", a long dominant  
pedal on C sharp leading to key of F sharp maj. of  
section [C]: (79-94).
- [C] "Le baiser", Sentence in three periods: *Ex. 60*  
a, (95-102);  
b, (103-112);  
c, (113-118).
- [D] A. "L'ombre de baiser", based on "Thème de Dieu",  
first part of antecedent of theme in [A] A.  
Stated four times with decoration varied for each  
statement:  
a, (119-121);

b, (121-123);

c, (123-125);

d, (125-127).

B. Coda: (127-136).

xvi. Regard des prophètes, des bergers et des Mages

[A1] [B] [C] [D] [A2] Coda.

[A1] Introduction, "Valeurs progressivement accélérées",  
rhythmic variation: (1-21).

[B] Theme 1, "Hautbois", with Commentary: *Ex. 61*

a, Theme, (22-29);

b, commentary, (30-35).

[C] Theme 2, Three periods, each with varied accompaniment: *Ex. 62*

a, (36-43);

b, (44-54);

c, (55-59).

[D] Themes 1 and 2 combined:

a, Themes 1 and 2, (60-67);

b, Commentary, (68-73).

[A2] "Valeurs progressivement ralenties": (74-94).

Coda, Themes 1 and 2 combined: (95-99).

xvii Regard du silence

[A] [B] [C]

[A] Rhythmic canon by addition of a dot: (1-19).

[B] A1. Phrase of two periods:

a, Harmonic Litany<sup>(7)</sup>, (20-26); *Ex. 63*

b, (27-36).

B1. Bridge Passage composed of three elements:

a, (37); b, (38-39); c, (40).

C1. Two period phrase, variation of A1:

a, (41-47);

b, (48-52).

A2. Repeat of A1:

a, (53-59);

b, Second part ↑ aug. 4, extended by modulating  
element at end of phrase, (60-71).

B2. Bridge Passage,

a, motifs retrograded, (72);

b, ↑5, (73-74);

c, ↑5, (75).

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7. Defined as "a melodic fragment of two or several notes repeated with different harmonizations". Technique, Vol.I, 53.

C2, Repeat of C1:

a, (76-82);

b, begins  $\uparrow$ min.3, with harmonic change at (86)  
to finish  $\downarrow$ min.3, (83-87).

[C] Based on progression of chords stated in [A],

A perpetual motion of alternated chords: (88-109).

xviii. Regard de l'Onction terrible

[A1] [B] [A2]

[A1] Introduction:

A. "Valeurs progressivement ralenties" superposed on  
"valeurs progressivement accélérées": (1-20).

B. Chordal progression: (21-22).

[B] A1. Five 15-bar periods in Litanic Form:

a1, (23-37); <sup>Ex. 64</sup>

a2, (38-52), second half of period, (45-52),  
varied by inversion and transposition;

b, (53-67);

a3, varied by transposition, (68-82);

c, (83-97). <sup>Ex. 65</sup>

A2. Repeat of A1, varied by transposition, with the  
order of periods changed.

a1, (98-112);

- b, (113-127);
- a2, (128-142);
- a3, (143-157);
- c, extended, (157-177).

[A2] Coda:

- B. Chordal progression: (178).
- A. "Valeurs progressivement accélérées" superposed on "Valeurs progressivement ralenties": (179-198).

xix. Je dors mais mon coeur veille

[A1] [B1] [C] [B2] [A2] Coda.

[A1] Single period based entirely on the perfect chord of F sharp maj.: (1-8).

[B1] Theme 1, Period in three parts: *Ex. 66*

- a1, including quotation from "La Vierge et l'Enfant", (9-12);
- a2, repeat of a1, ↓ min.3, (13-16);
- b, (17-22).

[C] Theme 2, "Thème d'amour". Three statements of theme in three periods: *Ex. 67*

- a1, (24-31), concluding on mediant of F sharp maj.;
- a2, (32-39), repeat of a1 concluding on supertonic;
- b, Commentary on theme, (40-49).

[B2] Extension of "Thème d'amour", leading to Theme 1:

(50-52);

Theme 1, a1, (53-57);

a2, (58-61);

b, (62-67).

[A2] Period based on perfect chord of F sharp maj.: (69-77).

Coda: Recall of themes 1 and 2: (79-87).

xx. Regard de l'Eglise d'Amour

[A] [B] Coda.

[A] Development Section: (1-160).

A1. Theme 1, in N.R. rhythm, alternating with elements  
"en gerbe rapide": (1-6). *Ex. 68*

B1. Theme 2, "Thème de Dieu": Three statements,  
alternating with sections in "agrandissement  
asymétrique":

a1, "Thème de Dieu", (7-8); *Ex. 69*

b1, "agrandissement asymétrique", (9-16);

a2, (17-18), b2, (19-26);

a3, (27-30).

C. Theme 3, "Thème d'amour". Development of theme in  
two stophes each of three periods: *Ex. 70*

a1, (31-38); b1, (39-46); c1, (47-54);

a2, (55-63); b2, (64-71); c2, (72-84).

A2. Theme 1: (85-92).

B2. "Agrandissement asymetrique" extended and varied:  
(93-104);

Theme 2 with chordal accompaniment, acting as a  
Bridge to Section D: (105-111).

D. "Sonnerie de cloches". Pedal on the dominant of  
F sharp maj., the tonic key, constructed from the  
chordal functions used throughout the work.

Three periods:

a1, (112-128);

a2, (129-139);

a3, (140-142).

"Valeurs progressivement ralenties", Bridge Passage  
leading to Exposition: (143-160).

[B] Exposition on "Thème de Dieu": (161-220).

A. Complete Sentence on "Thème de Dieu":

a, (161-176);

b, (177-192);

c, (193-199).

B. Coda, based on "Thème de Dieu": (200-220).

The Vingt Regards sur l'Enfant-Jésus marks a clear division in the formal evolution of Messiaen's piano music, for it is a work of exploration and innovation, and in it, the principles which govern the formal structures of the later works, are clearly evident. Like the Visions de l'Amen, the work begins with a piece constructed as a single sentence, in which is stated the main theme of the work, but the similarity ends with this piece, for the second and third pieces are exploratory and experimental. Regard de l'étoile is based on the second theme of the work, however the theme is introduced by a refrain composed of three self-contained elements, symbolizing the "choc de la grace". Both themes function as cyclic themes throughout the work, the "Thème de Dieu" reappearing in the fifth, sixth, tenth, eleventh, fifteenth and final pieces, and the "Thème de l'étoile et de la croix" is re-stated in the seventh. A third theme, "Thème d'accords", also has a cyclic function within the work. The third piece is entirely experimental, consisting of a single compositional principle, that of "agrandissement asymétrique", which is introduced here for the first time in Messiaen's piano works.

Another new form is introduced in the fourth piece, Regard de la Vierge, that based on the sacred litany, which was discussed in connection with the poetic forms of the Surrealists. Other pieces in which this form is found are: number ix, where the repetitions of the period are broken up by a rhythmic canon; number xi, part [A], A; number xiii, [A], B; the first three strophes of number xiv; and number xviii.

Again, the sixth piece, Par lui tout a été fait, is innovative,



for it is the first, and only, fugue in the piano works. It is also the first time that Messiaen uses a retrograde form, for, as was shown in the analysis, the second half of the first section is a literal retrograde of the first. This principle of formal construction plays an important part in the Catalogue d'Oiseaux.

It is of interest to note that the fifth and seventh pieces are decorated restatements of earlier pieces. The fifth is a complete restatement of the first, and the seventh is a single sentence on the theme from the second piece.

From the point of view of both macro- and micro-formal structures, the most marked change is to be found in the fourteenth piece, Régard des Anges, for the principles of its construction are those which pertain to all of the later works. The macro-structure comprises three sections, which are divided into five strophes. The first three, forming section [A] are in Litanic form and consist of five completely self-contained elements. The strophes are augmented at each repetition by the addition of new, also self-contained, elements. The fourth strophe, section [B], is based on new thematic material, the only reference to the previous section being in the accompaniment material. The final strophe, and section, is again completely different from the others, consisting of a kind of complex "agrandissement asymétrique", drawn from the fifth element of the first three strophes. Each of the sections is therefore a clearly-marked entity, as are each of the elements in the micro-structures.

In pieces numbered, xvi, xvii and xviii, a new idea is introduced into the formal structure, namely, that of surrounding the

piece with two, related, a-thematic and self-contained sections. The first section of number xvi, Régard des prophètes... consists entirely of a rhythmic accelerando, and the last main section, before the coda, of a rhythmic rallentando. The first section of Regard du silence is a rhythmic canon using a series of modal chords, and the last comprises a perpetual motion based on these chords and their derivatives. The eighteenth piece, Regard de l'Onction terrible, is introduced by a superposed rhythmic accelerando and rallentando, and for the coda, this first section is repeated in retrograde. The nineteenth piece also follows the same principle, for the first and last main sections are based entirely on the perfect chord of F sharp major.

Concerning the micro-structures of the Vingt Regards..., the traditional sentence structures are in the minority. The first piece is composed as a Song Sentence, and the twelfth is of this type, with the last period greatly augmented. Section [B] of number viii is a Ternary Sentence. Sentences, although nearly always clearly delineated, are much more varied in construction than in earlier works. Those which are composed according to Litanic form have already been detailed above. Other different examples are as follows: the four-period sentence in xiii, [B], consisting of the alternation of two themes; the set of six variations on the birdsong theme in xiv, [B] and the set of five variations on the "Thème de Dieu", in xv, [B]; the three-part sentence in xv, [A], in which the consequent of the theme is repeated as a middle period in the central part of the sentence.

However, the most important change within the sentence structures, as far as the evolution of Messiaen's use of form is concerned, is the use of self-contained elements. This has already been seen with the fourteenth piece, and with the introduction to number ii. A similar example to that found in the second piece is the introduction to number viii, consisting of two elements. Notice especially that the fugue, number vi, is constructed entirely of self-contained periods, each of which is a variation on the subject, and/or the countersubject. In number xiii, this principle is clearly evident in the three-part sentence in [A1], B, for it is composed of three elements, two of which are based on rhythmic variation. There is almost no thematic material at all in numbers xvii and xviii, for the former is based on special chords, and chordal variation in harmonic litany, and the latter is based on a series of harmonic elements following chordal statements in open fifths and fourths.

Thus, in this work, the rhythmic and harmonic ideas introduced as accompanying material in the Visions de l'Amen are used in their own right, thus giving rise to the forms composed of aggregates of self-contained elements, which manifest the principle upon which the formal evolution of Messiaen's piano music is based.

## 5. Cantéyodjayâ and Quatre Etudes de rythme

### i. Cantéyodjayâ

[A1] [B] [A2] Coda.

The work is constructed as a mosaic, with each of its component

elements being an entity in itself. A number of these have main structural functions, such as the first theme, "Cantéyodjayâ", and the three Refrains. All of the elements are represented by different letters of the alphabet, and each comprises a period, except for the first statement of element "d", which forms a Binary Sentence.

This is the first work to explore total serialism, that is, the ordering of duration and intensity as well as pitch within a single mode. The mode is represented as element "e".

[A1] Section composed of five themes with the first, "Cantéyodjayâ" <sup>Ex. 71</sup> functioning as a refrain: (1-105).

a1, "Cantéyodjayâ", (1-5);	b1, (6-10);
a2, (11-15);	b2, (16-23);
a3, (24-28);	c, (29-34); <sup>Ex. 72</sup>
a'4, (35-40);	d1, (41-61);
a <sup>-</sup> 5, (62-63);	e, (64-101);
a <sup>-</sup> 6, (102-103);	d <sup>-</sup> 2, (104-105).

[B] (106-336).

A. Refrain 1: (106-111).

Refrain 2: (112-115).

Refrain 3: (116-119).

B. Couplet 1, (120-163); Refrain 1, (164-167).

C. Couplet 2, (168-225); Refrain 2, (226-227).

D. Couplet 3, (228-320): Refrain 1, including recall of element "c", (321-333); Refrain 3, (334-336).

[A2] (337-350).

a<sub>1</sub>, (337-340);

a'<sub>2</sub>, (341-346);

d<sup>-</sup>, (347-348);

Coda: (349-350).

The following is a detailed analysis of the Couplets:

Couplets 1 and 2 use their cadence the element "i", "gamme chromatique des durées, droite et retrograde", while Couplet 3 leads directly to the repeat of Refrain 1. All of the elements have been marked clearly by Messiaen in the score.

Couplet 1: f g (120-128) / h i (129-163) //

Couplet 2: j k l (168-190) /

Bridge Passage, (191-197) /

m i<sup>-</sup>(198-225) //

Couplet 3: n o p (228-264) /

Bridge Passage, (265-272) /

q r s (273-278) / c' t (279-291) /

Long Bridge Passage leading to Refrain, (292-320) //

## ii. Neumes rythmiques

The piece is in the form of verses surrounded by two refrains, with each period of "rhythmic neumes" surrounded by two, alternating rhythmic structures.

[A1] [B1] [C1] [B2] [A2] [B3] [C2] [B4] [A3] [B5] [C3] [B6] [A4]  
[B7] [C4]

[A1] Period of three durations augmented as follows:

1, 6, 11;

2, 7, 12. (1-2).

[B1] Rhythmic neumes: (3-11). *Ex. 73*

[C1] N.R. rhythm comprising 41 semiquavers: (12).

[B2] Rhythmic neumes: (13-21).

[A2] Rhythmic augmentation: 2, 7, 12;

3, 8, 13. (22-23).

[B3] Rhythmic neumes: (24-33).

[C2] N.R. rhythm, 43 semiquavers: (34).

[B4] Rhythmic neumes: (35-45).

[A3] Rhythmic augmentation: 3, 8, 13;

4, 9, 14. (46-47).

[B5] Rhythmic neumes: (48-64).

[C3] N.R. rhythm, 47 semiquavers: (65).

[B6] Rhythmic neumes: (66-74).

[A4] Rhythmic augmentation: 4, 9, 14;

5, 10, 15. (75-76).

[B7] Rhythmic neumes: (77-98).

[C4] N.R. rhythm, 53 semiquavers: (99).

The following is a detailed analysis of the periods [B1] to [B7] in an attempt to give an idea of the general pattern within these periods. However, as each is a single period, there are no clearly defined sentence structures involved, and like the neumes of plainchant, the rhythmic neumes are freely disposed. Nonetheless there is a general pattern involved which follows from the clearly marked antecedent and consequent in the first period.

The neumes have been differentiated according to their rhythms for these comprise their main structural function, and the letters have been assigned accordingly. This means that one letter applies per bar, as there is one neume per bar. The neumes from the first period have been assigned capital letters so that their position, and thus their function throughout may be more clearly identified.

Sometimes neumes of different rhythms borrow resonances or fragments from other neumes which sets up a similarity between them. This is shown as a linking if a neume which has borrowed from another is placed directly next to it. Neumes which are repeated immediately are similarly indicated. The only neume which is shown as being a construct of others is the penultimate, in order to point out its cadential function.

There are two forms of cadence. The first consists of two notes with the rhythm 6, 7; the second of one note of duration 12. These are indicated F and F'.

[B1] A B C (3-5) / A BB D E F (6 - 11) //

[B2] g h g' ij (13-17) / DDD F' (18-21) //

[B3] BB k E l m (24-29) / A<sup>+</sup> nD F' (30-33) //

[B4] o AA B p B' (35-40) / qrh A F (41-45) //

[B5] s C g D g D' A o B t (48-57) / A<sup>+</sup> BB p r s F (58-64) //

[B6] A u o' v w (66-70) / g h p F' (71-74) //

[B7] u B' A C (77-80) / s E x m A rE o C y s (81-91) /  
g' g'' g''' w i [c d f'] F<sup>+</sup> (92-98) //

ii. Mode de valeurs et d'intensités

This piece uses a single mode of 36 pitches, 24 durations and 7 intensities. It is divided into three parts of 12 pitches each, and with the following durations: part one has 12 chromatic durations, (that is, from 1 to 12 inclusive) with the demi-semiquaver as the unit of duration; part two has 12 chromatic durations with the unit as the semiquaver; and part three has also 12 chromatic durations, with the unit as the quaver. The three parts are disposed separately in the score; the first on the top stave, the second on the middle, and the third on the bottom.

The piece is written as a single sentence, which is divisible into three periods as follows: *Ex.74*

a, (1-29);



- b, (29-78);  
c, (78-115).

iii. Ile de Feu 1

[A1] [B] [A2]

[A1] A. Theme 1: <sup>Ex. 75</sup>

a, (1-2); b, cadential elements, (3-4).

B. Variation 1:

a, (5-6); b, (7-10).

C. Variation 2:

a, (11); b, (12-17).

Bridge Passage: (18-19);

D. Variation 3: (20-24).

[B] Theme 2: antecedent, (25-27); consequent, (28-29);

Repeat of Theme 2: (30-34).

[A2] Theme 1, beginning as Variation 1 with cadence varied:

(35-39).

iv. Ile de Feu 2

[A1] [B1] [A2] [B2] [A3] [C] [D] [E] Coda.

[A1] Theme: (1-7). <sup>Ex. 77</sup>

[B1] Interversions<sup>(8)</sup>: (8-27)

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8. A process of melodic development whereby the order of the notes is permuted. See Technique, Vol.I, 35-36.

[A2] Theme, first variation: (28-34).

[B2] Interversions: (35-54).

[A3] Theme, second variation: (55-61).

[C] Development of theme: (62-75).

[D] Theme and interversions superposed: (76-85).

Codetta: (86-89).

[E] Introduction: Statement of theme in semiquavers: (90-91);

Perpetual motion;<sup>(9)</sup> L.H. a series of permutations on twelve notes, retrograded from bar (112):

Permutations: (92-111); retrograde, (112-131).

Coda: based on theme: (132-138).

Cantéyodjayâ and the Quatre Etudes de rythme are experimental works, the former exploring a complex formal structure, the latter, as their title implies, exploring rhythmic structures. Cantéyodjayâ is the first of Messiaen's piano works which is composed entirely of self-contained elements. Therefore the mosaic form of construction, which was hinted at in the Visions de l'Amen and clearly manifested in the Vingt Regards sur l'Enfant-Jésus, is crystallized in this work.

The macro-form, based on the idea of a series of verses with refrain, is one not encountered in the previous works. The first

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9. Note that in this section there is an error in the barring of the score at bar (118), which is marked as two bars.

section is a straight-forward verse with refrain structure, but the second section is more complicated, for it employs three refrains, all stated at the beginning of the section, with three verses, each of which introduces a series of new elements into the work in groups of either two or three. Each verse is followed by a restatement of the appropriate refrain, the third verse being followed by Refrain 1 as well as Refrain 3. The work concludes with a short recall of the first section, and a coda.

Neumes rythmiques also employs the verse and refrain form, with two rhythmic refrains surrounding each verse of rhythmic neumes. The micro-form of each period of neumes, as already detailed, is also mosaic, comprising a series of neumes, each with its own rhythm, intensity and resonance.

Ile de Feu 2 follows the same macro-formal pattern as the two preceding works, for the first five sections consist of the theme and its variations alternating with interversions on a twelve-note mode.

Thus, large sections comprising sentence structures are completely abandoned in these works, for although Mode de valeurs et d'intensités is a single sentence, it is a short work, and does not fit into any traditional category. In their place are found clearly-defined periods, each of which is self-contained. The style is therefore much more concise, and long repetitions are avoided, for the repetitions in these works are confined to short refrains which act as fixed structural elements surrounding constantly changing verses.

The principle of mosaic construction, that of self-contained elements, arranged in, or as, self-contained periods which are contrasted

with fixed structures is, through these experimental works, firmly established in Messiaen's technique of composition.

6. Catalogue d'Oiseaux and La Fauvette des Jardins

i. Le Chocard des Alpes

[A1] Strophe, [B1] Couplet 1, [A2] Antistrophe,  
[B2] Couplet 2, [C] Epode.<sup>(10)</sup>

Elements:

a, Chocard des Alpes. a', les Chocards. a'', cri du Chocard.  
b, vol des Chocards. b', vol acrobatique des Chocards.  
c, vol de l'Aigle Royal.  
d, Grand Corbeau.

[A1] Strophe; "Personnages rythmiques"<sup>(11)</sup>: (1-26).

[B1] Couplet 1: (28-62). *Ex. 78*

a a' a'' c / d b / a<sup>+</sup> b a'' b' //

[A2] Antistrophe; "Personnages rythmiques" (64-96).

[B2] Couplet 2: (98-148).

a a' a'' c<sup>+</sup> / d<sup>+</sup> b<sup>+</sup> / a a'<sup>+</sup> b<sup>+</sup> a'' b'<sup>+</sup> //

[C] Epode; "Personnages rythmiques": (150-180).

10. See Part III, Chap. XI, 228, where the derivation of this form is outlined.

11. See Part III, Chap. XIII, pp.274-275.

ii. Le Lorient

[A] [B] [C]

## Elements:

a, Inferior resonance<sup>(12)</sup> to birdcalls, gradually extended to:

a', harmonic progression.

b, Lorient.

c, Rouge-queue à front blanc.

d, Troglodyte.

e, Rouge-gorge.

f, Merle noir.

g, Grive musicienne.

h, Fauvette des jardins.

i, Pouillot veloce.

[A] (1-30).

*Ex. 79*

A. (1-13).

a b / a b<sup>+</sup> / a b / a c d e //

B. (14-30).

a' f / a f<sup>-</sup> / a c d g e //

[B] (31-98).

a'h / a' h / a' H //

[C] (99-136).

a' i b / a' i b<sup>+</sup> / (a' B) g / a c d a b //

The elements "a" and "a'" are used constantly throughout as an introduction to the birdcalls. Note the use of element "e" as a cadence, preceded by the elements "a c d", and the replacement of this element by "a b" in the final cadence.<sup>(13)</sup>

(iii) Le Merle bleu

[A] [B] [C]

Elements:

a, les falaises. b, Martinets noirs. c, l'eau.  
 c', les vagues. d, Merle bleu. e, Cochevis de Thékla.  
 E, counterpoint of first and second Cochevis de Thékla.  
 f, halo sonore. g, falling 4th chords followed by inferior  
 resonance. h, la mer bleue. i, résonance des parois rocheuses.  
 j. Goélands argentés. k, gongs and tambours.  
 l, écho des rochers.

- 
13. This analysis, and those which follow, differ in varying degrees from those given by Johnson, R.S. in his book, Messiaen (London, 1975), pp.141-57. The present writer agrees in principle with his concept of mode, however Johnson's analyses do not indicate the formal relationships between the positioning of each of the elements. Also, for example, in this piece, he does not show the overall ternary nature of the piece.

The purpose of these analyses is to show in detail the construction of the works through the formal relationships existing between the elements, and to show how this process of construction has evolved from the earlier works.

The term "cadence" has been chosen to indicate the function of element "e" in this piece, and this term is used throughout these analyses. It does not imply disagreement with the term "refrain", used for the same element in Johnson's analysis, in fact the present writer is in total agreement with this terminology, however, the word has been chosen to indicate the terminating effect of this, and other similarly named elements.

These remarks apply in general to all of the following analyses.

Ex. 80

[A] (1-67).

1. Introduction: (1-30).

$$\underline{a\ b} \ \underline{a\ b} / \underline{c\ b} \ \overbrace{\underline{c\ d} \ \underline{c\ b} \ c\ e \ \underline{c\ d}} / \underline{A\ b} //$$

2. Exposition: (31-67).

$$\underline{f\ d} \ \underline{f\ d} \ \underline{f\ d} / \underline{g\ d} \ \underline{g\ d} / \underline{f\ d} \ \underline{f\ d} / c\ h //$$

[B] Development: (68-239).

1. (68-118).

$$\underline{c'\ d} \ \underline{c'\ d} \ \underline{c'\ d} \ \underline{c'^+\ d} \ \underline{c'\ i\ d} \ j \ h //$$

2. (119-239).

$$\begin{array}{l} E\ (d\ k) \ (e\ k) \ (d\ k) \ (e\ k) \ (d\ k) \ (e\ k) \ (d\ k) \ (e\ k) \ (d\ k) \\ (e\ k) \ (d\ k) / \underline{(d\ 1)} \ j \ \underline{(d\ 1)} \ j / \underline{c\ c'} \ (d\ 1) \ j \ (d\ 1) \ c'^+ / \\ E\ j\ h // \end{array}$$

[C] (240-302).

1. Recapitulation: (240-279).

$$\underline{f\ d} \ \underline{f\ d} \ \underline{f\ d} / \underline{g\ d} \ \underline{g\ d} \ \underline{g\ d} / \underline{f\ d} \ \underline{f\ d} / \underline{c'\ I} \ h //$$

2. Coda: (280-302).

$$a\ c\ d \ \underline{c\ d} / \underline{A\ b} / d\ c\ d //$$

The element "h" acts as a refrain to all of the couplets. The Introduction and Coda cadence with the elements "A b", with the addition of the "souvenir du Merle bleu" to the Coda. Section [C] repeats the structure of Section [A] while retrograding the order of the sub-sections.

Element "E" appears only twice in the work; at the beginning and just before the end of the second couplet in section [B]. It thereby "surrounds" this couplet.<sup>(14)</sup>

iv. Le Traquet Stapazin

[A] [B] [C]

Elements: a, vignobles en terrasses.

b, Traquet stapazin.

c, Bruant Ortolan, preceded always by an inferior resonance. d, Fauvette à lunettes. e, Goéland argenté.

f, Grand Corbeau. g, Chardonneret. x, preceding element. h, Fauvette Orophée. i, le soleil.

j, Bruant fou. k, Bruant Proyer, preceded always by inferior resonance. l, Hypolais polyglotte.

m, Cochevis de Thékla. y, preceding element.

n, la mer. o, le ciel.

[A] (1-105).pp.1-8

1. (1-18). *Ex. 81*

a b c  $\overline{d / e f d' g d'}$  //

2. (19-51).

a b c  $\overline{d / e f \underline{x g x g x g} e' d}$  //

3. (52-105).

a b c  $\overline{d / f e \underline{x g} d h e d}$  //

---

14. The sonata form headings are not meant to indicate sonata form as such, but are used to show the ternary nature of the piece, and that in fact the songs of the Merle bleu and the Cochevis de Thékla are expanded and varied in section [B], and that section [C] reflects, in retrograde, section [A].



[B] (106-195). pp.8-19

1. (106-128).

i b i b i b / j h k l //

2. (129-195).

i b i b i b i b i b / j h k h k h k /  
y m y m y m y m y m y m y m //

[C] (196-271). pp.20-27

1. (196-238).

a b c b f g<sup>+</sup> b //

2. (239-255).

I b h c b / n m n m n m //

3. (257-271).

e o d o d o d c b e d //

The element "d" is used as the main cadence; at the end of each part of section [A] and at the end of the piece. Note the doubling and partitioning of the element "e" in [A], 2 and 3, and in the same parts, the reversal of position of "e" and "f".

In part [B], 1, "i b" is stated three times (a prime number), and the element "h" is recalled from [A], 3. In [B], 2, "i b" is stated five times, "h k" is stated three times, and "y m" seven. All of these are prime numbers. The element "h" is now used structurally.

Note in [C], 1 and 2 the partitioning of "b", and also that in part 2 the element "n" has replaced "y" as a preceding element to "m". Note also the three statements of "o d" in [C], 3, where "o" is augmented at each repetition. The element "e" re-appears in [C], 3, and is used in a similar fashion as in [A], 2 and 3.

v. La Chouette Hulotte

[A] [B]

Elements: a, la nuit. b, la peur. c, Hibou moyen-Duc.

d, Chouette Cheveche. e, Chouette Hulotte.

[A] (1-62). *Ex. 82*

a b c d e / b c d E //

[B] (64-153).

a<sup>+</sup> b c d c d E //

vi. L'Alouette Lulu

[A] [B] [C]

Elements: a, la nuit. b, Alouette Lulu. c, Rossignol.

[A] (1-12). *Ex. 83*

a b a b a b a b a b a b //

[B] (13-48).

a B C a B C a b<sup>-</sup> c<sup>-</sup> a<sup>-</sup> b c a<sup>-</sup> b c //

[C] (49-62).

A b a b a b A b a b a b ā b //

vii. La Rousserolle Effarvatte

a, Musique des étangs. b, choeur des grenouilles.  
 c, Héron Butor. d, Rousserolle Effarvatte. D, first and second  
 Effarvatte. e, Solennité de la nuit. f, bruits dans le marais.  
 h, Lever de soleil (sur l'étang des nénuphars).  
 H, Coucher de soleil (sur l'étang des iris). i, Merle noir.  
 j, Pie - grièche. k, Rouge - queue. l, iris jaunes.  
 l', digitale pourprée. m, Faisan. n, Bruant des roseaux.  
 o, Pic vert. p, Etourneau Sansonnet. q, Mesange charbonnière.  
 r, Bergeronnette grise. s, Locustelle tachetée.  
 t, Phragmite des joncs. u, Rousserolle Turdoïde.  
 v. Mouette rieuse. w, Foulque. x, Alouette des champs.  
 y, Râle d'eau. z, Rossignol.

[A] Midnight to 3 a.m.: (1-132). pp.1-11.

a b c d<sup>+</sup> / e f e f b f b e //

[B] (133-238).

1. 6 a.m.: (133-190). pp.11-15.

h(i j) h(i j) h k h i h(i j) h(i j) //

2. 8 a.m. to Midday: (191-238). pp.15-18

l m h o n' p m q o r l s //

[C] 5 p.m.: (239-502). pp. 18-34

d t l' / d t l' / u t<sup>+</sup> / d b / v w h' / D t<sup>+</sup> / D d / t D //

[D] (503-647).

1. 6 p.m.: (503-567). pp. 34-37.

l s w x b x' b y //

2. 9 p.m. to Midnight: (568-647). pp.38-45.

H c H c H<sup>-</sup> c H<sup>-</sup> z / H e z e z c z f H<sup>-</sup> b //

[E] Midnight to 3 a.m.: (648-751). pp.45-41 <sup>Ex. 84</sup>

e' / d<sup>+</sup> b a c //

Messiaen points out in the preface to this piece that it is: "un grande mouvement courbe, de minuit - 3 heures du matin, à minuit - 3 heures du matin, les évènements de l'après-midi à la nuit répétant en ordre inverse les évènements de la nuit au matin". This curve can be seen by comparing the use of the structural elements in [A], [B], [D] and [E], for structurally, the last two are a retrograde of the first two. At the same time the last two sections introduce new elements in place of those used in [A] and [B].

Section [D] part 1, begins with the elements "l s" which were used to cadence section [B] part 2, and it also follows the partitioning structure set up in [B], 2. The use of element "H" in [D], 2, parallels the use of "h" in [B], 1. Section [E], although diminished, recalls section [A] in retrograde, however the element "c" is used as a cadence to the piece, and the element "e", though it is placed at the beginning of section [E] to show clearly the retrograde form, could

equally well have been placed at the end of section [D], for it acts as a transition between the two.

viii. L'Alouette Calandrelle

[A] [B] [C] [D]

Elements: a, Alouette Calandrelle. b, chœur des cigales.  
c, Faucon Crécerelle. d, Caille. e, Cochevis huppé.  
f, Alouette des champs.

The inferior resonances, introducing each call of the Alouette Calandrelle are represented by the following symbols:

t, Chaleur et solitude du désert de la Crau.

u, v, w, x, y, z, all represent different special chordal functions peculiar to Messiaen, which will be analyzed in detail in the section dealing with this piece in the chapter on harmonic structures.

[A] (1-26).

1. (1-14). *Ex. 85*

t a t a t a / b c d //

2. (15-26).

u a v a w a x a y a //

[B] (27-42).

(A E ) //

[C] (43-80).

1. (43-69).

x' a x' a y a y a x' a z a / b c d //

2. (70-80).

t a t a t a d //

[D] (81-97).

F/ d t a //ix. La Bouscarle

[A] [B] [C]

Elements: a, Bouscarle. b, Poule d'eau. c, Martin - pêcheur.

x, Inferior resonance to Martin - pêcheur.

d, flèche bleue-verte du Martin-pêcheur.

E, l'eau reflète les saules et les peupliers.

f, vol du Martin-pêcheur. g, la rivière. h, Merle noir.

i, Rouge - gorge. j, Râle de genêts. k, Grive musicienne.

l, Troglodyte. m, Pinson. n, Fauvette à tête noir.

o, Huppé. p, Rossignol. q, Hirondelle de rivage.

r, Bergeronnette printanière. s, le Martin-pêcheur plonge.

[A] (1-45]. pp.1-4 *Ex.86*a b c d / x c x c a' / E //

[B] (46-175). pp.4-17

1. (46-76).

g h g h g<sup>+</sup> h / a f / g<sup>+</sup> i / a j k l //

2. (78-125).

g h g h g<sup>+</sup> h / a f<sup>+</sup> / g<sup>+</sup> i / a j k<sup>+</sup> m a j //

3. (126-175).

g n g n g<sup>+</sup>n / a o l / P F //

[C] (176-230). pp. 17-21.

E / q b a / g<sup>+</sup>i<sup>+</sup> j r / s c d x a //

Section [C] recapitulates the material from section [A], while incorporating the elements "g i" from [B]. The element "E" is used to conclude section [A], and to begin section [C]. Note the three phrases in section [B], all beginning with a triple statement of "g", associated in the first two phrases with "h", and in the third with "n". Note also how the "l" in the first phrase is replaced with a repetition of "a j", and how it occurs in the third phrase, again in a cadential role, before the only call of the Rossignol in the piece. The "g i" which is omitted in the third phrase is compensated for by its inclusion in section [C], and the element "f", in the same phrase, is moved to the end and augmented.

x. Le Merle de roche.

[A] [B] [C]

Elements: a, la nuit. b, la main de pierre.

c, Grand Duc (male). c', Grand Duc (female).

d, les Choucas. e, Rouge - queue tithys.

f, Stégosaure de pierre. f', Diplodocus de pierre.

f' ', cortège de fantômes de pierre...

g, Merle de roche.

[A] (1-53). pp. 1-5 *Ex. 87*

$$\underline{a\ b} \quad \underline{c\ c' \ c\ c' \ c} \ / \ \underline{a\ b^+} \quad \overline{d \quad \underline{a^+b^+} \quad d^+} \ //$$

[B] (54-315).

*Ex. 87*

1. (54-186). pp. 5-14

$$\underline{e\ f} \quad \underline{e\ f} \ / \ e^+ \ f' \ e^+ \ / \ \underline{g\ f'' \ g} \ //$$

2. (187-315). pp. 14-25

$$\underline{d\ g^-} \quad \underline{d\ g^-} \quad \underline{d\ g^-} \ / \ \overline{e\ g^- \quad \underline{f\ f'} \quad e \quad d^+ \quad f} \ //$$

[C] (316-339). pp. 26-28

$$\underline{c\ c' \ c\ c' \ c} \quad \underline{\underline{a\ b} \quad c \quad \underline{a\ b^+}} \ //$$

In this piece all the cadences are formed by surrounding a fixed element by a new one. In section [A] the cadence is formed by surrounding the elements "a b" by "d". In [B] the cadence to part 1 is formed by surrounding the fixed "f" by the new element "g", and in part 2, a double cadence is formed using elements from the previous phrase, but not fixed in this one. The element "g", which is fixed, is surrounded by the "e", and the elements "d", also fixed, is surrounded by the "f". The two cadences are interlocked by displacing the positions of the first "f" and the second "e" in the phrase. The final cadence is created by surrounding the fixed "c" by the elements "a b".



xi. La Buse variable

[A] [B] [C]

Elements: a, Buse variable. b, vol de la Buse. c, Pinson.  
 d, Bruant jaune. e, Grive Draine. F, Chardonneret.  
 g, Hirondelle de cheminée. h, Pie - Grièche écorcheur.  
 i, Corneille noire. i', Les Corneilles.  
 j, Fauvette grisette.

The following is according to the analysis given by Messiaen  
 in the preface to this piece:

[A] Introduction: (1-18). *Ex. 88*

a B //

[B] (19-165).

1. Couplet 1: (19-34).

c d e d e a E //

2. Couplet 2: (35-62).

d f / c d e d e a E //

3. Couplet 3: (63-165).

g d f / c h i / h i a / h i a / h<sup>†</sup> i a / i a /  
 h i' a h / E j d f //

[C] Coda: (166-182).

a B //

There is, however, an alternative analysis which is given as follows:

[A] Introduction: (1 - 18).

a B //

[B] (19 - 165).

1. Couplet 1: (19-37).

c d e d e a E d f //

2. Couplet 2: (38 - 71).

c d e d e a E g d f //

3. Couplet 3: (72 -165).

c h i / h i a / h <sup>˘</sup> i a / h <sup>+</sup> i a / i a / h i' a h / E j d f //

[C] Coda: (166 - 182).

a B //

The difference between the two analyses is that Messiaen begins the second and third couplets of section [B] with the elements "d f", while the suggestion is made in this analysis that these elements could be treated as cadential, which would appear to be justified by their position at the end of the third couplet, and also by the musical effect of the Chardonneret. This also means that each couplet begins with the element "c". The refrain "E" is indicated by a capital letter to show its differentiation by the accompanying harmonies. It is followed in each case by the elements "d f" and is partitioned from them in couplets 2 and 3 by the elements "g" and "j".

xii. Le Traquet rieur

[A] [B] [C]

Elements: a, la mer. b, Traquet rieur. c, Goéland argenté.  
 d, Merle bleu. e, Traquet stapazin.  
 f, Martinets noirs. g, Fauvette à lunettes, always with  
 introductory resonance. h, coup de vent sur la mer.  
 i, soleil sur la mer.

[A] (1-46). *Ex. 89*

a / b c / d b d b / d e d e / b<sup>4</sup> f / a //

[B] (47-93).

d b d b e b / d e d e / f c / a //

[C] (94-153).

B G / b i f / b a //

Element "a" is used as the refrain throughout the piece. Note in section [B] how the elements "e" and "b", which in [A] were always associated separately with "d", are now associated. In both sections [A] and [B] the element "b" is used structurally, surrounding the phrase, and in [C] it is the unifying element. The element "f" occurs in all couplets just before the refrain; in both [A] and [C] it is associated with "b", the association being partitioned in [C] by "i".

xiii. Le Courlis cendré

[A] [B] [C] [D] [E]

Elements: a, Courlis cendré. b, les vagues de la mer.  
 c, Sterne Caugek. d, Mouette rieuse. e, petit Gravelot.  
 f, Chevalier Gambette. g, Goéland argenté.  
 h, Goéland cendré. i, Guillemot de Troïl.  
 j, Huitrier pie. k, Tournepierre à collier.  
 L, l'eau. M, la nuit et le brouillard.  
 n, sirène du phare. o, Sterne naine.  
 p, bruit de ressac. x, element forming resonance to  
 Chevalier Gambette.

[A] (1-38).

A. Calls of the Courlis cendré arranged as Binary Sentence. *Ex. 90*

[B] (39-140).

b	c	d	e	f	/	<u>b<sup>-</sup>g</u>	<u>b<sup>-</sup>g<sup>+</sup></u>	/	b <sup>+</sup> h	i	/	b	<u>x f</u>	i	/	<u>x f</u>	j	/
													<u>x f</u>	k	j	/	b <sup>+</sup>	//

[C] (141-176).

L M //

[D] (177-202).

$$\overbrace{\text{n g c / n e d g o / n f g f}} \quad //$$

[E] (203-224).

A p //

The call of the Courlis cendré appears twice in the piece, occupying two large sections placed at the beginning and the end. These are pivoted around the central section [C].

The intervening couplets [B] and [D] reflect each other in their method of construction. The structural elements in the first couplet are "b" and "f", with "b" surrounding the whole couplet. In the second, the elements "n" and "g" are structural, with the final statement of "g" being surrounded by "f", recalled from the first couplet.

In the final section, the element "p" acts as a coda after the last strophe of "A".

### La Fauvette des Jardins

[A] [B] [C] [D] [E]

Elements: a, la nuit. b, ondulations de l'eau.

c, la montaigne du Grand Serre. d, Caille.

e, Rossignol. f, les frênes. g, les aulnes.

g', silhouettes des arbres. h, le lac.

h', couleurs du couchant. i, Fauvette des jardins.

j, Troglodyte. k, la menthe et l'herbe.  
 k', épilobes et roseaux. l, Merle. m, Pic vert.  
 n, Alouette des champs. o', o'', o''', 1st, 2nd, 3rd  
 Pinson. p, Rousserolle Turdoïde. q, Lorient.  
 r, Corneille. s, Pie grièche écorcheur. t, Milan noir.  
 t', vol du Milan. u, vol des Hirondelles.  
 v, Bruant jaune. w, Chardonneret.  
 X, Bridge Passage, based on t', g, c'.  
 y, Fauvette à tête noir. z, Chouette Hulotte.

[A] Introduction: (1-59). pp. 1-4.

1. (1-23).

a b c d e //

2. (24-59).

a b c d f e g e g e //

[B] Exposition: (60-290). pp. 4-18

1. (60-176). <sup>Ex. 91</sup>

h i / a i a i a I / f e / a j I //

2. (177-290).

g k l / m n m o / g k' I //

[C] Development: (291-777).

1. (291-572). pp. 18-32

h c o'o''p I / h<sup>-</sup>q hq I / p q h q r s t I / p c u o I //

2. (573-777). pp. 32-41

r s r s t / c u c u c o'o''o''' / t s I //

[D] Recapitulation: (778-967). pp.42-54

1. (778-830).

b c l l b c n b c l n /

Bridge Passage: X, (831-873).

2. (874-967).

h v h o h<sup>+</sup>w h<sup>-</sup>v / H I / m y m e / h' y / r s m //

[E] Coda: (968-993).

a z b H g'c //

In Section [A], the second phrase is structurally a repetition of the first, with the element "e" augmented and associated with the "tree" elements, "f" and "g". Section [B] introduces the Fauvette des jardins; the first phrase begins with the new element "h", and the Fauvette des jardins is associated with "a" throughout the phrase. Note the recall of "f e" from [A], 2. In phrase 2, "i" is associated with "g k", and its repetition is partitioned by the new elements "m", "n" and "o".

Section [C] part 1, rests structurally on the elements "h", which is used for the first time since its appearance in [B], 1, and "p". A long solo of the Fauvette des jardins completes each part of this phrase. Note the use of "c o" which surrounds the phrase; at the beginning, these elements are in association with both "h" and "p", at the end with "p" only, and partitioned by "u". The second phrase uses "c o" as its pivot, associating "c" and "u". It is surrounded by "s", associated with "r" and "t", and terminates with "I".

Section [D] part 1 has "b c" as a refrain, alternating with "l" and "n" which are then associated. The second phrase has "h" as a structural element, as did [C], i, and also "m", which is associated with a recall of "r s" from [C], 2. The central part of the phrase is a solo of the Fauvette des jardins, with an augmented statement of "h".

The coda recalls "a", "b", "c" and "g" from [A] along with "h", and introduces a new element "z".

The Catalogue d'Oiseaux and La Fauvette des Jardins are works of synthesis, consolidating the experiments of Cantéyodjayâ and the Quatre Etudes de rythme, while incorporating elements and structures from the earlier works. The method of formal construction, the evolution of which has been traced in this chapter, and which was finally established in Cantéyodjayâ, is basic to all of these pieces.

There are a number of examples of macro-forms adopted from the earlier works. Two of the pieces are constructed on the basis of the Litanic Form first encountered in the Vingt Regards sur l'Enfant-Jésus, namely, the sixth and eighth of the Catalogue d'Oiseaux, L'Alouette Lulu and L'Alouette Calandrelle. Two other pieces from the Catalogue, the ninth, La Buse variable and the thirteenth, Le Courlis cendré, employ the idea of surrounding the piece with two, related sections comprising material not used in the rest of the piece, which was first used in the sixteenth, seventeenth and eighteenth pieces of the Vingt Regards sur l'Enfant-Jésus. Again, there are two examples of forms which can be analyzed according to the Sonata Form concepts of Exposition, Development and Recapitulation, although these works bear very little relation to traditional Sonata Form. The works analyzed in this way are the third of the Catalogue, Le Merle bleu, and the final work, La Fauvette des Jardins.



Messiaen has also created a new macro-form in these works, of which he speaks as follows:

Mais c'est dans mon Catalogue d'Oiseaux que vous reconnaîtrez ma grande innovation formelle. Là,...j'ai cherché à reproduire sous une forme condensée la marche vivante des heures du jour et de la nuit. (15)

The piece which typifies this form is the seventh of the Catalogue, La Rousserolle Effarvate, the retrograde structure of which was analyzed in detail previously. Other works which exemplify this form are: the fourth and tenth pieces of the Catalogue, Le Traquet Stapazin and Le Merle de roche, and La Fauvette des Jardins.

Another unique form, which appears for the first time in the Catalogue, is that which Messiaen has derived from the poetry of ancient Greece, namely the triad, Strophe, Antistrophe and Epode. This form is used in the first piece, Le Chocard des Alpes.

The micro-structures of each of these pieces have been discussed in detail in the analyses given above, and it is evident that they rest on the principle of mosaic construction which was outlined at the end of part 5 of this chapter. Thus the formal structures of the Catalogue d'Oiseaux and La Fauvette des Jardins can be seen to have been developed from a formal principle whose evolution can be consistently traced throughout Messiaen's piano works.

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15. Samuel, C., op.cit., pp.136-137.

PRÉLUDES.

La Colombe Theme, part a.

Ex 1 (1) Lent

*p*

rubato

(6)

This musical example is written on a single staff in treble clef with a key signature of one sharp (F#) and a 2/4 time signature. It begins with a piano (*p*) dynamic and a tempo marking of '(1) Lent'. The melody consists of a series of quarter and eighth notes, with a 'rubato' marking indicating a change in tempo. The piece concludes with a final chord marked with a circled '6'.

Chant d'extase dans un paysage triste Theme 1, a1.

Ex 2 (1) Lent et triste

(4)

This musical example is written on a single staff in treble clef with a key signature of one sharp (F#) and a 4/4 time signature. It starts with a tempo marking of '(1) Lent et triste'. The melody features a mix of quarter and eighth notes, with a circled '4' at the end of the first phrase.

Theme 2, a1

Ex 3 Un peu plus vite

(25)

*mf*

(28)

This musical example is written on a single staff in treble clef with a key signature of one sharp (F#) and a 4/4 time signature. It begins with a tempo marking of 'Un peu plus vite' and a dynamic of '*mf*'. The piece includes a circled '25' and a circled '28'.

Le nombre léger Theme, a

Ex 4 (1) *mf* Vif et léger

(4)

This musical example is written on a single staff in treble clef with a key signature of one sharp (F#) and a 2/4 time signature. It starts with a tempo marking of '(1) *mf* Vif et léger'. The melody is characterized by eighth and sixteenth notes, ending with a circled '4'.

Instantes défunts Theme 1, antécédent

Ex 5 (1) Lent

*mf*

*p*

(4)

This musical example is written on a single staff in treble clef with a key signature of one flat (Bb) and a 3/4 time signature. It begins with a tempo marking of '(1) Lent' and a dynamic of '*mf*'. The piece includes a circled '4' and a dynamic change to '*p*'.

Theme 2, antécédent (9)

Ex 6

*mf* Modéré

This musical example is written on a single staff in treble clef with a key signature of one flat (Bb) and a 7/8 time signature. It starts with a dynamic of '*mf*' and a tempo marking of 'Modéré'. The piece concludes with a circled '9'.

(12)

3

This musical example is written on a single staff in treble clef with a key signature of one flat (Bb) and a 3/4 time signature. It features a circled '12' and a '3' above a triplet of notes.

Les sons impalpables du rêve. Theme 1, a1.

Ex 7 (3) *Modéré*

Ex 8 Theme 2, a

Ex 9 Cloches d'angoisse et larmes d'adieu Theme 1, antécédent

(1) *Trois lent*

Ex 10 Theme 2

Ex 11 Plainte calme a1

(1) *Lent*

Ex 12 Un reflet dans le vent... Theme 1, a

(1) *Modéré*

*cresc. molto*

Ex 13 Theme 2, a1.

(32)

Les Offrandes oubliées [A] Theme

Ex 14 (1) Presque lent (2)

Ex 15 [B] A. al. (18)

Ex 16 [B] B. a. (49)

Ex 17 [C] a1 Lent (11)

Fantaisie Burlesque. [A] a1.

Ex 18. Mod. ari (1) (2)

Ex 19 [B] A1, a1. (75) (76)

Ex 20 [B] B. a. (94)

Rondeau Theme 1. antecedent.

Ex 22. 1. et gai (1) (4)

Ex 23 Theme 2. antecedent. (20) (21)

# Pièce

Ex. 21

pour le Tombeau de Paul Dukas

Olivier MESSIAEN

**Très lent et solennel**

The musical score consists of four systems, each with a grand staff (treble and bass clefs). The first system is marked 'a1' and ends with a measure number '(2)'. The second system is marked 'b1' and ends with '(4)'. The third system is marked 'b2' and ends with '(6)'. The fourth system is marked 'a2' and ends with '(7)'. Each system features complex harmonic textures with many accidentals and dynamic markings. The tempo is indicated as 'Très lent et solennel'. The score concludes with a final measure marked with a fermata and a '7' below it.

C1 (8)

Musical score for system 8, labeled C1. It consists of two staves with chords and some melodic fragments. The key signature has one sharp (F#).

(9)

Musical score for system 9. It consists of two staves with a melodic line in the right hand and a bass line in the left hand. The key signature has one sharp (F#).

C2 (10)

Musical score for system 10, labeled C2. It consists of two staves with chords. The right hand has a melodic line. The key signature has one sharp (F#).

N (11)

*piu ff*

Musical score for system 11, labeled N. It consists of two staves with a complex melodic and harmonic texture. The key signature has one sharp (F#).

(12)

Musical score for system 12. It consists of two staves with chords and some melodic fragments. The key signature has one sharp (F#).

VISIONS DE L'AMEN.

Amen de la Création Theme of Creation

Ex. 24 Très lent (1)

1<sup>re</sup> 2<sup>e</sup>

Amen des étoiles, de la planète à l'anneau. Theme of dance of planets. a 1

Ex 25 (1) Modéré

2<sup>e</sup>

Amen de l'agonie de Jésus. Thème 1

Ex 26 Très modéré

1<sup>re</sup> 2<sup>e</sup>

Ex. 27. Thème 2 Un peu plus lent

2<sup>e</sup>

Ex. 28. Thème 3 Un peu plus lent (17)

2<sup>e</sup>

Ex. 29 Thème 4 Rien modéré

2<sup>e</sup>

Amen du Désir

Ex. 30. Thème 1 a

2<sup>e</sup>

Ex 31. Theme 2. A. a1.

(11) *Moderato, presque rit*

Amen des anges, des saints, du chant des oiseaux

Ex 32. Theme 1, a.

*Très modéré*

Ex 33. Theme 2.

*V. peu lent*

Ex 34. Theme 3

*Moderato, presque rit*

Ex 35. Theme 4, a.

Amen du Jugement Theme, a1

Ex 36. *Très modéré*

Amen de la Consommation Theme a1

Ex 37

(1)

Ex 38 [A] B Development of Theme

(54) (55)



Regard du Père Thème de Dieu

Ex 39 (1) *Extremement lent*

pp (2)

Detailed description: This block contains the musical notation for 'Regard du Père Thème de Dieu'. It is written on two staves (treble and bass clef). The tempo is marked 'Extremement lent'. The piece begins with a piano (pp) dynamic. There are two distinct musical phrases, labeled (1) and (2), which are repeated. The notation includes various note values, rests, and dynamic markings.

Regard de l'étoile Thème de l'étoile et de la croix

Ex 40 *Modéré*

f (23) (24)

Detailed description: This block contains the musical notation for 'Regard de l'étoile Thème de l'étoile et de la croix'. It is written on a single bass clef staff. The tempo is marked 'Modéré'. The piece starts with a forte (f) dynamic. It features two musical phrases, (23) and (24), which are repeated. The notation includes eighth and sixteenth notes.

L'Échange Thème.

Ex 41 *Bien modéré*

pp (1) (2)

Detailed description: This block contains the musical notation for 'L'Échange Thème.'. It is written on three staves (treble, bass, and a lower bass clef). The tempo is marked 'Bien modéré'. The piece begins with a pianissimo (pp) dynamic. It consists of two main musical phrases, (1) and (2), which are repeated. The notation includes various note values, rests, and dynamic markings.

Regard de la Vierge Thème 1, a)

Ex 42 *Bien modéré*

pp (2)

Detailed description: This block contains the musical notation for 'Regard de la Vierge Thème 1, a)'. It is written on two staves (treble and bass clef). The tempo is marked 'Bien modéré'. The piece starts with a pianissimo (pp) dynamic. It features two musical phrases, (1) and (2), which are repeated. The notation includes various note values and dynamic markings.

Ex 43 *Modéré* Thème 2, a)

(1) (2)

Detailed description: This block contains the musical notation for 'Ex 43 Modéré Thème 2, a)'. It is written on a single treble clef staff. The tempo is marked 'Modéré'. It features two musical phrases, (1) and (2), which are repeated. The notation includes various note values and dynamic markings.

Par Lui tout a été fait. Fugue subject.

Ex 44 (1) *Modéré, pique et* (2)

Detailed description: This block contains the musical notation for 'Ex 44 Modéré, pique et'. It is written on a single bass clef staff. The tempo is marked 'Modéré, pique et'. It features two musical phrases, (1) and (2), which are repeated. The notation includes various note values and dynamic markings.

Ex 45 Thème d'amour.

(170)

fff

Detailed description: This block contains the musical notation for 'Ex 45 Thème d'amour.'. It is written on a single treble clef staff. The tempo is marked 'Thème d'amour.'. The piece starts with a fortissimo (fff) dynamic. It features a single musical phrase (170) which is repeated. The notation includes various note values and dynamic markings.

Regard des hauteurs L'alouette, al.

Ex 46 Un peu vite (9)

Musical notation for 'Regard des hauteurs L'alouette, al.' in treble clef, 2/4 time. It features a melody with eighth and sixteenth notes. The key signature has one flat (B-flat). The piece is marked 'mf'.

Musical notation for 'Regard des hauteurs L'alouette, al.' in bass clef, 2/4 time. It features a bass line with eighth and sixteenth notes. The piece is marked 'mf'.

Regard du Temps Theme, al

Ex 47 modéré (1) (2)

Musical notation for 'Regard du Temps Theme, al' in treble clef, 2/4 time. It features a melody with eighth and sixteenth notes. The key signature has one flat (B-flat). The piece is marked 'mf'.

Regard de l'Esprit de joie Theme de danse orientale ...

Ex 48 Truque vite

Musical notation for 'Regard de l'Esprit de joie Theme de danse orientale ...' in bass clef, 2/4 time. It features a bass line with eighth and sixteenth notes. The piece is marked 'f'.

Theme de joie.

Ex 49 modéré (2a)

Musical notation for 'Theme de joie.' in treble clef, 2/4 time. It features a melody with eighth and sixteenth notes. The key signature has one flat (B-flat). The piece is marked 'ff'.

Air de chasse. A. a. modéré

Ex 50 (6a) (6b)

Musical notation for 'Air de chasse. A. a. modéré' in bass clef, 2/4 time. It features a bass line with eighth and sixteenth notes. The key signature has one flat (B-flat). The piece is marked 'ff'.

Première communion de la Vierge [A]. A. a. Theme de Dieu

Ex 51 Très lent (1) (2)

Musical notation for 'Première communion de la Vierge [A]. A. a. Theme de Dieu' in bass clef, 2/4 time. It features a bass line with eighth and sixteenth notes. The key signature has one flat (B-flat). The piece is marked 'p'.

Viange et l'Enfant

Ex 52. [A] B. (17) (20)

Musical notation for 'Viange et l'Enfant' in treble clef, 2/4 time. It features a melody with eighth and sixteenth notes. The key signature has one flat (B-flat). The piece is marked 'p'.

La parole toute-puissante A. al. Theme.

Ex 53 Un peu vite (1) (5)

Musical notation for 'La parole toute-puissante A. al. Theme.' in bass clef, 2/4 time. It features a bass line with eighth and sixteenth notes. The key signature has one flat (B-flat). The piece is marked 'ff'.

Noël [A] B a Theme 1.  
 Ex 54 Modéré un peu rit (6)  
 Musical score for piano with treble and bass clefs, including dynamics like *pp* and *f*.

Ex 55 [B] a Theme 2. Très modéré (20)  
 Musical score for piano with treble and bass clefs, including dynamics like *f*.

Regard des Anges. A1 b Theme d'accords.  
 Ex 56 modéré (5) (6)  
 Musical score for piano with treble and bass clefs, including dynamics like *f* and *pp*.

Ex 57. (16) A1. Trombones. (18)  
 Musical score for trombones with dynamics like *fff* and *vol*.

[B] Oiseaux  
 Ex 58 (78) (81)  
 Musical score for piano with treble clef, including dynamics like *f*.

Le baiser de l'Enfant-Jésus [A] A a1 Theme de Dieu  
 Ex 59 très lent (1) (2)  
 Musical score for piano with treble and bass clefs, including dynamics like *pp* and *ppp*.

[C] a. Le baiser

Ex 60 Modéré (97) (97)  
 Musical score for piano with treble and bass clefs, including dynamics like *ff*.

Regard des prophètes, des bergers et des Mages [B] a. Theme 1

Ex 61 *sublimé*

Ex 62 [C] a Theme 2.

Ex 63 *Regard du Silence* [B] A1, a

*Thème d'accords*

Ex 64 Solennel. [B] A1, a

Ex 65 [B] A1, c.

Ex 66 *Je dors, mais mon coeur veille* [B] A1, Theme 1.

Ex 67 [C] A1 Theme 2 *Thème d'amour.*

Regard de l'Eglise d'amour

[A] A1 Theme 1.

Ex 68. Tempo rit

Theme 1

et à droite (6)

Handwritten musical notation for Ex 68, first system, bass clef.

Ex 69 [A] A1 Theme de Dieu

Tempo lent

(7)

Handwritten musical notation for Ex 69, first system, bass clef.

[A] C, al. Theme 3 Theme d'amour

Ex 70. Tempo rit

Handwritten musical notation for Ex 70, two systems, treble and bass clefs.

Cantéyodjayâ.

[A] al. Cantéyodjayâ

Ex 71. Tempo rit

Handwritten musical notation for Ex 71, two systems, treble and bass clefs.

Ex 72. Modéré [A] element C.

Handwritten musical notation for Ex 72, two systems, treble and bass clefs.

Neumes rythmiques. [B1]

Ex 73. Poco moderé (3)

Handwritten musical notation for Ex 73, two systems, treble and bass clefs.

Mode de valeurs et d'intensités | Period b

period c

Ex 74-77

Ex 74

Ile de feu 1. [A] A, a. Theme 1.

Ex 75

Ex 76

Ile de feu 2 - [A] Theme

Ex 77

CATALOGUE D'OISEAUX

Ex 78-81

Le Chocard des Alpes. [B1] a. (hard.)

(20)

Ex 78

Handwritten musical score for 'Le Chocard des Alpes'. It features a grand staff with treble and bass clefs. The music is written in a key with one sharp (F#) and a 4/4 time signature. The score includes various dynamics such as *ff* and *f*, and includes performance markings like accents and slurs. The piece is marked with a tempo of 'a.' (allegretto) and a difficulty level of '[B1]'. The number '(20)' is written in the upper right corner.

Le Loriot [A] A, ab and e

b. Loriot

c. Rossignol

Ex 79

Handwritten musical score for 'Le Merle bleu'. It features a grand staff with treble and bass clefs. The music is written in a key with two sharps (F# and C#) and a 4/4 time signature. The score includes various dynamics such as *pp*, *mf*, and *p*, and includes performance markings like accents and slurs. The piece is marked with a tempo of 'Lento' and a difficulty level of '[A]'. The number '(13)' is written in the upper right corner.

Le Merle bleu [A] l, d and [A] a h.

Ex 80. d. Merle bleu  
b. merle bleu

Merle bleu

h. lamer bleu

Ex 80

Handwritten musical score for 'Le Traquet Stapanin'. It features a grand staff with treble and bass clefs. The music is written in a key with one sharp (F#) and a 4/4 time signature. The score includes various dynamics such as *p*, *f*, *mf*, and *p*, and includes performance markings like accents and slurs. The piece is marked with a tempo of 'Trio Lento' and a difficulty level of '[A]'. The number '(60)' is written in the upper right corner.

Le Traquet Stapanin [A] l, b and d.

Ex 81

b. Traquet stapanin  
vi. f

d. Fauvette à lunettes  
ou merle

Ex 81

Handwritten musical score for 'Fauvette à lunettes'. It features a grand staff with treble and bass clefs. The music is written in a key with one sharp (F#) and a 4/4 time signature. The score includes various dynamics such as *f*, *mf*, and *p*, and includes performance markings like accents and slurs. The piece is marked with a tempo of 'Trio Lento' and a difficulty level of '[A]'. The number '(9)' is written in the upper right corner.

La Chouette Hulotte [A], e.

Ex. 82. e. Chouette Hulotte  
Un peu lent

Handwritten musical score for 'La Chouette Hulotte'. It consists of two staves. The top staff is in treble clef and the bottom in bass clef. The key signature has one flat (B-flat). The tempo is 'Un peu lent'. The score is marked with dynamic levels: *mf*, *pp*, *mf*, and *f*. There are two measures, each marked with '(58)' above the staff. The music features a mix of eighth and sixteenth notes with some slurs and accents.

L'Alouette Lulu [A] ab

Handwritten musical score for 'L'Alouette Lulu'. It consists of two staves. The top staff is in treble clef and the bottom in bass clef. The key signature has two flats (B-flat and E-flat). The tempo is 'Lent'. The score is marked with dynamic levels: *p* and *mf*. There are two measures, each marked with '(60)' above the staff. The music features a mix of eighth and sixteenth notes with some slurs and accents.

La Rousserolle Effarvante. [E], d.

Handwritten musical score for 'La Rousserolle Effarvante'. It consists of two staves. The top staff is in treble clef and the bottom in bass clef. The key signature has three flats (B-flat, E-flat, and A-flat). The tempo is 'Lent'. The score is marked with dynamic levels: *mf* and *f*. There are two measures, each marked with '(65)' above the staff. The music features a mix of eighth and sixteenth notes with some slurs and accents.

L'Alouette Calandrella. [A] 1. ta.

Handwritten musical score for 'L'Alouette Calandrella'. It consists of two staves. The top staff is in treble clef and the bottom in bass clef. The key signature has one flat (B-flat). The tempo is 'Lent'. The score is marked with dynamic levels: *pp*, *mf*, and *f*. There are two measures, each marked with '(68)' above the staff. The music features a mix of eighth and sixteenth notes with some slurs and accents.

La Bouscarle [A] a. Un peu vif

Handwritten musical score for 'La Bouscarle'. It consists of two staves. The top staff is in treble clef and the bottom in bass clef. The key signature has one flat (B-flat). The tempo is 'Un peu vif'. The score is marked with dynamic levels: *fff* and *f*. There are two measures, each marked with '(72)' above the staff. The music features a mix of eighth and sixteenth notes with some slurs and accents.



Le Merle de Roche [A] ab and [B] 1. g.

Ex 87-89.

Ex 87 *Très lent*

Merle de Roche

Le Buse variable [A] a.

Ex 88

Le Traquet noir [A] b. and a

Ex 89

Joie de la mer bleue

Modéré (1)

Très vite

Un peu vite

Le Courlis cendra' [A] A

Exc 90-91

Ex. 90

Modéré

La Fauvette des Jardins. [B]. 1. a i.

Fauvette des Jardins

Un peu vite

Ex. 91

Modéré

(75)

## CHAPTER TWO

RHYTHMIC STRUCTURES1. Preludes

...rythmiquement, j'étais très loin  
de la divine liberté de Debussy. (1)

As the Préludes pre-date the rhythmic researches which Messiaen conducted after completing his studies at the Conservatoire,<sup>(2)</sup> none of the techniques which he developed from these researches are to be found in them. However, a few embryonic structures, presaging the later structures, are present.

His partiality for prime numbers is already evident in this work,<sup>(3)</sup> examples of which are to be found in the first and sixth preludes. The superior resonances at bars (2-3) and (11-12) of La Colombe comprise eleven chords, and the superior resonances at bars (5), (10-13), (25) and (31-34), of Cloches d'angoisse et larmes d'adieu consist of clusters of seven, five and three chords.

The same preludes also contain examples of inexact augmentation.<sup>(4)</sup> The cadence of the first period of La Colombe at bars (5-6) is formed from the two notes B natural and G sharp which are followed immediately by their inexact augmentation. <sup>Exc. 1</sup> The augmentation is rendered

1. Samuel, C., op.cit., 125.
2. See Part I, Chap. II, pp.15-16.
3. See Part III, Chap. XI, p.233.
4. See Part III, Chap. X, pp.203-204.

inexact by the addition of an added value,<sup>(5)</sup> in this case a semiquaver, to the second B natural, thus giving the following durations in semi-quavers: B natural, 2; G sharp, 2; followed by, B natural, 5; G sharp, 4.

Another example of inexact augmentation is to be found in Cloches d'angoisse et larmes d'adieu, for the pedal note of the first theme, section [A], bars (1-4), (6-9), (21-24) and (27-30), is repeated with the following durations: 1, 2, 2, 2, 3, 3, 5, 5; except for the last statement where the third and fourth durations are eliminated. *Ex. 2*

This prelude is also of particular interest, for although, in common with all of the Préludes, it employs time-signatures, those used in the first section and coda of this piece expressly indicate that the semiquaver is to be considered as the unit of duration.

The time-signatures used are the following:

$$\begin{array}{cccccc} 7 & 6 & 9 & 5 & 10 & 8 \\ 16' & 16' & 16' & 16' & 16' & 16' \end{array}$$

## 2. i. Fantaisie Burlesque

Like the Préludes, the Fantaisie Burlesque employs time-signatures. These indicate normal duple, triple or common time, except in two cases where Messiaen uses double signatures, which show clearly his predisposition towards added values. The examples are found on pages 3, 4, 7, 9 and 12, at bars (25-26), (34-35), (145-146) and (154-155) where the double time-signature  $\frac{4}{4} \frac{1}{8}$  is used, and at bars (85-88) and (110-112) which are preceded by the signature  $\frac{2}{4} \frac{1}{16}$ .

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5. See Part III, Chap. X, p.202.

ii. Pièce pour le Tombeau de Paul Dukas

The Pièce is the first of the piano works to forego the use of time-signatures, thus the work is 'ametical', with the unit of duration being the semiquaver. All the values within the piece are written exactly, and conceived in terms of the unit of duration, with the bar-lines indicating the periods.<sup>(6)</sup> The rhythmic effect of the piece is based largely on the use of the added value, both in the form of the added note and the dot. It also contains an example of rhythmic diminution in the left hand of bar (12), where the notes have the following durations: 16, 8, 4, 2, 1.

iii. Rondeau

In the Rondeau Messiaen reverts to using a time-signature, for the whole piece is written in  $\frac{4}{4}$  time. There is only one example of rhythmic interest, namely, the rhythmic diminution of the superior resonance at bars (80-83), where the repeated chord is written with the following durations: 7, 3, 3, 2, 2, 1,1.

3. Visions de l'Amen

It is in this work that the first conscious use is made of the rhythmic structures which are to become an established function of Messiaen's musical language. Time-signatures are employed throughout the work, however this is necessitated by the fact that it is written for two pianos, thereby requiring two interpreters.

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6. See Part III, Chap. X, pp.201, 210-211.

i. Amen de la Creation

The chordal ostinati played by the first piano as an accompaniment to the Theme of Creation are written as a series of non-retrogradable rhythms. (7)

The rhythms used in the R.H. are as follows:

6, 3, 6 / 2, 1, 2 / 8, 4, 8 //

Notice that the second rhythm is a diminution by  $\frac{2}{3}$  of the first, and that the third is an augmentation by  $\frac{1}{3}$  of the first. (8) The third rhythm is marked by the accents beginning at bar (9). The L.H. employs the following rhythms:

8, 4, 8 / 10, 5, 10 // .

The second is an augmentation by  $\frac{1}{4}$  of the first. *Exc. 3*

All of the above rhythms are based on the Cretic foot which has the values, 2, 1, 2. To those of the L.H., Messiaen adds another N.R. rhythm constructed from a Greek verse, namely the Aristophanean, which is composed of the following feet: dactyl, trochee, spondee. (9) Messiaen uses this in its normal and retrograde forms around a central value of 4 semiquavers at bars (13-15), (21-22), (28-29) and (35-37):

$\begin{array}{cccccccccccc} \rightarrow & & & & & & & & & & & & & & & \leftarrow \\ 2, & 1, & 1, & / & 2, & 1 & / & 2, & 2 & / & 4 & / & 2, & 2 & / & 1, & 2 & / & 1, & 1, & 2 & // \\ \text{dactyl} & / & \text{trochee/spondee} & / & & & & & & & & & & & & & & & & & & & \end{array}$

Note that the Aristophanean verse comprises eleven units of duration, that is, it exemplifies the use of prime numbers which, as Messiaen points

7. See Part III, Chap. XI, p.232.

8. See Part III, Chap. X, p.203.

9. See Part III, Chap. XI, p.221.

out, is a peculiarity of Greek metres.<sup>(10)</sup>

ii. Amen des étoiles, de la planète à l'anneau

In section [B], part A, pp.8-11, the second piano part comprises a set of free rhythmic variations on the first five notes of the theme, alternating with transposed statements of periods "a" and "b" of the theme:

- Rhythmic variations, (49-52);
- Period "a" of theme, (52-57);
- Rhythmic variations, (58-62);
- Part of period "a", (63-65);
- Period "b", (66-68);
- Rhythmic variations, (69-79).

The same set of variations occurs in section [B], part C, without the interpolations of periods "a" and "b", on pages 14-17, at bars (107-126). They are to be found in the L.H. of the second piano.

The third part of section [B] also contains the first appearance of the rhythm which remains as a constant structure throughout the piano works, namely that based on the three Hindu talas, ragarvardhana, candrakala and lakskmica.<sup>(11)</sup> It comprises the following durations: 4, 4, 4, 2, 3, 2 / 2, 2, 2, 3, 3, 3, 1 / 2, 3, 4, 8 // ; and is stated five times in the L.H. of piano 1 at bars (107-139), using as motivic material the first five notes of the theme. *Ex. 5*

10. See Part III, Chap. XI, p.224.

11. See Part III, Chap. X, pp.208-209.

iii. Amen de l'agonie de Jésus

The second theme of this piece is the first example in the piano works of the rhythmic function, "anacrusis, accent, desinence", which Messiaen derived from the principle of arsis and thesis in plainchant.<sup>(12)</sup> The theme appears twice in the work; in section [A1], A, at bars (13-16), and in section [A2], A, pp.28-29, at bars (57-62), where the anacrusis is extended by 4 semiquavers, and the accent is extended by 8 semiquavers.

The fourth theme comprises a set of free rhythmic variations or a four-note motif which is stated five times in the R.H. of piano 2, p.27, at bars (29-43), where it is accompanied by a four-note motif, rhythmically varied, in the L.H., also stated five times. <sup>Ex.6</sup> This theme is repeated on pp.30-31, at bars (75-93), where it is extended to seven rhythmic variations of the R.H. motif.

Accompanying the repetition of themes three and four in section [A2], B and C, is a rhythmic pedal based on the three Hindu talas, ragarvardhana, candrakala and lakskmica. This is stated four times in the L.H. of piano 1, pp.29-31, at bars (64-89).

iv. Amen du Désir

The rhythmic pedals which were analyzed in Amen de la Creation, are used again in this piece to accompany the repetition of Theme 2. They are to be found on pp.40-42, at bars (97-130), in the first piano part.

Notice also, the rhythmic augmentation of the chords over the dominant pedal which cadences the second theme. It occurs on pp.37 and

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12. See Part III, Chap. XII, pp.249-250.



47, at bars (79-86) and (168-175), and comprises the following durations, with the quaver as the unit of duration:

*Ex. 7*  
2, 3, 3, 4, 6, 6, 8 .

v. Amen des anges, des saints, du chant des oiseaux

This piece contains the first examples in the piano works of the rhythmic canon.<sup>(13)</sup> There are three rhythmic canons in the piece, the first occurring in section [A1], B, pp.51-52, at bars (24-30), as an accompaniment to the repetition of theme 2. It is a triple canon, at the distance of a quaver, and is composed of the following N.R. rhythms:

*Ex. 8*  
3, 5, 8, 5, 3 / 4, 3, 7, 3, 4 // .

Notice the rhythmic augmentation in piano 1 at the end of the canon at bars (29-30), comprising the following durations:

2, 2, 3, 4.

The second rhythmic canon is found on pages 66-67, at bars (160-166), in section [A2], B. This is also a triple canon, at the distance of a semiquaver, with the unit of duration being the demisemi-quaver. It appears in the first piano part, and comprises the same N.R. rhythms as the first canon. In this case they are stated twice.

The third rhythmic canon is found in the L.H. of piano 2, accompanying the repetition of the second theme in section [A2], B, pp.68-70, at bars (172-178). It is a double canon, at the distance of a semiquaver. The unit is the demisemi-quaver, and the same N.R. rhythms which formed the other canons are here stated twice.

The third theme of this piece is constructed on Greek metres. The rising figure comprises 7 units of duration, arranged as an

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13. See Part III, Chap. X, pp.206-207.

Epitrite III, that is, with the single unit in the third position. It is followed by three Spondees and two Paeonic feet. Both Paeonic feet may be analyzed as Paeon I, for they are five-unit feet, with the long in the first position, and with the three short durations combined in one value. The first statement of the antecedent of the theme occurs on p.53, at bars (45-51), and is arranged as follows:

2, 2, 1, 2 / 2, 2, 1, 2 / 2, 2 / 2, 3 / 2, 2 / 2, 2 / 2, 3 //

Epitrite III / Epitrite III/Spondee/Paeon I/ 2 Spondees / Paeon I //

vi. Amen du Jugement

The particular rhythmic characteristic of this piece is the use of the added value to create rhythmic instability. It is used in the form of the added note and the dot, the latter creating a rhythmic augmentation leading to the cadential chords, "puissant, inflexible". The augmentation, consisting of the durations, 2, 3, 4, is found on pages 73-74, at bars (2-3), (10-11) and (17-18), in the first statement of the theme.

*Ex. 9*

vii. Amen de la Consommation

The three Hindu talas, ragarvardhana, candrakala and lakskmica are used as the basis of the rhythmic canon which accompanies the Theme of Creation in section [A], part A. The rhythm comprises the following durations: 4, 4, 4, 2, 3, 2 / 2, 2, 2, 3, 3, 3, 1 / 2, 3, 4, 8 // . The canon is a double canon, and the distances between the two parts are progressively diminished. The first five statements of the rhythm are found on pp.78-80, at bars (1-16), where the canon is at the distance of a minim. This is followed by six statements of the rhythm, in canon, at

*Ex. 10*

the distance of a crotchet, pp.80-82, at bars (18-35). The final three statements, of which the head of the second, that is, the durations 4, 4, 4, 2, is eliminated, are in canon at the distance of a quaver, and are to be found on pp.82-84, at bars (37-50).

#### 4. Vingt Regards sur l'Enfant-Jésus

As was pointed out in the previous chapter,<sup>(14)</sup> the rhythmic structures which were introduced as accompanying material in the Visions de l'Amen are now used in their own right, giving rise to the mosaic-formal constructions which characterize certain pieces in this work, and all of the later works. It is important to note that Messiaen completely abandons the use of time-signatures in this work, thus establishing the principle of "ametical" music, in which the rhythms are conceived as free multiplications of the unit of duration.<sup>(15)</sup> None of the works which follow the Vingt Regards uses time-signatures.

The first four pieces contain no characteristic rhythmic structures.

#### 5. Regard du Fils sur le Fils

This piece introduces the technique of the rhythmic canon by augmentation.<sup>(16)</sup> In this case, the rhythm is superposed with its augmentation by the addition of a dot to each of the durations. The

14. See page 51 .

15. See Part III, Chap.X, pp.201,210.

16. See Part III, Chap. X, p.207.

rhythmic canon accompanies the Thème de Dieu, and it comprises the three Hindu talas, ragarvardhana, candrakala and lakskmica. Thus the rhythm and its augmentation consist of the following durations in demisemi-quavers: *Ex. 11*

8, 8, 8, 4, 6, 4 / 4, 4, 4, 6, 6, 6, 2 / 4, 6, 8, 16 //

12, 12, 12, 6, 9, 6 / 6, 6, 6, 9, 9, 9, 4 / 6, 8, 12, 24 //

There are three statements of the original rhythm, to two of its augmentation, on pp.18-19, at bars (1-20); this is repeated on pp.21-22, at bars (34-53), and there is a final statement of the rhythm with its augmentation on pp.23-24, at bars (66-73).



vi. Par Lui tout a été fait

In section [A], A1, the first period, "a", contains a free rhythmic variation of the fugue subject at bars (3-6), the second, "b", contains a free rhythmic variation of the subject response at bars (9-11). The third period, "c", comprises a triple rhythmic canon on the subject, based on three N.R. rhythms. The first two are those found in Amen des anges, des saints, du chant des oiseaux, section [A1], B, as follows: 3, 5, 8, 5, 3 / 4, 3, 7, 3, 4 // . The third has the following durations; 2, 2, 3, 5, 3, 2, 2 // . The canon is at the distance of a quaver, and occurs at bars (13-20). *Ex. 12* Period "d" also comprises a triple canon on the subject, this time based on the Hindu talas, ragarvardhana, candrakala and lakskmica. It is at the distance of a crotchet and occupies bars (26-33).

In the R.H. of part B1 of section [A], pp.28-29, the subject is stated three times with the following N.R. rhythm: 4, 1, 1, 1, 3, 2, 8,

2, 3, 1, 1, 1, 4, which is then progressively eliminated at the right and left. The three full statements of the rhythm occur at bars (50-51), (52-53) and (54-55). At bars (55-56), the first and last values of the rhythm are eliminated, that is, the duration, 4, and at bars (56-57), the three semiquavers are also eliminated so that the rhythms reads: 3, 2, 8, 2, 3. The L.H. treats a fragment of the subject in "agrandissement asymétrique", in which the durations are arranged in Paeonic feet as follows: 1, 1, 1, 1, 1 / 2, 1, 2 / 2, 3 / . The first comprises five single durations, that is, a dissolution of the Paeonic foot, the second is a Cretic foot, and the third may be read as a Paeon I, where the long duration is in the first position, and where the three short durations are combined in one value. *Ex.13*

Section [C], on p.30, is based on the countersubject, and is composed of two groups of durations, forming very short and very long values as follows: <sup>(17)</sup>

3, 	31, 
5,	29,
7,	23,
11.	<i>Ex.14</i>

The units of duration are the demisemi-quaver and the semiquaver, and all of the durations are prime numbers.

In section [B], part B, on pp.37-38, the subject in the L.H. consists of 15 semiquavers, and the counter-subject, in the R.H., has 23, so that the two are constantly out of sequence, with eight statements of

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17. See Part III, Chap. XI, pp.233-234.

the counter-subject to twelve of the subject. From bar (154) the L.H. is fragmented and the R.H. is gradually eliminated.

The statement of the subject at the end of the first and second periods in Section [C], A, pp.39 and 41, at bars (171) and (184), is extended at the end of the third, p.42, to five statements. Part B contains an harmonic canon on the Thème de Dieu, at the distance of a semiquaver, on pp.42-43, at bars (205-209), thus continuing the rhythmic asymmetry established in section [B]. Section [C] concludes, in part C, pp.44-45, at bars (222-228), with a repetition of the two groups forming very short and very long values, from section [A], part C, which was analyzed above, In this case it is based on the Thème de Dieu.

ix. Regard du temps

The periods labelled, "B" comprise a triple rhythmic canon, at the distance of a quaver, based on N.R. rhythms derived from the Cretic foot. The rhythms used are as follows, with the last value of each period of the top stave augmented, to allow for the completion of the other parts:

*Ex. 15*

p.55, bars (3-6): 8, 4, 8 / 2, 1. 5 //

bars (9-11): 6, 3, 6 / 2, 1, 5 //

p.56, bars (14-18): 10, 5, 10 / 2, 1, 5 //

pp.56-57, bars (22-32): 8, 4, 8 / 2, 1, 2 / 6, 3, 6 / 2, 1, 2/

10, 5, 10 / 2, 1, 5 //

p.57, bars (38-42): 8, 4, 8 / 2, 1, 5 //

x. Regard de l'Esprit de joie

The "agrandissement asymétrique" which forms section [B1], B, period "a", on pp.62-63, is arranged in groups of five quavers, as is the dominant pedal which forms period "b", at bar (54). The same rhythmic proportion is maintained in the second half of the dominant pedal at bars (55-59), for it consists of four bars of two quavers each, thus doubling the established pattern, with the fifth bar augmented to five quavers' duration. This section introduces the Paeonic rhythm which is the foundation of section [C].

The theme of section [C] begins with two statements of the Cretic foot at bar (60), followed by a Paeon III, with the last three units combined in one duration and tied to a single value of five units, forming a Paeonic tetrametre, as follows: 2, 1, 2 / 2, 1, 2 / 2, 3 + 5 <sup>Ex.16</sup> // . This rhythm pervades the whole section, with the cadences marked by the introduction of the contrasting feet of three single units of duration, the Tribrach. The first cadence occurs at bar (63).

The Cretic rhythm, in inexact augmentation, is continued in section [B2], B, on pp.69-71, for the Thème de Dieu is arranged according to the following pattern of durations: 4, 3, 4. The first statement of the theme is at bars (142-143). <sup>Ex.17</sup>

xi. Première communion de la Vierge

The first part of the second section of this piece, [B], A, has as its rhythmic foundation, the Cretic foot. The thematic basis is the Thème de Dieu, which is stated on p.79, at bars (21) and (23), with the following durations: 2, 1, 2 / 2, 1, 2 // . This is varied in the second period at bars (29) and (31) as follows: 2, 1, 2 / 2, 3, 2 /

2, 2, 2 // , and is then changed to three Trochees, followed by an Ionic foot, derived from the elongation of the single duration of the Cretic, followed in turn by a rhythmic augmentation of the theme: 2, 1 / 2, 1 / 2, 1 / 2, 2, 2 / 3, 3, 7 // , at bar (33). <sup>Ex.18</sup>

The second part, B, of section [B] comprises a set of chordal variations in rhythmic augmentation. <sup>Ex.19</sup> It is found on pp.81-82, and, at bars (47-51), consists of two values, the first of which augments while the second remains constant, as follows:

2, 4,  
 3, 4,  
 5, 4,  
 7, 4,  
 11, 4.

It will be noticed that the first values are all prime numbers.

The second half of this part at bars (53-70), continues the principle of rhythmic augmentation with each of the two values augmenting in the following manner:

1, 3,  
 2, 4,  
 3, 5,  
 4, 6,  
 5, 7,  
 6, 8, ...continuing to:  
 ... 11, 13,  
 12, 14,  
 13, 15.



xii. La parole toute-puissante

The accompaniment to the monody, which forms the single sentence of this piece, is a rhythmic pedal, consisting of the following N.R. rhythm: 3, 5, 8, 5, 3. This is stated 21 times, with the last value diminished to one semiquaver in the last statement. *Ex. 20*

xiii. Noël

The rhythmic variations which form the basis of the second half of the first period of section [A1], part B, on p.91 at bars(10-12), begin with three statements of the Hindu tala, gajalila: 2, 2, 2, 3. *Ex. 21*  
The variations are as follows: <sup>(18)</sup>

2, 2, 2, 3 / 2, 2, 2, 3 / 2, 2, 2, 3 / 6, 4, 1, 1 / 4, 2, 4 // .

The second period also contains a set of rhythmic variations, this time on two values. It is found at bars (15-17), and comprises the following durations: *Ex. 21*

4, 8,

6, 6,

4, 9.

In the final part of the final section, [A2], A2, on p.97, at bar (74), the last three chords of "les cloches", which, in all preceding sections, have the following durations: 4, 4, 6; are augmented to 6, 6, 10.

xiv. Regard des Anges

The two chords forming part of element "b" at bar (6) exemplify the principle of a rhythm followed immediately by its augmentation, for they are arranged as an Iambic foot, and are then augmented by the addition of a dot, in the following manner: 2, 4 / 3, 6 // .

Element "d" is a triple rhythmic canon at the distance of a crotchet, on the rhythm formed from the three Hindu talas, ragarvardhana, candrakala and lakskmica. It appears first on pp.98-99, at bars (9-13), then on pp.100 and 102. <sup>Ex. 22</sup> The accompaniment to periods "b", "d" and "f", of section [B] is also a double rhythmic canon based on the same rhythm. It is to be found on pp.103-106, at bars (84-88), (97-105) and (115-127).

The final section, [C], p.107 is based entirely on the seven unit foot, Epitrite III, where the short duration is in the third position as follows: 2, 2, 1, 2. <sup>Ex. 23</sup>

xvi. Regard des prophètes, des Bergers et des Mages

This piece introduces for the first time in the piano works, the principle of chromatic accelerandi and rallentandi of rhythms. Section [A1] comprises a chromatic accelerando, beginning with a duration of sixteen semiquavers and progressing to the final duration of a single semiquaver in the following manner: 16, 15, 14, 13....4, 3, 2, 1. <sup>Ex. 24</sup> The final section, [A2], on pp.126-127, reverses the process, thus creating a chromatic rallentando from a duration of one semiquaver to a duration of sixteen semiquavers.

xvii. Regard du silence

This piece begins with the same rhythmic canon that was employed in Regard du Fils sur le Fils, that is, a canon by the addition of a dot, on the Hindu talas, ragarvardhana, candrakala and lakskmica. The canon, with three statements of the rhythm in the R.H. to two in the L.H. comprises section [A], pp.128-129. <sup>Ex. 25</sup>

xviii. Regard de l'Onction terrible

The technique of chromatic accelerandi and rallentandi is re-introduced in the Introduction and Coda of this piece. The Introduction, on pp.138-139, comprises the superposition of a chromatic rallentando from one to sixteen semiquavers, on an accelerando from sixteen semiquavers to one semiquaver. <sup>Ex.26</sup> The process is inverted in the Coda, on p.151, so that the accelerando is in the R.H. and the rallentando in the L.H.

xx. Regard de l'Eglise d'amour

The first theme of this piece is arranged as a Cretic foot, that is to say, as N.R. rhythm as follows: 2, 1, 2. At each repetition of the theme, the rhythm is augmented in the following manner: <sup>Ex.27</sup>

2, 2 / 2, 1, 2 / 2, 2 //

2, 3, 2 / 2, 1, 2 / 2, 3, 2 // .

The "agrandissement asymetrique" which appears in part B1, of section [A1], pp.158-159, is based on a motif of eleven quavers; a prime number. Theme 1 is repeated in part A2 of section [A], pp.166-167, with the same rhythmic structure as analyzed above.

The final part, D, of Section [A], includes a chromatic rallentando, on pp.171-172, at bars (144-160). As with the previous chromatic accelerandi and rallentandi, this progresses from a duration of one semiquaver to a duration of sixteen semiquavers. <sup>Ex.28</sup>

The Coda, part B, of section [B], pp.175-177, is based on groups of thirteen semiquavers, at bars (200), (203) and (205-214); again a prime number. This is resolved into groups of twelve semiquavers at bars (215-216).

5. Cantéyodjayâ and Quatre Etudes de rythmei. Cantéyodjayâ

This work holds an extremely important place in the rhythmic, as well as the formal, evolution of Messiaen's language throughout the piano works, for all of the rhythmic techniques which are explored in the Quatre Études de rythme are anticipated in Cantéyodjayâ.

In section [A1], period "b1", on p.4, at bars (16-21), is based on the principle of "anacrusis, accent, desinence". The anacrusis is augmented at each repetition, the first time by 4, the second, 5 semi-quavers, and the accent is augmented by a semiquaver at each repetition, whereas the desinence remains static, as follows: <sup>Ex. 29</sup>

anacrusis	/	accent	/	désinence	//
2		2		7,	
6		3		7,	
11		4		7.	

Period "c", p.5, at bars (29-34), is based on the same principle, and comprises the following durations, the unit being the demisemi-quaver: <sup>(19)</sup>

anacrusis	./	accent	/	désinence	//
10		10		8,	
11		13		10,	
49		27		47.	

The ostinato accompaniment to part "d" of section [A1], pp.6-7, comprises a rhythmic pedal on the Hindu tala lakskmica, 2, 3, 4, 8. <sup>Ex. 30</sup> The

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19. See Part III, Chap. XII, p.250, and Part IV, Chap.1, Ex.72.

rhythm is stated 14 times, with some durations occasionally augmented by the addition of a demisemi-quaver. The first three values of the last statement are all augmented in this fashion.

Part "e" of section [A1], pp.8-10, introduces the concept of a "mode de durées, de hauteurs et d'intensités" into the piano works; the technique which was taken up again, and extended to form the rhythmic study, Mode de valeurs et d'intensités. The mode is written on three staves, with the first comprising eight chromatic durations, with the unit as the demisemi-quaver, the second, eight chromatic durations with the unit as the semiquaver, and the third, also eight durations from 1, to 8, this time with the unit being the quaver. *Ex. 31*

In section [B], element "h" of Couplet 1, on pp.12-13, at bars (129-139), is composed of the following four Hindu talas: *Ex. 32*

gajajhampa: 8, 2, 2, 3; at bars (129-130) and (133-134),

simhavikrama: 2, 2, 2, 1, 3, 2, 3; at bars (131-132) and (135-136),

candrakala: 2, 2, 2, 3, 3, 3, 1; at bar (137),

ragarvardhana: 2, 3, 2, 12; at bars (138-139).

The element "i", which follows at bars (140-163), is constructed on a chromatic scale of durations, with its chromatic rallentando superposed upon its chromatic accelerando. The scale consists of 23 durations, comprising from 1, to 23 demisemi-quavers. *Ex. 33*

Element "m" of Couplet 2, on p.17, at bars (199-211), consists of two Hindu talas, the first of which is stated twice, followed by their retrograde, thus producing a N.R. rhythm around a central bar of silence comprising 4 semiquavers. The talas are as follows: *Ex. 34*

simhavikrama: 2, 2, 2, 1, 3, 2, 3; at bars (199-202) and (208-211),

pratâpacekhara: 12, 2, 3; at bars (203-204) and (206-207).

The technique of Interversions, which Messiaen employs as a process of melodic development, is applied with a rhythmic structure, for the first time in the piano works, in Cantéyodjayâ. It appears as element "o" in Couplet 3, on pp.19-20, in the L.H. of bars (244-258). The interversions comprise a permutation of four durations, forming the Hindu tala lakskmica, arranged in the following manner: *Ex. 35*

2, 3, 4, 8

8, 4, 2, 3,

8, 2, 3, 4,

4, 8, 2, 3,

4, 2, 3, 8,

2, 3, 8, 4,

2, 3, 4, 7, leading to the canon forming element "p".

The Bridge Passage which follows element "p" on pp.20-21 is arranged as two rhythmic personages with the following durations; 6 and 2 semiquavers, at bars (265-268);and concludes, at bars (269-272), with the following rhythmic elimination: 9, 7, 5, 3.

The final rhythmic structure of this work is element "t" of the third Couplet. It appears on pp.22-23 at bars (285-291), and comprises a N.R. rhythm which is amplified at the centre at each repetition.<sup>(20)</sup> This element also exemplifies the principle of "anacrusis, accent and desinence", for the centre is employed as the accent, with the rhythm and its retrograde acting as anacrusis and desinence. The durations of each statement of the rhythm are as follows: *Ex. 36*

20. See Part III, Chap.X, pp.204-205.

anacrusis	/ accent /	desinence //
1, 1, 3, 2	2, 1, 2,	2, 3, 1, 1.
1, 1, 3, 2, 3½,	2, 1, 2,	3½, 2, 3, 1, 1.
1, 1, 3, 2, 3½, 4,	2, 1, 2,	4, 3½, 2, 3, 1, 1.
1, 1, 3, 2, 3½, 4, 7,	2, 1, 2,	7, 4, 3½, 2, 3, 1, 1.

It will be seen that the accent forms a Cretic foot.

## ii. Neumes rythmiques

As was shown in the previous chapter, each period of rhythmic neumes is surrounded by two refrains, the first a rhythmic augmentation, the second a N.R. rhythm, augmented at each repetition, with the durations forming a prime number. The first refrain, outlined in the previous chapter, comprises the following durations: *Ex. 37*

[A1], bars (1-2): 1, 6, 11,	[A2], bars (22-23): 2, 7, 12,
2, 7, 12.	3, 8, 13.
[A3], bars (46-47): 3, 8, 13,	[A4], bars (75-76): 4, 9, 14,
4, 9, 14.	5, 10, 15.

The durations of the second refrain are arranged in the following manner:

[C1], bar (12), 41 semiquavers: *Ex. 38*

1, 2, 1, 1, 2, 2, 3, 3 / 11 / 3, 3, 2, 2, 1, 1, 2, 1 //

[C2], bar (34), 43 semiquavers:

7, 5, 4, 3 / 2, 1, 2 / 3, 4, 5, 7 //

[C3], bar (65), 47 semiquavers:

1, 1, 1, 1, 1, 1, 1, 8, 2, 1, 3 / 1, 1, 1, 1, 1 / 3, 1, 2, 8, 1, 1, 1, 1,  
1, 1, 1 //

[C4], bar (99), 53 semiquavers:

2, 1, 2, 2, 1, 2, 13 / 2, 2, 3, 2, 3 / 13, 2, 1, 2, 2, 1, 2 //

In an analysis of this work Messiaen says:

En regardant les différentes figures de neumes du plain-chant, l'auteur a eu la fantaisie de leur chercher des correspondances, des équivalences rythmiques. Jeu de transposition de plans: la sinuosité mélodique indiquée par le signe neumatique, se muant en groupe de durées. Chaque neume rythmique est pourvu d'une intensité fixe, et de résonances inférieures et supérieures.(21)

As an example, for this is the only occasion in the piano works where Messiaen uses this particular technique, the names and durations of the rhythmic neumes of the first period of section [B], at bars (3-11), are

given, as follows: *Ex. 39*

"a": clivis, with the durations, 1, 2.

"b": clivis, with an horizontal episema over the first note, for it is lengthened, 3, 2.

"c": torculus, 3, 2, 4.

"d": salicus, 2, 3, 2.

"e": climacus, 2, 1, 2.

"f": distropha, 6, 7.

The clivis is a two-note group, in which the second note is lower than the first. It was pointed out in Chapter XII,<sup>(22)</sup> that the horizontal episema indicates a slight lengthening of the note, or group, above which it is placed, thus the element "b", in which the first note is lengthened, is interpreted as a clivis with an episema over the first note. The torculus is a three-note neume, in which the second note is higher than the first and second. The first three-note motif, in Debussy's Reflets dans l'eau constitutes an example of the torculus.<sup>(23)</sup>

21. Letter to Karl A. Hartmann, dated 2 February 1955.

22. See Part III, pp.243-245.

23. See Part III, Chap. XIII, p.256.



The element "d" is interpreted as a salicus, for it is a three-note neume, in which the notes ascend, with the rhythmic ictus placed on the second note.<sup>(24)</sup> This distinguishes it from the scandicus, which is also a three-note ascending neume. The neume "e" is a climacus, for it is composed of three descending notes, and the final neume "f", is termed a distropha, as it comprises a group of two notes, the second being the same as the first.<sup>(25)</sup>

### iii. Mode de valeurs et d'intensités

In the analysis of this work, Messiaen states the following:

...la nouveauté du morceau réside dans le fait que l'échelle des durées y est divisée en 3 tempi (correspondants aux registres aigu, médium, grave, de l'échelle des sons); le 1er tempo utilisant 12 durées chromatiques à partir de la triple croche, le 2e tempo utilisant 12 durées chromatiques à partir de la double croche, le 3e tempo utilisant 12 durées chromatiques à partir de la croche; ces 3 tempi marchent simultanément. (26)

He points out, therefore, that the rhythmic innovation of this work lies in its dividing the mode into three sets of chromatic durations, each with its own unit of duration, and in the three different tempi thereby created being written separately in three parts, and progressing simultaneously. As was shown in the analysis of Cantéyodjayâ, this rhythmic process was anticipated in that work.

24. See Chap. XII, pp.242-243.

25. Liber Usualis, pp.xx-xxiv.

26. Letter to K.A. Hartmann, dated 2 February 1955.

iv. Ile de Feu 2

The rhythmic function peculiar to this work is the set of Interversions which alternate with the first theme. They follow the technique of Mode de valeurs et d'intensités, for each Interverision is based on a mode of 12 pitches, 12 durations, 4 attacks and 4 intensities. As well, Messiaen introduces, with these Interversions, a system of permutation which is to become one of the important techniques in his musical language.

There are 10 permutations, or Interversions, superposed so that section [B1], on pp.1-2, at bars (8-17), comprises the first and second, followed by the third and fourth at bars (17-27). The fifth and sixth Interversions, superposed at bars (35-45), and the seventh and eighth at bars (45-54), comprise section [B2] on pp.3-4, and the ninth and tenth at bars (76-85), superposed with the theme, form section [D], on pp.6-7.

The foundation for the system of permutations is the tenth Interverision, for it consists of the chromatic scale from C natural to B natural with the durations running chromatically from twelve semiquavers at C natural, to one semiquaver at B natural. It is important to note, in the Interversions, that Messiaen always considers that a particular note includes in its duration the rests which follow it.<sup>(27)</sup>

The first Interverision is constructed as a wedge from the tenth, that is, by starting in the middle and proceeding to the two extremities. Thus, if the positions of the notes of the tenth Interverision are numbered from 1 to 12, the first Interverision, with the notes numbered in relation to their position in the tenth, is constructed as follows:<sup>Ex. 40</sup>

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27. For example, see Part III, Chap. X, p.210.

7 - 6 - 8 - 5 - 9 - 4 - 10 - 3 - 11 - 2 - 12 - 1.

Each of the Interversions which follows the first is constructed on the same principle, using as its foundation the Intversion which precedes it. Thus, the seventh note of the first Intversion will become the first of the second Intversion, and so on.

As each note has its own duration, the permutations of durations therefore follow the same pattern, as follows:

Position of notes of tenth Intversion:

1 - 2 - 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12.

Durations in semiquavers:

12, 11, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1.

Position of notes of first Intversion in relation to the tenth:

7 - 6 - 8 - 5 - 9 - 4 - 10 - 3 - 11 - 2 - 12 - 1.

Durations in semiquavers:

6, 7, 5, 8, 4, 9, 3, 10, 2, 11, 1, 12.

Durations of second Intversion:

3, 9, 10, 4, 2, 8, 11, 5, 1, 7, 12, 6.

Durations of third Intversion:

11, 8, 5, 2, 1, 4, 7, 10, 12, 9, 6, 3.

Durations of fourth Intversion:

7, 4, 10, 1, 12, 2, 9, 5, 6, 8, 3, 11.

Durations of fifth Intversion:

9, 2, 5, 12, 6, 1, 8, 10, 3, 4, 11, 7.

Durations of sixth Intversion:

8, 1, 10, 6, 3, 12, 4, 5, 11, 2, 7, 9.

Durations of seventh Intversion:

4, 12, 5, 3, 11, 6, 2, 10, 7, 1, 9, 8.

Durations of eighth Interversion:

2, 6, 10, 11, 7, 3, 1, 5, 9, 12, 8, 4.

Durations of ninth Interversion:

1, 3, 5, 7, 9, 11, 12, 10, 8, 6, 4, 2.

6. Catalogue d'Oiseaux and La Fauvette des Jardins

i. Le Chocard des Alpes

As was pointed out in Part III of this dissertation,<sup>(28)</sup> the Strophe, Antistrophe and Epode of this piece are constructed upon groups of "personnages rythmiques". The Strophe, section [A1], on pp.1-2, is composed of seven personages, three in the R.H. and four in the L.H.<sup>Ex.41</sup>

The first rhythmic personage in the R.H. diminishes with each repetition, the second augments, and the third remains static, as follows:

4, 4, 4, 3, 6, 4, 6 / 4, 2, 1 / 12, 2, 3 // bars (1-7);  
 3, 3, 3, 2, 5, 3, 5 / 5, 3, 2 / 12, 2, 3 // bars (7-14);  
 2, 2, 2, 1, 4, 2, 4 / 6, 4, 3 / 12, 2, 3 // bars (14-20);  
 1, 1, 1, - 3, 1, 3 / 7, 5, 4 / 12, 2, 15 // bars (20-26).

The first personage is the Hindu tala simhavikrama, with the central value augmented by the addition of a dot, the second is the tala rajamartanda, and the third is the tala pratâpacekhara.

In the L.H. the first rhythmic personage is augmented at each repetition, the second is diminished, the third augmented, and the fourth remains static, as follows:

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28. See Chap. XIII, p.277.

2, 2, 2, 3 / 8, 3, 3, 4 / 2, 2, 2, 3, 3, 3, 1 / 2, 3, 4, 8 // bars(1-8);  
 3, 3, 3, 4 / 7, 2, 2, 3 / 3, 3, 3, 4, 4, 4, 1 / 2, 3, 4, 8 // bars(8-16);  
 4, 4, 4, 5 / 6, 1, 1, 2 / 4, 4, 4, 5, 5, 5, 3 / 2, 3, 4, 15 // bars(16-26).

The first personage is the Hindu tala gajalila, the third is the tala candrakala, and the fourth is the tala lakskmica.

The Antistrophe, section [A2], on pp.4-6, is arranged in two periods, which are repeated twice, composed of rhythmic personages as follows:

*Ex.42*

Period a1:

2, 2, 2, 1, 2 / 2, 2, 1, 2 / 2, 2 2, 1, 3, 2, 3 / 2, 2, 2, 3 //  
 bars (64-67);

Period b1:

2, 2, 2, 1, 2 / 1, 1, 2, 1, 2 / 1, 1, 2, 1, 2, 1, 1, 2, 4 /  
 2, 2, 1, 2, 3 / 1, 2, 1, 2 // bars (68-72);

Period a2:

2, 2, 2, 1, 3 / 2, 2, 1, 3 / 2, 2, 2, 1, 4, 3, 4 / 2, 2, 2, 3 / 3, 3, 3, 4 //  
 bars (73-77);

Period b2:

2, 2, 2, 1, 2 / 1, 1, 2, 1, 2 / 1, 1, 1, 1, 1, 1, 2, 4 / 2, 2, 1, 2, 3 /  
 1, 3, 1, 3 // bars (78-82);

Period a3:

2, 2, 2, 1, 4 / 2, 2, 1, 4 / 2, 2, 2, 1, 5, 4, 5 / 2, 2, 2, 3 / 3, 3, 3, 4 /  
 4, 4, 4, 5 // bars (83-88);

Period b3:

2, 2, 2, 1, 2 / 1, 1, 2, 1, 2 / 1, 1, 1, 1, 1, 1, 2, 4 / 2, 1, 2, 1, 1,  
 2, 4 / 1, 1, 2, 4 / 2, 4 / 2, 2, 2, 1, 2, 3 / 1, 4, 1, 4 //  
 bars (89-96).

It will be seen from the above table that the last duration of the first and second personages of period "a" augments, as do the last three durations of the third personage. The last personage is followed by its augmentation at each repetition. In period "b", the second and fourth durations of the last personage are augmented, while the other personages remain static, except for the third in which the third and fourth durations are diminished, and restored in the repetition of the personage in "b3", which is then developed by elimination.

The Epode, Section [C], on pp.11-12, comprises four rhythmic personages in the R.H. and three in the L.H. <sup>Exc. 43</sup> The first of the R.H. personages remains static, the second diminishes, the third augments, and the fourth remains static, as follows:

1, 2, 2, 1, 2, 1, 2, 1, 2 / 4, 4 / 1, 2, 6, 1, 2, 6 / 2, 3, 4, 8 //

bars (150-157);

1, 2, 2, 1, 2, 1, 2, 1, 2 / 3, 3 / 1, 3, 7, 1, 3, 7 / 2, 3, 4, 8 //

bars (157-164);

1, 2, 2, 1, 2, 1, 2, 1, 2 / 2, 2 / 1, 4, 8, 1, 4, 8 / 2, 3, 4, 8 //

bars (164-172);

1, 2, 2, 1, 2, 1, 2, 1, 2 / 1, 1 / 1, 5, 9, 1, 5, 9 / 2, 3, 4, 16 //

bars (172-180).

The first rhythmic personage can be analyzed as an Iambic dimetre with a Bacchius substituting for the first Iamb:

1, 2, 2 / 1, 2 / 1, 2 / 1, 2 //

Bacchius / 3 Iambs.

The second is the Hindu tala pancama, the third is the tala lila, which is repeated, and the fourth is the tala lakskmica.

In the L.H., the first rhythmic personage is augmented at each repetition, while the second and third remain static:

1, 1, 2, 4, 1, 1, 3, 5 / 2, 2, 2, 3, 3, 3, 1 / 4, 3, 2, 1 //

bars (150-155);

1, 1, 3, 5, 1, 1, 4, 6 / 2, 2, 2, 3, 3, 3, 1 / 4, 3, 2, 1 //

bars (155-161);

1, 1, 4, 6, 1, 1, 5, 7 / 2, 2, 2, 3, 3, 3, 1 / 4, 3, 2, 1 //

bars (161-168);

1, 1, 5, 7, 1, 1, 6, 8 / 2, 2, 2, 3, 3, 3, 1 / 4, 3, 2, 1 //

bars (168-175);

1, 1, 6, 8, 1, 1, 7, 22 // bars (175-180).

The first personage is the Hindu tala varnabhinna, repeated immediately with the last two values augmented. The second is the tala candrakala, and the third is a chromatic acceleration.

### iii. Le Merle bleu

Element "a" is based on a series of Hindu talas, arranged in the following manner:

In section [A], part 1, at bar (1): second half of ragarvardhana, 2, 3, 2, and at bar [4], candrakala, 2, 2, 2, 3, 3, 3, 1. <sup>Ex.44</sup>

On p.3 at bars (24-26), the rhythm composed of the three talas, ragarvardhana, candrakala and lakskmica is used: 4, 4, 4, 2, 3, 2 / 2, 2, 2, 3, 3, 3, 1 / 2, 3, 4, 8 // .

In section [C], part 1, p.23, at bars (280-281), element "a" is composed of the two talas, simhavikridita and gajalila: 2, 2, 2, 1, 3, 2, 3 / 2, 2, 2, 3 // , and in the final occurrence of "a" in part 2, p.24, at bars (292-294), the three talas ragarvardhana, candrakala and lakskmica are repeated.

v. La Chouette Hulotte

In this piece, element "a" is constructed as a "mode de valeurs et d'intensites". It appears on pp.1-2 and 4-6, and comprises a mode of 49 pitches, from the bottom A natural of the piano to the A natural above middle C; 49 chromatic durations with the demisemi-quaver as the unit of duration; 7 intensities, from ppp to fff. The durations are arranged so that the bottom A natural of the mode comprises 49 demisemi-quavers, the B flat, 48, B natural, 47, diminishing chromatically to the G natural above middle C which comprises 3 demisemi-quavers, G sharp, 2, and the top A natural of the mode, 1 demisemi-quaver. *Ex.45*

An important rhythmic characteristic of this work is that all of the calls of the Chouette Hulotte, the Hibou moyen-Duc and the Chouette Chevêche are arranged according to the principle, "anacrusis, accent, desinence".

vii. La Rousserolle Effarvatte

Element "a" of this piece consists of two rhythmic personages, one in the R.H. and the other in the L.H. It appears only twice; at the beginning and at the end of the piece. In section [A], at bars (1-10), the personage in the R.H. is composed of two groups with the following durations:

1, 13;

2, 12;

3, 11;

4, 10;

5, 9;...

continuing chromatically to



.... 10, 4;  
 11, 3;  
 12, 2;  
 13, 1.

The L.H. personage is arranged as follows:

2, 2, 2, 1, 3, 1, 3 /  
 2, 2, 2, 1, 3, 2, 3 /  
 2, 2, 2, 1, 3, 3, 3 /  
 2, 2, 2, 1, 3, 4, 3 /  
 2, 2, 2, 1, 3, 5, 3 / ...  
 continuing chromatically to  
 .... 2, 2, 2, 1, 3, 9, 3 /  
 2, 2, 2, 1, 3, 10 //

The second statement of this rhythm is the Hindu tala, simhavikrama, and, as is shown in the above table, it is constructed so that the penultimate value augments chromatically from a duration of one semiquaver to a duration of ten.

*Ex. 46*

In the repetition of this element in section [E], on pp.50-51, at bars (737-747), only fragments of the element are recalled, in retrograde order. Thus bars (737-738) recall bars (10-9); bars (740-741) recall bars (8-7); and bars (743), (745) and (747) recall bars (6), (4) and (2).

#### ix. La Bouscarle

The element "E" of La Bouscarle is constructed as a rhythmic canon, by the addition of a single unit of duration to each value of the L.H. The unit is the semiquaver, and the canon is at the distance of a

semiquaver. The rhythmic canon appears twice in the piece, firstly on pp.2-4, and then on pp.17-18. In section [A], the rhythm is arranged in three periods as follows: <sup>Ex.47</sup>

a1: 4, 2, 2, 4, 4, 2, 4, 3, 3, 3 / bars 20-23);

a2: 4, 2, 2, 4, 4, 2, 4, 2, 3, 2, 12 // bars (23-28);

b, 2, 2, 2, 3 / 2, 2, 2, 3 / 2, 2, 2, 3 / 2, 3, 4, 8 / 2, 4 //  
bars (29-35);

a1: 4, 2, 2, 4, 4, 2, 4, 3, 3, 3 / bars (35-39);

a2: 4, 2, 2, 4, 4, 2, 4, 2, 3, 2, 12 // bars (39-44).

The second period, "b" consists of the Hindu talas gajalila, which is stated three times, lakskmica and yatilagna.

In the L.H., each of the above values is augmented by a single unit of duration as follows:

a1: 5, 3, 3, 5, 3, 5, 4, 4, 4 / bars (20-25);

a2: 5, 3, 3, 5, 5, 3, 5, 3, 3, 4, 3, 13 // bars (25-31);

b: 3, 3, 3, 4 / 3, 3, 3, 4 / 3, 3, 3, 4 / 3, 4, 5, 9 / 3, 5 //  
bars (31-40);

a1: 5, 3, 3, 5, 5, 3, 5, 4, 4 // bars (40-44).

In section [C], only fragments of the rhythm are recalled. In the R.H., fragments from period "a1, a2" are found at bars (176-186), and fragments from period "b" at bars (187-190).

#### x. Le Merle de roche

The rhythmic interest of this piece lies in the elements "f", "f'" and "f'", for they are constructed as rhythmic permutations. The system of permutation is the same as that which was outlined in the analysis of the

Interversions in Ile de Feu 2 in this chapter. As was pointed out in that analysis, the system adopted in that piece was to become an important function in Messiaen's rhythmic technique, for its use in Ile de Feu 2 and Le Merle de roche anticipates its use in Chronochromie, in the introductory analysis of which, Messiaen gives the permutation employed as the basis for all the permutations used in that work. (29)

This first permutation derives from a chromatic scale of 32 durations, with the duration of 1 unit in the first position, 2 in the second, and so on, the unit of duration being the semisemi-quaver. It is arranged as follows:

3, 28, 5, 30, 7, 32, 26,  
 2, 25, 1, 8, 24, 9, 23, 16,  
 17, 18, 22, 21, 19, 20,  
 4, 31, 6, 29, 10, 27, 11,  
 15, 14, 12, 13.

The above permutation acts as the foundation for all of the others; thus the second permutation takes as its first duration the third duration of the first, and so on, so that its first ten durations are the following:

5, 11, 7, 14, 26, 13, 10, 28, 29, 3.

As Messiaen says in the notes to Chronochromie:

Cela donne un chiffre de permutations raisonnable - pas très loin du nombre d'objets choisis - et aussi des permutations assez différentes pour être juxtaposées et même superposées. (30)

29. Notes to recording of Chronochromie, Record Society, S/6189, and Angel S/36295.

30. Ibid.

The above first permutation is to be found in the first part of section [B] of Le Merle de roche, on pp.10-12, at bars (121-150).<sup>Ex.48</sup>

The others which appear in the piece are fragments of the other possible permutations, and are as follows:

Section [B], part 1, pp.5-6, bars (56-65);

17, 21, 9, 5, 11, 2, 8, 7, 23, 3, 31.

p.6, bars (70-72);

19, 25, 29.

p.7, bars (82-85);

4, 3, 5, 12, 13, 2, 8, 11, 9, 17, 27, 6, 10, 1, 7.

Section [B], part 2, p.21, bars (259-264);

13, 1, 6, 15, 2, 11, 21, 7, 19, 3, 4, 29, 31.

p.25, bars (302-315);

14, 21, 16, 2, 5, 9, 3, 15, 18, 13, 5, 19, 3, 23, 4, 7, 25, 32.

#### xi. La Buse variable

A particular characteristic of the call of the Grive Draine, element "e" of this piece, is the predominance of the Iambic foot. This can be seen on pp.3-4, at bars (30-34); p.5, at bars (51-58); and pp.13-14, at bars (134-152).<sup>Ex.49</sup>

#### xii. Le Traquet rieur

The call of the Traquet rieur, which is element "b" of this piece, is arranged according to the principle, "anacrusis, accent, desinence", with continuous variation upon the augmentation and diminution of each of these three components of the call. Particularly characteristic examples are found on pp. 4-5, at bars (29-37), and pp.12-15, at bars

(94-114). The following durations are those of the calls from bars (29-37); the unit of duration is the demisemi-quaver: <sup>Ex. 50</sup>

anacrusis	/	accent	/	desinence	//
2, 2, 2,		2,		1, 2.	
1, 1, 2, 1, 2,		4,		1, 2.	
1, 2,		4,		1, 2, 1, 1, 1, 1, 2, 2.	
2,		2,		2.	
1, 1, 2,		2,		1, 2.	
2, 2, 2, 2,		4,		1, 2, 1, 1, 1, 1, 2.	
2,		4,		1, 2, 1, 1, 1, 1, 2.	

xiii, Le Courlis cendré

Two functions of Messiaen's rhythmic technique are in evidence in the call of the Courlis cendré, element "a" of this piece. The first part of the call is based on the principle, "anacrusis, accent, desinence", and the second constitutes a prime number. The first part comprises the first three periods of the Binary Sentence which forms section [A]; that is, on pp.1-3, at bars (1-19). An especially long augmentation of this rhythmic principle occurs at bars (7-15). The unit is the demisemi-quaver, and the anacrusis, from bars (7-10), contains 71 units, the accent, bar (11), contains 56, and the desinence, at bars (12-15), contains 64 units.

The second part of the call of the Courlis cendré, constituting the final period of the Binary Sentence of Section [A], is found on pp.4-5, at bars (21-37), and comprises the same fragment stated 17 times. This period is repeated, with the same 17 statements of the fragment, in section [E], on pp.20-21, at bars (203-219). <sup>Ex. 51</sup>

La Fauvette des Jardins

Messiaen's use of Greek rhythms is exemplified in this work, for the element "c", "la montagne du Grand Serre", is constructed from the feet of the Greek metric system. The first statement of element "c" occurs on p.1, at bar (10), and comprises the following durations: 2, 2, 1, 2, which form an Epitrite III, that is, a seven unit foot where the single unit is in the third position. The other occurrences of element "c" are analyzed as follows:

Section [A], part 2, p.3, bar (34): *Ex. 52*

2, 2 / 1, 2 / 1, 2 // , i.e.,

Spondee / 2 Iambs //

Section [C], part 1, p.19, bars (297-305):

2, 2 / 1, 2 / 1, 2 / 2, 2 / 1, 2 / 1, 2 / 2, 1, 2 / 2, 1, 2 /

1, 2 / 1, 2 / 1, 2 / 1, 2 / 2, 2, 2 / 1, 2 / 1, 2 / 1, 2 // i.e.,

Spondee / 2 Iambs / Spondee / 2 Iambs / Cretic / Cretic / 4 Iambs /

Molosse, a Tonic foot formed by replacing the short of the Cretic with a long / 3 Iambs //

Section [C], part 1, p.29, bars (501-502):

2, 2 / 1, 2 / 1, 2 / 2, 2 / 1, 2 / 1, 2 / 1, 2 / 1, 2 / 1, 2 // i.e.,

Spondee / 2 Iambs / Spondee / 5 Iambs //

Section [C], part 2, p.33, bars (595) and (598):

2, 2 / 1, 2 / 1, 2 // 1, 2 / 1, 2 // i.e.,

Spondee / 2 Iambs // 2 Iambs //

p.34, bar (604: 7 Iambs.

Section [D], part 1, p.42, bars (782-786); the L.H. is in canon with the R.H. at the distance of a quaver:

2, 2 / 1, 2 / 1, 2 / 1, 1 / 1, 1 // i.e.,

Spondee / 2 Iambs / 2 Pyrric //

pp.42-43, bars (796-801), in canon at quaver:

2, 2 / 1, 2 / 1, 2 / 1, 2 / 1, 1 / 1, 1 // i.e.,

Spondee / 2 Iambs / 2 Pyrric //

pp. 43-44, bars (813-817), in canon at quaver:

2, 2 / 1, 2 / 1, 2 / 1, 2 // i.e.,

Spondee / 3 Iambs /; followed by, at bars (817-821), 10 short durations in the R.H., and 4 long in the L.H.

The final statement of this element appears as the cadence of the work, on p.55, at bar (990), and is a repetition of the first statement, that is, an Epitrite III.

It was shown in the analysis of the formal structures of Messiaen's piano works that the Catalogue d'Oiseaux and La Fauvette des Jardins were works of synthesis. This is also the case with the rhythmic structures, for these works employ all of the functions introduced and developed in the earlier works, and contain only one new structure, namely, the rhythmic personages of the Strophe, Antistrophe and Epode of Le Chocard des Alpes.

Rhythmically, the Visions de l'Amen mark the advent of those structures which play an extremely important part in Messiaen's technique. Non-retrogradable rhythms, and rhythms based on the Greek metric system are introduced in Amen de la Creation. The use of Hindu talas, particularly the rhythm based upon the three talas, ragarvardhana, candrakala and laksmica, is found for the first time in Amen des étoiles, de la planète à l'anneau. The rhythmic concept, "anacrusis, accent and desinence", first appears in Amen de l'agonie de Jésus, and the rhythmic canon is

introduced in Amen des anges, des saints, du chant des oiseaux.

The Vingt Regards sur l'Enfant-Jésus consolidates the use of these functions, and marks an important step in the rhythmic evolution of the piano music, for it is the first major work not to employ time-signatures. More complex forms of the structures found in the Visions de l'Amen are introduced, namely the rhythmic canon by augmentation, which appears first in Regard du Fils sur le Fils, and the elimination and augmentation to the right and left of a non-retrogradable rhythm, appearing in Par Lui tout a été fait and Regard de l'Eglise d'amour. New structures to be found in this work are groups forming very short and very long values, in Par Lui tout a été fait, and the chromatic accelerando and rallentando of durations in Regard des prophètes, des bergers et des Mages and Regard de l'Onction terrible. The importance that the rhythmic structures now have in Messiaen's compositional technique is shown by the fact that the abovementioned structures occupy entire sections of the pieces named, and that the second part of Section [B] of Première communion de la Vierge is constructed wholly upon a rhythmic augmentation.

As was demonstrated in the analysis of Cantéyodjayâ, its place in the evolution of Messiaen's musical language is extremely important, for it is constructed primarily as a rhythmic work, and presages the experiments of the Quatre Etudes de rythme. It incorporates most of the structures found in the previous works, and introduces the principle of augmentation of each component of the structure "anacrusis, accent, desinence", through a series of repetitions of the structure. Also found in this work, is a non-retrogradable rhythm composed of Hindu rhythms. However, the most important of the new structures are the "mode de durée",



de hauteurs et d'intensités", and the rhythmic permutations which coincide with the set of melodic Interversions. These two functions are developed in Mode de valeurs et d'intensités and Île de Feu 2, in the Interversions of which, is introduced the technique of permutation which is to become a very important function, both rhythmically and melodically.

From the above, it can be seen that the rhythmic structures become technically important only when the concept of the unit of duration is established. In the Visions de l'Amen, they are introduced in conjunction with metrical and thematic material, however, with the establishment of these structures as separate elements in an ametrical context, in the Vingt Regards de l'Enfant-Jésus, the concept of the formal unit is introduced. These two functions are therefore interdependent, and it is through the rhythmic and formal experiments of the Quatre Etudes de rythme, and especially of Cantéyodjayâ, that the mosaic form of construction, both rhythmically and formally, is established as the foundation of Messiaen's compositional technique.

Ex 1. La Colomb.

PRÉLUDES

Cloches d'angoisse....

Ex 2

VISIONS DE L'AMEN

Amen de la Création

1er

Ex 4

Amen des étoiles...

1r

Ex 6. Amen de l'agonie de Jésus.

2r

Amen du Désir

2r

Amen des anges, des saints, du chant des oiseaux.

Ex. 8. (27)

Handwritten musical score for Ex. 8, consisting of three staves. The top staff is in treble clef with a 2/4 time signature. The middle and bottom staves are in bass clef. The music is highly rhythmic, featuring many sixteenth and thirty-second notes, often beamed together. Fingerings (1-5) and accents are clearly marked throughout the piece. The piece concludes with a double bar line and the number 27 in parentheses.

Amen du Jugement

Ex. 9. (2) (3)

Handwritten musical score for Ex. 9, consisting of two staves. The top staff is in treble clef and the bottom staff is in bass clef. The music is rhythmic, with many eighth and sixteenth notes. Fingerings (1-5) and accents are indicated. The piece is divided into two parts, labeled (2) and (3), separated by a vertical line.

Ex. 10. Amen de la Concombre

Ex. 10. Amen de la Concombre (2)

Handwritten musical score for Ex. 10, consisting of two staves. The top staff is in treble clef and the bottom staff is in bass clef. The music is highly rhythmic, featuring many sixteenth and thirty-second notes. Fingerings (1-5) and accents are clearly marked. The piece concludes with a double bar line and the number 2 in parentheses.

VINGT REGARDS SUR L'ENFANT-JÉSUS

Regard du Fils sur le Fils

Ex. 11. (1) (4)

Handwritten musical score for Ex. 11, consisting of two staves. The top staff is in treble clef and the bottom staff is in bass clef. The music is rhythmic, with many eighth and sixteenth notes. Fingerings (1-5) and accents are indicated. The piece is divided into two parts, labeled (1) and (4), separated by a vertical line.

Ex 12

Handwritten musical notation for Exercise 12, featuring a treble and bass clef with various notes and rests. The piece is in 3/4 time and includes fingerings such as 3, 5, 8, and 3, along with slurs and accents.

Ex 13.

Handwritten musical notation for Exercise 13, consisting of two systems of treble and bass clef staves. The notation includes various rhythmic values, slurs, and fingerings, with a final measure marked (5).

Ex 14

Handwritten musical notation for Exercise 14, a single staff with complex rhythmic patterns and slurs. The notation includes various rhythmic values and slurs, with a final measure marked (62).

Ex 15 Regard du Temps

Handwritten musical notation for Exercise 15, titled "Regard du Temps", featuring a treble and bass clef. The notation includes various notes, rests, and slurs, with a final measure marked (6).

Ex 16 Regard de l'Esprit de joie

Handwritten musical notation for Exercise 16, titled "Regard de l'Esprit de joie", featuring a treble and bass clef. The notation includes various notes, rests, and slurs, with a final measure marked (6).

Ex 17.

Handwritten musical notation for Exercise 17, featuring a treble and bass clef with complex rhythmic patterns. The notation includes various notes, rests, and slurs, with a final measure marked (145).

Ex 18 Première communion de la Vierge

Ex 19

Ex 20 La parole toute-puissante

Noël

Ex 21

Ex 22 Regard du Anagnin

Ex 23

Regard des prophètes, des bergers et des Mages.

Ex 24

Regard du Silence

Ex 25

Regard de l'Onction terrible

Ex 26

Regard de l'Eglise d'amour

Ex 27

Ex 28

Cantique jayâ [A], bi.

Ex 29

Ex 30

Ex. 31. element e.

Handwritten musical score for Ex. 31. It consists of two staves, treble and bass clef. The key signature has one sharp (F#) and one flat (Bb). The time signature is 4/4. The piece starts with a piano (pp) dynamic and includes a forte (ff) section. There are slurs and accents throughout. The score is bracketed on the right side.

Handwritten musical score for Ex. 32. It features a treble clef and a bass clef. The key signature has one sharp (F#) and one flat (Bb). The time signature is 4/4. The piece starts with a forte (ff) dynamic. There are slurs and accents. A specific section is annotated with '(gajajhampa)'. The score is bracketed on the right side.

Handwritten musical score for Ex. 33. It consists of two staves, treble and bass clef. The key signature has one sharp (F#) and one flat (Bb). The time signature is 4/4. The piece starts with a pianissimo (pp) dynamic. There are slurs and accents. The score is bracketed on the right side.

Handwritten musical score for Ex. 34. It features a treble clef and a bass clef. The key signature has one sharp (F#) and one flat (Bb). The time signature is 4/4. The piece starts with a forte (ff) dynamic. There are slurs and accents. A specific section is annotated with '(sinharabana)'. The score is bracketed on the right side.

Handwritten musical score for Ex. 35. It consists of a single bass clef staff. The key signature has one sharp (F#) and one flat (Bb). The time signature is 4/4. The piece starts with a forte (ff) dynamic. There are slurs and accents. Numerical annotations '2', '3', '8', '9', and '4' are present. The score is bracketed on the right side.

Handwritten musical score for Ex. 36. It consists of two staves, treble and bass clef. The key signature has one sharp (F#) and one flat (Bb). The time signature is 4/4. The piece starts with a piano (p) dynamic. There are slurs and accents. The score is bracketed on the right side.

Neumes rythmiques.

Ex. 37

Musical score for Ex. 37, featuring rhythmic neumes on a grand staff with treble and bass clefs. The notation includes various note values and rests, with a circled '1' in the upper right corner.

Ex 38

Musical score for Ex. 38, featuring rhythmic neumes on a grand staff with treble and bass clefs. The notation includes various note values and rests, with a circled '12' in the upper right corner.

Ex 39

Musical score for Ex. 39, featuring rhythmic neumes on a grand staff with treble and bass clefs. The notation includes various note values and rests, with circled numbers '12', '13', '14', and '15' indicating specific measures.

Ex 40

Ile de feu 2 Intervention 1.

Musical score for Ex. 40, titled "Ile de feu 2 Intervention 1", featuring rhythmic neumes on a grand staff with treble and bass clefs. The notation includes various note values and rests, with circled numbers '1' and '17'.

CATALOGUE D'OISEAUX.

Ex 41

Le Chocard des Alpes

Musical score for Ex. 41, titled "Le Chocard des Alpes", featuring rhythmic neumes on a grand staff with treble and bass clefs. The notation includes various note values and rests, with a circled '1'.

Ex. 42.

Musical score for Ex. 42, featuring rhythmic neumes on a grand staff with treble and bass clefs. The notation includes various note values and rests, with circled numbers '16' and '17'.



Ex 43

Handwritten musical score for Exercise 43. It consists of two staves. The top staff is in treble clef with a key signature of one flat (B-flat major or D minor). The bottom staff is in bass clef. The music is highly rhythmic, featuring many sixteenth and thirty-second notes. There are several dynamic markings, including 'f' (forte) and 'ff' (fortissimo). There are also some performance instructions like '2' and '1' above notes. The piece ends with a double bar line and a fermata.

Ex 44

Le Marle bleu

Handwritten musical score for Exercise 44, titled "Le Marle bleu". It consists of two staves. The top staff is in treble clef with a key signature of one flat. The bottom staff is in bass clef. The music is rhythmic with many sixteenth notes. There are dynamic markings like 'f' and 'ff'. There are also some performance instructions like '2' and '1' above notes. The piece ends with a double bar line and a fermata.

Ex 45

La Chovette Hulloite

Handwritten musical score for Exercise 45, titled "La Chovette Hulloite". It consists of two staves. The top staff is in treble clef with a key signature of one flat. The bottom staff is in bass clef. The music is rhythmic with many sixteenth notes. There are dynamic markings like 'mf' (mezzo-forte), 'f', and 'pp' (pianissimo). There are also some performance instructions like '(1)' and '(4)' above notes. The piece ends with a double bar line and a fermata.

Ex 46

La Rousserolle Effarvate

Handwritten musical score for Exercise 46, titled "La Rousserolle Effarvate". It consists of two staves. The top staff is in treble clef with a key signature of one flat. The bottom staff is in bass clef. The music is rhythmic with many sixteenth notes. There are dynamic markings like 'mf' and 'pp'. There are also some performance instructions like '(1)' above notes. The piece ends with a double bar line and a fermata.

Ex 47

La Bouscarle

Handwritten musical score for Exercise 47, titled "La Bouscarle". It consists of two staves. The top staff is in treble clef with a key signature of one flat. The bottom staff is in bass clef. The music is rhythmic with many sixteenth notes. There are dynamic markings like 'pp' (pianissimo). There are also some performance instructions like '(20)' above notes. The piece ends with a double bar line and a fermata.

Ex. 48. La Merle de roche

Handwritten musical score for Ex. 48, titled "La Merle de roche". The score is written on a grand staff (treble and bass clefs). It includes dynamic markings: *f*, *mf*, and *fff*. There are also numerical markings: 3, 25, 5, 20, and 7. A first ending bracket labeled "(1st)" is present at the end of the piece.

Ex. 49. La Buse variable

Handwritten musical score for Ex. 49, titled "La Buse variable". The score is on a single staff in 8/8 time. It features a dynamic marking of *ff* and fingerings such as 20 and 32.

Ex. 50. Le Traquet rieur

Handwritten musical score for Ex. 50, titled "Le Traquet rieur". The score is on a grand staff. It includes dynamic markings *mf* and *ff*, and a first ending bracket labeled "(20)".

Le Courlis cendré

Ex. 51.

Handwritten musical score for Ex. 51, titled "La Fauvette des Jardins". The score is on a grand staff. It includes dynamic markings *mf*, *f*, and *p*, and fingerings such as 19 and 21.

La Fauvette des Jardins

Ex. 52. (34)

Handwritten musical score for Ex. 52. The score is on a grand staff. It features a dynamic marking of *ff* and a fingering of 34.

## CHAPTER THREE

MELODIC, HARMONIC AND TIMBRAL STRUCTURES

There are three harmonic functions which play an extremely important role in Messiaen's piano music, occurring in different transpositions and arrangements in nearly all of the piano works following and including the Visions de l'Amen. These are outlined as follows:

The first is the chord of resonance, which comprises nearly all of the notes perceptible in the resonance of a fundamental note. <sup>Ex.1</sup> It also contains all the notes of Mode III. (1)

The second is the chord on the dominant, which contains all the notes of the major scale, disposed over the dominant of the key of that scale. This is frequently employed in its transpositions and inversions arranged over a common bass. (2) The system used is the same as that where a root position chord, a first inversion and a second inversion are arranged over the bass, C. The root position chord would be that of C major, the first inversion, that of A flat major, and the second inversion that of F major. (3) *Ex.2*

The third function is the chords of contracted resonance. These are based on the major ninth chord, with an inferior resonance forming a dissonance, to which an appoggiatura chord resolves, forming

1. Technique, Vol.I, Chap. XIV, p.50, Vol.II, exx. 208-212, p.37.
2. Technique, Vol.I, p.50, Vol.II, exx. 201-207, p.37.
3. Notes from lecture given by Messiaen at the Conservatoire, 22 April, 1974.

basically a French sixth to the chord of the ninth. The following is an example on the chord of D flat major 9 + 6.<sup>(4)</sup>



Messiaen says that since childhood he has always heard the perfect chord with an added augmented fourth, and attributes this to the influence of Debussy's Pelléas et Mélisande, for in this work, Debussy often employs the augmented fourth as an appoggiatura to the perfect chord.<sup>(5)</sup> A particular example occurs in Scene II of Act II, just before Mélisande sings, "Oui, c'est vrai...on ne voit jamais le ciel ici." The chord of resolution in the bar preceding this phrase is B flat major + 6, with the augmented fourth as an appoggiatura to the third.<sup>(6)</sup>

This chord gives rise to the chord which Messiaen considers to be the perfect chord, that is, the foundation, of his harmonic language.<sup>(7)</sup> The chord is the major chord with the sixth and the augmented fourth added, and the principle of its construction governs all Messiaen's harmonic thinking, for it comprises a fundamental with its natural resonances, among them the augmented fourth, and an appoggiatura, the sixth, added. This chord is also in Mode II.

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4. Notes from lecture, op.cit.

5. Notes from lecture given by Messiaen at the Conservatoire, 29 May, 1974.

6. Piano reduction, (Durand, Paris, 1907), third line, p.92.

7. Technique, Vol.I, Chap. XIII, p.47.

1. Préludesi. La Colombe

The theme of this piece is based on the interval of the augmented fourth, which, with the descending major sixth, is Messiaen's preferred melodic interval.<sup>(8)</sup> This is found in three transpositions in bars (1-4): F-B, E-A sharp, D-G sharp. The commentaries, at bars (7-10), and (17-20) develop by elimination the semi-quaver motif from bars (4-5) of the theme. The Coda, (22-24), recalls, in elimination, the opening of this motif, doubled at the major 7th. *Ex. 3*

The tonic key of this piece is E major, indicated by the key-signature. This is mixed with the Mode II 2, which is found in the chords of superior resonance at bars (2-3), and (12-13), and in the first six chords of bars (10) and (20). The commentaries, periods "b" and "d" are in the dominant. The note F, that is, the aug 4, is introduced into the harmony of B maj 9 + 6 at bar (11), acting as a pivot to the first note of the theme at bar (12). *Ex. 4* The final chord is  $I_4^6 + 6$ , with the tonic added as an inferior resonance..

ii. Chant d'extase dans un paysage triste

The theme of section [A] comprises three motifs. The first is at bars (1-2), with the last two notes of (1) rhythmicized in (2), the second is at bar (3), and the third at bar (4). *Ex. 5* These three motifs are developed in the commentary; the first is harmonized at bars (9) and (13), the second forms the superior resonance at bars (10) and (14), and the third is harmonized at (12-13) and (15). *Ex. 7* The theme is based on the

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8. See Technique, Vol.I, Chap. VIII, p.31.

aug 4, F sharp - B sharp, which is used cadentially at bar (8).

The middle period of the theme of section [B] is in the form of a canon, with the consequent (37-40), repeating  $\uparrow$  maj 2 the antecedent, (33-36). <sup>Exc. 6</sup>

Sections [A1] and [A2] are in F sharp min, while section [B] is in the major. The theme, that is period "a", of section [A] is in Mode II 1, (1-8), as is its decorated form in period "c" at (17-24). Bars (12-13) of period "b" are in Mode II 3, superposed on C min and C maj. <sup>Exc. 7</sup> The same motif is in Mode II 1, superposed on E min at bar (15). The transition to "c" at bar (16) is in Mode VI 4.

The cadences at bars (28), (40) and (44) of periods "a" and "c" of the theme in section [B] are in Mode II 1, over the chord of C sharp maj 9 + 6, i.e., the dominant of F sharp maj, at bars (28) and (40). The piece concludes on the tonic, F sharp min + maj 6.

### iii. Le nombre léger

The third statement of the theme, section [A3] on pp.15-16, is in canon. Again the aug 4 has an important function, for it is used cadentially at the end of the periods of the theme at bars (4) and (8).

The tonic key is E major, and the second statement of the theme, section [A2] is in the dominant. The theme is in Mode II 2 in sections [A1], bars (1-12), and [A3], bars (35-46). Section [A2] is in Mode II 3, (18-25). The first half of bar (14) of the divertissement is constructed as an harmonic litany. <sup>Exc. 8</sup> It is a direct quotation of the litany to be found at bars (46-47) of Debussy's Hommage à Rameau. <sup>(9) Exc. 9</sup> The piece concludes on E maj <sup>6</sup> 4 + 6, with the tonic used as an inferior resonance.

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iv. Instants défunts

The first theme is based on the interval of the aug 4, in the L.H. of bars (1) and (5), <sup>Ex. 10</sup> the same interval being used at the ends of bars (9-10) and (13-14) of the second theme. In section [B], the second theme is in inverted canon at bars (23-24) and (30), and the aug 4 motif of the first theme is developed in bars (27-29). The Coda, bars (39-46) is derived from bars (11-12) of the second theme, with the aug 4 motif used as the cadence.

The tonic key is D min, with the Coda in D maj. The antecedent of the first theme cadences on the dominant, (4), and the consequent on the tonic (8). Bars (11-12) and (15-18) of the second theme are in Mode VII 3. This theme cadences on G sharp, i.e. the aug 4 of D.

In section [B], at bars (23-24) and (30) is found the first example in the piano works of polymodality.<sup>(10)</sup> In (23) and (30), Mode VI 4, in the R.H. is superposed on Mode III 4 in the L.H. <sup>Ex. 11</sup> In bar (24), Mode VI 1, in the R.H. is superposed on Mode III 1 in the L.H. The second half of the second theme is accompanied by an harmonic motif at bars (25-26), and is harmonized in Mode VI 4, over a pedal on the tonic which moves to the aug 4, G sharp, at bars (32-35). The piece concludes on the major chord + aug 4 in  $\frac{6}{4}$  position, ascending by maj 2 from D maj, to E maj, to F sharp maj, the mediant of D.

v. Les sons impalpables du rêve...

In section [A1], the commentary at bars (7-9) develops the motif from bar (5) of the theme. <sup>Ex. 12</sup> The motif at bar (3) is based on the aug 4,

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10. See Part III, Chap. XIII, p.266.

and is developed at bar (15) of the divertissement. In section [B], the second theme is in canon by inversion.<sup>Ex.13</sup> The Coda, (65-66), is based on the commentary of the first theme.

The tonic key is A major, and section [B] is in A minor. The first theme, bars (1-6), is in Mode II 1, and is accompanied in the R.H. by an harmonic pedal in Mode III 3. The commentary is in Mode II 1 at bar (7), and Mode II 2 at (8). The first chord of bar (9) is in Mode II 3, and the second in Mode II 1. The passing group at the end of the divertissement, at bar (16), is in Mode VI 1.

The second theme is in Mode VI 5, bars (22-32) on pp.23-24.<sup>Ex.13</sup> Note the extended transition on the dominant, leading to section [A2] at bars (41-43). The Coda is in Mode II 1 at bar (65), and Mode II 2 at (66). The final chord is the chord of resonance on A maj, comprising all the notes of Mode III 3.<sup>Ex.14</sup> This piece contains the first example in the piano works of a pedal group,<sup>(11)</sup> consisting of an ostinato of sixteen chords in Mode III 3, placed in the high register of the piano, as accompaniment to the first theme.<sup>Ex.12</sup> This is a technique peculiar to Messiaen, and one which occurs frequently in his piano music.

vi. Cloches d'angoisse et larmes d'adieu

Theme 1 begins and ends with an aug 4, at bars (2), (5) and (13). Theme 2 anticipates the theme of Section [B];<sup>Ex.15</sup> the aug 4, B - E sharp, with which it begins at (14), is used as the cadential motif throughout the theme in section [B], (39 - 43) and (48), which is recalled at the end of the piece at bar (74).<sup>Ex.16</sup>

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11. See Technique, Vol.I, Chap. XV, p.55, and Vol.II, ex. 302, p.47.



Part [A1] is in C minor, with a pedal on the dominant. Part B is in B minor, and part A2, at bars (21-26), is in E flat minor, with dominant pedal, and at bars (27-38), in G minor, with dominant pedal. Section [B] is in B major, and the Coda is in B minor. Thus the harmonic centres of the parts from section [A], B to the end, ascend in major thirds from B, to E flat, to G, to B.

The first theme is in Mode III 2 at bars (2-3), and in Mode III 1 in the R.H. of (4), and Mode III 2 in the L.H. The superior resonances at bars (5) and (10) are bi-modal; Mode VI 1 in the R.H., and Mode II 2 in the L.H. *Ex.17* The superior resonance at (11) has Mode VI 5 in the R.H. and Mode II 3 in the L.H.; at (12) R.H. Mode VI 1, L.H. Mode II 2; and (13), R.H. Mode VI 3, L.H. Mode II 1. Note the bi-tonality of the cadence at bar (13), at the degree of the aug 4, with A maj in L.H. and E flat maj in R.H.

The second theme, part B, is in Mode II 3 at bars (14-17), *Ex.15* and Mode III 4 at (18-20). Part A 2, as with part A 1, is in different transpositions of Mode III. Mode III 1, (22-23); Mode III 4, R.H. and III 1 L.H. (24); bars (28-30) follow the same transpositions. The superior resonances are in Modes VI and II as follows: VI 4 in R.H., and II 2 in L.H. (25), (33-34); VI 2 in R.H. and II 3 in L.H. (31-32); VI 6 in R.H. and II 1 in L.H. (35) and II 2 in L.H. (36).

*Ex.16*

Section [B], pp.33-37, is in Mode II 3 at bars (39-40), (44-45), and in the commentary, (49-50), and in Mode II 1 at (51-52). Note the use of the chord of B major + 6 + aug 4 at bars (39), (43), (45) and (48). The piece concludes in B minor, on the chord of B min + 6 + aug 4 in its second inversion.

vii. Plainte calme

The first half of the antecedent of the theme at bars (1-3) is derived, melodically and harmonically, from the opening progression of the Overture of Wagner's Tristan and Isolde.<sup>(12)</sup> The middle period "b", at bars (16-17), is derived from the motif from the second half of the antecedent of the theme at bars (4-5), which is here stated in canon. The second half of period "b", at (18-19), is based on the last two notes of the motif, (6), and the last bar (20), derives from the opening three notes of the theme. *Ex. 18*

The implied tonality of the piece is C major; it is centred around, and cadences on, the first inversion of A flat maj 7, i.e., with C in the bass. Period "a" at bars (1-3), contains the following harmonic progression in C major:

$$\begin{array}{ccc} 6 & & 6 \\ \text{IV}_5 \text{ (German 6th)} - \text{V}_7 - \text{IV}_5. & & \\ 3 & & 3 \end{array}$$

At bars (4-5) there is an implied modulation to A minor, with the following progression:

In A minor:  $\text{IV}_3^6 - \text{V}_7$  which returns to  $\text{IV}_3^6$  of C major. At bars (6-7) in C major:  $\text{II}_3^{\flat 6}$  (French 6th) -  $\text{IV}_3^6 - \text{V}_7$  of V, i.e., D maj 7.

Note the cadential movement of an aug 4, from A flat to D. *Ex. 18*

Bars (9-15) repeat the above progressions, with the last two chords reversed at bars (14-15) so that the period cadences on the chord of A flat major. Periods "a" and "c" are also in Mode VII 4.

12. Piano reduction, (Schott & Co., 1906), bars (1-4), p.1.

viii. Un reflet dans le vent...

The first half of period "a" of the first theme is based on a falling min 6 in the R.H. and a rising 4 in the L.H. at bars (1-3), and the open 5th of D maj + min 6 at bars (5-8).

The second theme, on p.42, at bars (33-34), is derived from Grieg's Chanson de Solveig.<sup>(13)</sup> Note the use of the aug 4 at the end of the phrases at bars (34) and (36).<sup>Ex. 19</sup> Period "b" of this theme is based on the aug 4, at bars (45-48) and (52-55).

The theme stated in the Development, section [B], on p.47 at bars (91-96), is derived from the rising motif of the first theme at bars (5-8).<sup>Ex. 20</sup>

The tonic key is D major, first stated in the first theme as  $I_4^6 + 6$  at bar (4). Period "b" of this theme comprises an harmonic litany on a returning chromaticism around the tonic  $\frac{6}{4}$  at bars (9-10). It moves to the dominant in bars (11-13), which is stated as  $V_7$  aug 5 at bar (14). Period "d" is based on the harmonic litany from Debussy's Hommage à Rameau which was quoted in Le nombre léger, (25-28).<sup>Ex. 9</sup> <sup>Ex. 21</sup> It concludes on  $V_7$  of E major at (26) and (28), and is then developed by elimination, moving to E major at (29) and to C major at (30-32), which leads to the key of A major, the key of the second theme, and the dominant of the main key. Note that the progression has been in descending thirds. The first theme, at bars (1-23), is in Mode III 4.

Period "a" of the second theme, on pp.42-43 at bars (33-44), is in Mode III 3. Bars (47-48) and (54-55) of period "b" are in Mode II 3.

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13. See Technique, Vol.I, Chap. VIII, p.32, and Vol.II, exx. 80-81, pp.13-14.

Bars(49-50)and (56-57) derive from the progression from Debussy's Pelléas et Mélisande quoted in Chapter XIII. <sup>(14) Ex. 22</sup> The first statement of period "a" concludes on the tonic, A maj + aug 5, at bar (44), while the end of the sentence moves from A major at (72) to conclude on the original tonic key, D major, at bar (74).

The Development theme of section [B], is in F sharp major, the mediant of the tonic, and at bars (91-95) is in Mode II 1. It is repeated a tone lower, in E major, and in Mode II 2, at bars (97-101).

The Recapitulation, on pp.49-55, repeats the Exposition. The Coda, at bars (191-202), is based on the rising motif from the first theme. The final chord is D maj  $\begin{smallmatrix} 6 \\ 4 \end{smallmatrix}$  + aug 4, with the addition in the L.H. of (201), of the figure accompanying the rising motif.

Messiaen spoke of the harmonic language of the Préludes in the following manner:

Mais la musique se distingue de celle de Debussy par l'emploi de mes "modes à transpositions limitées" qui sont déjà très caractérisés et mêmes combinés. Il y a des passages polymodaux assez "pimentés" pour l'époque... (15)

The system of seven modes of limited transpositions <sup>(16)</sup> is already well-established in Messiaen's technique in this student work. As he points out, the Préludes contain a number of examples of polymodality, which are found in Instants défunts, Les sons impalpables du rêve, and Cloches d'angoisse et larmes d'adieu.

All of the Préludes have a tonal centre, and key-signatures are used consistently throughout. The modes, used both melodically and

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14. Part III, p.258, footnote (19).

15. Samuel, C., op.cit., 125.

16. see Part III, Chap. XIII, p.259.

harmonically, are mixed and superposed with the tonalities.

Of the special chords peculiar to Messiaen's language, the major chord in its second inversion, with the added sixth and augmented fourth, appears throughout the Préludes, and is shown to be fundamental to Messiaen's technique. The chord of resonance is used only once, as the cadence to Les sons impalpables du rêve.

An important harmonic function, the pedal group, appears for the first time in the same prelude. As was pointed out in the analysis of this piece, its use in the high register of the piano, as accompaniment to a theme, is an important characteristic of Messiaen's language.

Another characteristic function is the harmonization of a melody which is doubled in the outer voices. This is found for the first time in the development of the second theme of Instants défunts.

## 2. i. Fantaisie Burlesque

The motif in the theme of section [A1], at bars (2) and (6), is in the whole tone scale. This motif, in altered form, is employed in the middle section, period "b", on p.4 at bars (29), (31), (38) and (40). It is also used as the basis of the Codetta, at bars (43-46). The melodic line of the R.H. of bar (20) of the theme is the scale of F major; the L.H. melodic line forms the whole tone scale.

The tonic key of the piece is F major. The first chord is in Mode II 2, as is the third, with the dominant added. Period "a1" at bar (10), concludes on the dominant seventh, preceded by a chromatic descent in parallel dominant seventh chords. At bar (20), the conclusion of period "a2", the scales in both hands are harmonized in parallel perfect chords, cadencing on the tonic.

Period "b" opens with a timbral effect at bars (23-24), where a pianissimo oscillation in 4ths and 5ths is superposed on a trill between A flat maj 7 and D in the extreme bass. The first three beats of the L.H. of bars (25-26) are in Mode III 2, and the last three quavers are in Mode II 1. The R.H. consists of alternating aug 4ths. Period "b" concludes, on p.5, bars (50-51), on the chord of C sharp maj 7 + min 9, which is the aug 5 degree of F major.

Section [B] is essentially atonal, with an implied tonality of C major. The theme in the middle staff, p.6, (75-81), is centred around the dominant, with the accompaniment in C sharp maj 9. This theme centres around C major on p.9, at (114-119). Period "b" is in Mode III 3 at bars (82-85), and in part A2, on pp.9 and 10, period "c" at bars (114-115) is in Mode III 1, and at bars (116-119), in Mode VII 1.

Part B of section [B], on p.8, (93-96), is polymodal. The R.H. comprises a pedal group of five chords in Mode III 3, and the L.H. a pedal group of four chords in Mode II 1, which are repeated until the point of departure. Section [B] cadences on the chord of E flat major 11, which is the mediant of C major, the main centre of this section, and the dominant of the main key of the piece.

Section [A2] repeats [A1] with the whole tone motif decorated with returning chromatic figures in period "c", pp.13-14. The cadential chords at the end of the period are broken in the R.H. at bar (192). The Coda, at bars (195-203), is over the dominant 7 + 6 of F major. The work cadences in F major.

ii. Pièce pour le Tombeau de Paul Dukas.

Period "a" is based on a descending motif on the whole tone scale, (1-2), and the melodic line of period "b", (3-4), is on the chord of the diminished 7th. This is the first piece in Messiaen's piano works which does not employ a key-signature. The piece is centred on the note B, and the chord of B major with the natural resonance of the 7th added.

Period "a" at bars (1-2) and (7) is in Mode III 1. Period "b", at bars (3-4) is in Mode II 1, and at bars (5-6) is in Mode II 3. This is also the first piece to use the chord of the dominant, transposed over the same bass, in period "c" at bars (8) and (10). The second half at bars (9) and (11), repeats "a" in Mode III 1. Each period cadences on the chord of B major 7.

iii. Rondeau

The first theme is based on the interval of the third, (2-12). The second theme is formed on the chord of B maj + 6 (24-28), and the commentary treats the theme in canon at bars (30-32) and (33-35).

The piece is harmonically centred on B major, and no key signature is used. The L.H. of the antecedent of theme 1, (2-7), is in E major. The R.H. cadences in F sharp maj + aug 5. This polytonality is employed throughout the piece. The consequent, at (7-8), is composed of perfect chords in parallel in the R.H., again cadencing in F sharp maj, while the L.H. at (7-11) is in 5ths centering around E flat min which is the mediant of B. Note the movement between A min and D sharp / E flat min at (7) and (10-11), i.e., at the interval of an aug 4. The inferior resonance to the cadence at (12-13) comprises B with its aug 4.

Theme 2 at (24-28) oscillates between V - I of B maj, with the consequent at (28-29) consisting of the pentatonic scale on F sharp maj. The theme cadences at (29-30) on IV - I in B maj, and at (35-36) on V - I. In the transition to the Codetta (37-38) notice the min 3rds in the L.H. ascending chromatically from B min to B maj at bar (39). The Codetta, at bars (39-40) is in Mode II 3.

In the Coda on p.5, at bars (84-85), the theme is transposed into Mode II 3, and at (85-86), forms a perfect cadence, in the R.H. in B maj, in the L.H. in E maj. The work cadences on B maj + 6.

### 3. Visions de l'Amen

#### i. Amen de la Creation

The first fragment of the Theme of Creation turns on the arpeggio of A major, with the flattened 2nd. *Ex. 22* The other three fragments of the theme, (3-8) begin on the last note of the preceding fragment, rise and fall a maj 2nd, then descend a fourth at (3), an aug fourth at (5) and a fifth at (7). The commentary, at (25-26) is an inversion of the theme, and the last fragment, (29-30), is developed by elimination, (31-34).

The piece is in A major, which is indicated by a key-signature. The first two fragments of the theme, (1-3), are in Mode II 1, the last chord moving to D minor at (4). The third fragment, (5-6) moves to the supertonic, and the fourth, (7-8) returns to the tonic. Each chord of the commentary is preceded by a triple acciaccatura of the chord, (24-36), and cadences in open fifths on the dominant, (34-36).

In the first piano, the accompanying rhythmic pedals are stated in chords of fourths, with a three chord group in each hand. Together they form the following modes: chord 1, Mode V 2; *Ex. 23* chord 2, Mode V 1; chord



3, Mode V 4. The pedal of piano 1 is held throughout the piece, with a crescendo from pppp to fff.

ii. Amen des étoiles, de la planète à l'anneau

The Theme of the dance of the planets is centred on the note E. The commentary, period "b", begins on the retrograde of the first five notes of the theme, (19-20), and includes the retrograde, at bar (21), of the fragment of the theme at (8). This modulates to the dominant at (28). In the second commentary, period "c", the first five notes of the theme are developed at (38-40), comprising two statements and a permutation. In bar (46) the fragment after the first three notes is derived from the figures at bars (3) and (6).

The melodic structure of section [B] part A has been analyzed in the preceding chapter. The developmental technique of change of register is used for the first time in the piano works in this part.<sup>(17)</sup> *Ex. 24* In part B of section [B], the head of the theme, i.e. the first five notes, is developed by elimination, in normal and contrary motion. It is stated at (80) and then aggrandized at (81). At bars (83-85) in piano 2, the head is repeated in semiquavers in the L.H. and in quintuplets in the R.H. The same head is found in the top part of piano 1. See also p.12 bars (89-92). At p.13, bar (93) in piano 2, the head of the theme is stated with its inversion in piano 1, and followed by development. It is stated again in the L.H. of piano 2 at (101). Part C has also been analyzed in the preceding chapter.

No key-signature is employed for this piece. In section [B] part A, a polymodal pedal group is used in piano 1 (49-52): 7 chords in

17. See Technique, Vol.I, Chap. X, p.36.

Mode III 3 in the R.H. and 5 chords in Mode II 2 in the L.H. This is alternated with the chord of C maj 13 + aug 4 and its appoggiatura over a common bass, in its first inversion, first appearing at bar (54). This is an harmonic function which is to appear often in the piano works. <sup>Ex. 25</sup>

In part B, pp.11-12, at bars (84-85) in piano 1, Mode IV 3 in the R.H. is superposed on Mode VI 1 in the L.H. This is repeated at (91-92). On p.13, at (101-102) the three broken chords, on the pedal of G in the top part, which form the accompaniment to the theme, appear here for the first time, and are used consistently throughout the piano works, playing a major part especially in Cantéyodjayâ. Messiaen refers to these chords as "Turning chords" for they give the effect of turning through three different faces of the same prism. <sup>Ex. 26</sup> In the R.H. of piano 2 on p.14, (105-107) a pedal group of 5 chords in Mode II 3 followed by 5 chords in Mode IV 5 is established. This is used as an ostinato, in various transpositions of Modes II and IV throughout part C. The rhythmic pedal in the L.H. of piano 1 is constructed on the head of the theme, descending a semitone at each repetition. At the cadence on p.19, bars (140-142) and (145), in piano 1, all the chords are chords of resonance, and contain all the notes of Mode III.

The final section [A2], contains the following progression of chords in the first piano: the appoggiatura to the maj 13th, followed by the chords of contracted resonance on D flat maj 9 and A flat maj 9 at bars <sup>Ex. 27</sup> (148-152); Mode III 1 superposed on Mode II 2, followed by Mode III 3 superposed on Mode II 3 (153-155); cadencing on a sequence of chords comprising 2 chords in Mode II 1, resolving on to the chord of the 9th. The best example of the last is at bars (183-184), p.23, for the chord of the 9th is G major, which is followed by two chords of E maj 9 + 6, in

Mode II 2, the second of which is in root position containing also the  
*Exc. 28*  
 aug 4; E is the tonic note. The piece cadences on this chord at bar  
 (197), and is followed by a final statement of the head of the theme,  
 (198).

### iii. Amen de l'agonie de Jésus

The first theme of this piece is based on alternating major and  
 minor thirds; C minor in piano 1 and D major in piano 2. These are  
 followed by two note chords which diminish from aug 4, to 4 to the original  
 3rds, (3-4). Theme 2 is accompanied in piano 1 by major thirds, which  
 descend to the accent at (13-14) and rise with the desinence (16).

As pointed out in Chapter I of this section, the third theme is a quotation  
 from La Vierge et l'Enfant of La Nativité du Seigneur. This theme derives  
 from the opening motif of Moussorgsky's Boris Godounov. (18) *Exc. 29*

The fourth theme is based on a returning chromaticism between C and E  
 flat. (19) The Coda on p.32, recalls the Theme of Creation with a pedal  
 on C, accompanied by descending minor sevenths and ninths.

The piece centres on the key of C major. The first theme  
 superposes C minor on D major, and cadences in C, on the open fifth with  
 aug 4, at (12).

The second theme is atonal in character, but can be analysed  
 with F sharp as its tonal centre. The first two chords, (13), are in  
 fourths and the third is F sharp maj/min + aug 5 at (13). The first  
 three chords have the function of IV + aug 4 - V + aug 4 - I. The accent  
 is on the chord of A flat maj in first inversion, i.e. II 6 + 9, (14-16).

18. See Technique, Vol.I, Chap.VIII, p.31, Vol.II, ex. 75-77, p.13.

19. Ibid. Vol.I, Chap. VIII, p.31, Vol.II, ex. 74, p.13.

From the last chord of the anacrusis (14), the bass follows a chromatic descent to F maj 6 at (16). The progression is therefore as follows: anacrusis: IV - V - I, repeated bar (14); accent: II; desinence: passing chromatic chord - I - V, (16).<sup>Ex. 30</sup>

Part B is in C major, and is preceded by the dominant in the bass of bar (16). The theme is in Mode II 1 and it is accompanied by a pedal group composed of chords in fourths in Mode VII 3, (17-28).<sup>Ex. 31</sup> The harmony of C minor is implied in part C, for the theme centres on E flat and C, (29-43).

In the repeat of the second theme on p.29, the chord of B flat maj 9 is inserted at the accent, (59-60). This is the mediant of F sharp. The rhythmic pedal added in the L.H. of piano 1 in Part B, and the L.H. of piano 2 in part C, pp.29-31, is in chords composed of fifths.

The Theme of Creation in the Coda, p.32, is in C major. The last chord of the piece is the chord of the dominant with a double appoggiatura added, on C major.

#### iv. Amen du Désir

The tonic key of this piece is G major. The harmonization of the first theme alternates the dominant and tonic over a dominant pedal. It concludes on G major + 6. The theme itself is harmonized in the following modes: Mode II 3, at bar (1); Mode II 2 at bars (2), (4), (6) and (9-10); Mode VI 5 at bars (3) and (5); Mode II 1 at bar (7); Mode IV 2 at bar (8); and the last chord of bar (9) is in Mode II 3.

In section [B1], part A, the antecedent of Theme 2 is in Mode II with the following transpositions: Mode II 2 at (11), (13), (16), and (18); Mode II 1 at (12), (14); and Mode II 3 at (15) and (17). It

moves from E flat maj at (11-14) to G maj at (15-18). The consequent is in B major, and comprises the following progression: I - VI natural (19); IV, i.e. E maj 9 + 6 + aug 4, (20-22); V - I (22-23). From (23-25) the consequent is in Mode II 3. <sup>Exc. 32</sup> Thus the tonal centre of the theme ascends in thirds from E flat to G to B. Period "a2" repeats the above period + min 3, (26-40), concluding in A flat major.

The commentary, part B on p.35, repeats the first half of the antecedent in A major at (41-44), and the first half of the consequent in B flat major (45-46), with Mode II 3 at (46). This is repeated in F sharp major, at (47-48), with (48) in Mode II 2. The harmony then ascends in thirds, with G flat major, i.e. the enharmonic of F sharp, at (49-50), B flat major (51-52), ascending a maj 3 in (53) and a min 3 in (52) arriving on the dominant of F major. The passing group (55-58) leads <sup>Exc. 33</sup> to part C, which at (59-62) is in F major, followed by Mode II 3 at (63-64) with the last four chords of (64) in Mode III 1. The whole period is repeated + maj 2 in E flat major (65-70). The period which follows is also in E flat major, and uses Mode III 1 at (71-76), the dominant pedal of G being introduced in (75-76). From the last four chords of (76) to (86) the last period is in Mode VII 1, over the dominant pedal, D. The last chord is that of D flat maj 7, which is the aug 4 of G.

Section [A2] on pp.37-39 repeats section [A1] with the decoration in the Mode appropriate to each bar.

Section [B2] repeats section [B1], with the addition of the rhythmic pedals in piano 1, all in aug 4ths, on pp.40-43. <sup>Exc. 34</sup> On p.44 at bars (142-143), Mode I 2 in the R.H. of piano 1 is superposed on Mode II 1 in the L.H. at p.46, bars (160-163) of piano 1 are in Mode III 1,

the Mode of the final period of part C. Stylized birdsong is used to decorate the dominant pedal on p.47.

In Section [A3], pp.48-49, the first piano decorates the theme with the same pedal group in fourth chords used for the third theme in L'Amen de l'agonie de Jésus, p.26, (17-28)<sup>Ex. 31</sup>. This is found at bars (176-178) and (182-183). From (179-181), the pedal group is in Mode III 1. In piano 2, the whole section is over the tonic pedal, G. The following modes are used: Mode II 1, (176), (177), and last chord of (178); Mode II 2, last chord of (176), (178) and the Coda, (182-184); Mode III 1, last chord of (177), and (179-181). The final chord is G major + 6.

v. Amen des anges, des saints, du chant des oiseaux

The first theme is in the style of the Hindu ragas.<sup>(20)</sup> The second theme derives from the Theme of Creation, which acts as a cyclic theme in the work.

The tonic key of the piece is A major. Theme 2 is in Mode II 1 at bars (12-19) and (21), and Mode II 2 at bars (20) and (22). The accompaniment in piano 1 to the repeat of the theme at (24-30) is based on chords of fourths (24-30), as is the accompaniment to the conclusion of section [A] at bars (41-43).

In section [B], the third theme, on p.53, is also in A major. The same group of three chords that first appeared in Amen des étoiles... p.13, (101-102), is used in piano 2 to accompany the beginning of the Codetta on p.54 at bar (65)<sup>Ex. 26</sup>. Note the cadencing aug 4 at bar (71). The structure of the fourth theme "chant des oiseaux" was analyzed in the first chapter of this part of the dissertation.

The final Codetta, part B3 of section [B], pp.62-64, begins, as  
20. See Part III, Chap. X, p.215.

do the preceding two, with the three chords mentioned above. These are followed at bars (135-136), by four transpositions of the chord of the dominant arranged over C sharp/D flat and the series of chords on Mode II and the chord of the 9th, which conclude Amen des Étoiles... on p.24. <sup>Ex.35</sup>

The period concludes with the chords of contracted resonance, firstly in broken chords in different transpositions, then in arpeggio, and finally in original version on D flat major, at bars (137-138). <sup>Ex.36</sup> The three bars which follow are based on the progression of three chords in the L.H. of piano 1 in Mode II 2 which, as the "Thème de Dieu", constitute one of the main themes of the Vingt Regards sur l'Enfant-Jésus. <sup>Ex.37</sup> Bars (142-143) of piano 1 comprise the chord of the 13th + aug 4 with appoggiatura followed by the chords of contracted resonance. The Codetta concludes in piano 1, (144-146), with the chords of contracted resonance on D flat, the mediant of A major, with the R.H. arpeggiated. The section cadences on A flat, the dominant of D flat at bars (147-148). The two final chords recall the tonality of C sharp major, the enharmonic of D flat.

In section [A2] on p.66 at bars (156-159) of piano 1, chords of fourths are followed by the chord of the dominant, transposed over the same bass, and three transpositions of the chord of resonance in Modes III 1, III 2, and III 3. The rhythmic canon at bars (161-166) is in Mode VI 4, and the arpeggiated figurations on pp.68-70 at bars (172-178) are chords of fourths, as are the concluding chords, (189-191). The Coda recalls the third theme, in A major, (193-196) and cadences on A flat, (197-198), as did section [B].

vi. Amen du Jugement

The tonal centre of this piece is E, with the harmony of the theme based on fourths and fifths. <sup>Ex. 38</sup> At bar (3) the phrase closes on E maj 7 + min 9, with the fourth chords at bar (4) suggesting the dominant of E, i.e., aug 4, B - F, doubled at the minor second, A sharp - E. The antecedent of the theme cadences in E at bar (8), i.e. E - B, doubled at the min 2nd, D sharp - A sharp, recalling the L.H. of the opening chord of the theme, E flat - B flat. The consequent cadences in the dominant at bar (12), and the tonic at bar (19). Note that each of the cadences is based on the melodic line G, F, E, which is altered to G, E, F at the cadences on the dominant. The decoration in this section consists of a chromatic scale in contrary motion, doubled at the maj 7 in the R.H.

The commentary repeats the rhythm and phrasing of the theme, with Messiaen's special chords taking the place of the thematic and harmonic material. <sup>Ex. 39</sup> At bar (20), the chord of the 13th + aug 4, with appoggiatura is used, followed by the chords of contracted resonance at (21-22). The second half of the antecedent is based on the chord of the dominant transposed and arranged over the common bass of D, at bars (24-26). These chords are repeated in the consequent, and are followed by the series of chords comprising two chords in Mode II 2 followed by the chord of the 9th and two chords in Mode II 3, (35-37). The cadences comprise chords in fourths, on the tonic half-way through the periods, at (23) and (31), with the melodic line, G, F sharp, E, and on the dominant at the end of the periods, at (27) and (37-38) on the melodic line, D, C, B, so that the commentary concludes on the dominant. In piano 1, the decoration consists of Mode I 1 in the R.H. superposed on Mode II 2 in the L.H.



In period "c2" at bars (48-49) and (52-56), the decoration constitutes a progression of chords in fourths. The chords which accompany the final cadential descent, forming the Coda at bars (58-59), are all, in bar (58), chords of resonance, in Mode III, transpositions 3, 1 and 3.<sup>Ex. 4C</sup> The final chord, at (59), is made up of E major in the R.H. superposed on A flat major in the L.H. accompanying the tonic note, E.

Each of the series of cadential chords in fourths is followed by an inferior resonance in periods "a" and "c", and a superior resonance in period "b", the commentary. Note also the effects of inferior resonance accompanying the theme in piano 1, period "b" at bars (20-21) and (24-25), based on the maj 7th, min 7th, and aug 4th.

vii. Amen de la Consommation

This piece is based on the Theme of Creation, in the original key of A major. In section [A], pp.78-85, bars (1-53), the rhythmic pedal in piano 1 comprises chords of fourths in the R.H. and augmented fourths in the L.H. The first statement of the theme, at (1-8), is harmonically and modally the same as in Amen de la Creation. It is followed by a commentary in which the third phrase of the theme is extended, and the fourth omitted, (9-17). The second statement of the theme, with its commentary, is in C sharp major,  $\uparrow$  maj 3, at bars (18-36). The third statement with commentary is again  $\uparrow$  maj 3, in F maj, at (37-53).

The development begins at bars (54-55), with the head of the theme, in the tonality of F sharp major, harmonized according to the following progression: V - III natural - VI - V - II. The second and third chords of (54) are in Mode II 1. The cadence, on A flat maj  $\frac{6}{4} + 6$ ,

is a min 3 above F major, the concluding key of part A. <sup>Ex. 41</sup> Bar (56) repeats bar (54),  $\uparrow$  maj 2, and concludes at (57), on B maj  $\frac{6}{4}$  + 6, a min 3 higher than bar (55). The theme is then developed by elimination at bars (58-59) leading to F sharp major at (60). In bar (59), the second and third chords are in Mode II 3. The development by elimination is extended, in bars (61-62), leading to a cadence composed of chords of resonance, at bars (62-63), in Modes III 3, III 2, III 3, III 2. These are repeated twice at bars (63-65), and are followed by the final cadence of this section comprising three bi-tonal chords which conclude on the dominant of A major, at bars (65-69). <sup>Ex. 42</sup> The chords are as follows: B maj, C maj, and D maj in the R.H. superposed on G maj 7, F sharp maj 7 and F maj 7 in the L.H. The accompaniment in piano 1, at bars (54-62), consist of chords of fourths, alternating with the superpositions of Modes IV and VI. <sup>Ex. 41</sup> At (55) IV 1 superposed on VI 5, at (57), IV 4 superposed on VI 2, and at (60), IV 5 superposed on VI 3. At (63-65), the accompaniment comprises a progression in Mode III 2, and the chords in fourths accompany the cadence at (66-69).

Section [B], part A, consists of the theme with its original commentary, in the tonic key, A major, on pp.88-92, at bars (70-89). The accompaniment in piano 1 alternates the series of chords, of which the first two are in Mode II 2 followed by the chord of the 9th, and the last two are in Mode II 3, with the chords of contracted resonance. <sup>Ex. 43</sup> The first statement of both is at bars (70-71). Period "a2", i.e., the two statements of the head of the theme, in A major, are accompanied by chords of fourths superposed on a pedal of augmented fourths, alternating with an arpeggio on the dominant, at bars (90-93). The extended commentary,

forming part B, at pp.93-95, is accompanied in piano 1 by arpeggiated figurations following the modes of the commentary. At bars (94-95), Mode II 1 is used; at bar (96), Mode II 3; at bars (97-99), Mode II 1; at bars (100-101), Mode II 3; at bars (102-103), Mode II 1; and at bars (103-107) the accompaniment breaks into free chromaticism.

The Coda, on pp.96-99, at bars (108-122) is based completely on Mode II 1, in both pianos. The work concludes on the perfect chord of A major.

All of the pieces comprising the Visions de l'Amen have a tonal centre, and four of the seven pieces, namely the first, fourth, fifth and seventh, employ key-signatures. The tonalities are arranged as follows: No.i, A major; No.ii, E; No.iii, C minor/major; No. iv, G major; No. v, A major; No. vi, E; No. vii, A major.

This work contains the first example in Messiaen's piano music of the development of a theme by change of register, used in Amen des Étoiles, de la planète à l'anneau, and also the principle of returning chromaticism, on which the fourth theme of Amen de l'agonie de Jésus is based. The pedal group, appearing for the first time in Les sons impalpables du rêve, the fifth of the Préludes, is used extensively throughout this work, each piece containing at least one example. The first occurs in Amen de la Creation, in which the accompaniment to the theme in piano 1 is constructed entirely as a pedal group. A particularly interesting example of the use of superior and inferior resonances is to be found in Amen du Jugement, where clusters form the inferior resonances at the cadences of the piece.

The Theme of Creation comprises the theme doubled in the outer voices, with the harmony confined to the inner voices. This is stated

first in Amen de la Creation and recurs in the third, fifth and seventh pieces. Another example of this principle is the first theme of Amen du Désir. The acciacatura also plays an important role in the decoration of the Theme of Creation in the fifth piece.

The Visions de l'Amen is the first of the piano works to make consistent use of the special chords characteristic of Messiaen's harmonic language. The chord of the major 13th + aug 4, with its appoggiatura appears for the first time in Amen des étoiles. These chords are closely related in structure to the chords of contracted resonance, appearing in the same piece, and in the fifth, sixth and seventh pieces.<sup>(21)</sup> Two more progressions make their first appearance in the second piece, namely the three chords of accompaniment, with a pedal G in the top part, and the progression comprising two chords of Mode II, followed by the chord of the 9th and two chords in a different transposition of Mode II.<sup>(22)</sup>

The chord of resonance, which was employed in the Préludes, appears firstly in Amen des étoiles... and then in the sixth and seventh pieces.

The chord on the dominant functions as the cadence of Amen de l'agonie de Jésus, and its transpositions in inversion over the same bass, first used in Pièce pour le Tombeau de Paul Dukas, are to be found in the fifth and sixth pieces.

Amen du Jugement holds an important place in the development of Messiaen's harmonic language, for the theme, harmonized in fourths and fifths, is replaced in the commentary by these special chords. This is the first example of a thematic use of the chords, apart from Pièce pour le Tombeau de Paul Dukas, for, as with the rhythmic structures, the harmonic structures outlined above, are employed as accompaniment and decoration to

21. See Technique, Vol.I, Chap.XIV, p.53, Vol.II, exx.288-290, p.45.

22. Ibid., Vol.I, Chap.XIV, p.54, Vol.II, exx.291-292, pp.45-46.

the main thematic material of the work.

Messiaen has described the particular characteristic of his harmonic language as follows:

...par l'emploi des accords en grappes qui viennent peut-être de l'usage des mixtures d'orgue. ...les mixtures sont des jeux...qui donnent, pour chaque note, non seulement la note jouée, mais ses harmoniques, l'octave, la quinte, la tierce, etc... Dans mon écriture de piano, les grappes d'accords devraient provoquer le même résultat, mais les accords sont tous différents; il n'y a donc aucune symétrie et j'ai évité une succession ininterrompue de quintes et tierces... Ces grappes d'accords donnent à mon écriture un aspect de pierreries, de chatoiement, de vitrail, assez caractéristique. (23)

This description is particularly applicable to the groups of special chords used consistently for the first time in the Visions de l'Amen, and therefore applies especially to the works which follow.

#### 4. Vingt Regards sur l'Enfant-Jésus

Three cyclic themes, the "Thème de Dieu", "Thème de l'étoile et de la croix" and "Thème d'accords", as outlined in the "Note de l'Auteur", are employed consistently throughout this work.

##### i. Regard du Père

This piece comprises a complete sentence on the "Thème de Dieu", whose main motif, consisting melodically of a falling minor third, occupies bars (1-2). The piece is in F sharp major, indicated by a key-signature, and the theme is formed harmonically from the following progression of chords: F sharp major in second inversion; A minor in first inversion;

and D sharp major in second inversion. These chords are within a pedal on A sharp, in treble and bass, the theme being doubled in the outer voices.

It will be recalled that this progression of chords first appeared in Amen des anges... at bars (139-141).<sup>Ex. 37</sup> A precedent for this theme is to be found in the trombone part of the Sacrificial Dance of Stravinsky's Rite of Spring, at the two bars preceding figure 193, where the progression F sharp maj  $\frac{6}{4}$ , A major 6, and E flat maj  $\frac{6}{4}$  is employed.<sup>(24)</sup>

The "Thème de Dieu" is in Mode II 1, and changes to Mode II 2 at the modulation to the dominant at bars (3-4). It continues in this transposition until bar (6), where the last two chords are in Mode II 1. At bar (7) on p.3, the first two chords are in Mode VII 3, returning to Mode II 2 for the cadence on the dominant.<sup>Ex. 44</sup> The second period repeats the first at bars (9-14), where the last two chords in Mode II 1 lead to the "Thème d'amour" at bars (15-16), a theme which occurs regularly throughout the work. The first two chords are in Mode VII 4, and the second two constitute the chord of F sharp maj + 6, which conclude the second period.<sup>Ex. 45</sup>

The Coda begins at bar (17) in Mode II 1, the next two chords being in Mode II 2. It comprises, at bar (18), a progression in Mode VII 1, and cadences on the first inversion of the tonic, F sharp major + 6, at bar (19).

## ii. Regard de l'étoile

The "Theme de l'étoile et de la croix", which constitutes the thematic material of this piece, is constructed on the principle of returning chromaticism, centred on the note A flat. The last fragment of the theme (16-17), is doubled at the octave, with a returning

chromaticism around E flat in the middle voice.

The first of the three introductory elements at bar (1) is in Mode III 2, with the last chord completing the chromatic scale. The second, at bar (2), is constructed on diminishing intervals, in the R.H. from the maj 9 to aug 4, and in the L.H. from the min 9 to the fifth. These alternate with single notes, and move from the extremes to the centre. The last element, (3-5), comprises three chords with inferior resonances the "accords de carillon", a progression which appears throughout the work. They consist of three harmonizations of the note C, the first in aug 4ths, the second in A flat maj + 4, and the third in fourths. The resonances comprise an aug 4 for the first chord, a maj 9 for the second, and the dominant 9th on C sharp maj for the third. <sup>Exc. 46</sup>

In section [B2], the cadences of the theme are decorated by arpeggiated chords in A flat major, followed by two chords in Mode III 2 centred around D major, the aug 4 of A flat, at bars (24), (28) and (32). The last two chords are repeated in augmentation, and in Mode VII 2, at bars (25), (29) and (31). These alternate with chords in fourths. The last two bars of the theme are accompanied by arpeggiated fourth chords in Mode IV 2 at bars (33-34).

In section [A3], the final three chords at bar (41) are composed of fourths, and conclude on the dominant of A flat.

### iii. L'échange

The melodic structure of this piece was analyzed in the chapter dealing with formal structures. The R.H. of bar (1) remains static throughout the piece, and the L.H. returning chromaticism, E, D sharp, F, returns to form the Coda at bars (25-30), where it is repeated five times.

The final chord at (31), constitutes a cluster comprising the notes, A, B, C, D, E, with two four-note acciaccaturas completing the other seven notes of the chromatic scale. *Ex. 47*

iv. Regard de la Vierge

The chromatic descent, G, F sharp, E sharp, D sharp constitutes the melodic line of the first theme. *Ex. 48* The second theme at (35-37), is constructed on a returning chromaticism around C sharp. The accompaniment to this theme is formed around the falling minor 3rd, E flat-D-C.

The cadencing birdsong at (38-39) is based on the interval of the aug <sup>4</sup>. *Ex. 49*

The second period at bars (40-46) is also centred on C sharp, as is the arpeggio at the end of period "b", bar (56). In bars (42-44) the theme is found in the top voice of the L.H. *Ex. 50* Note in the final period, at bars (59-60), that the last four notes of the theme at (58) are harmonized and marked by accents. The last five notes are repeated in the L.H. of (61).

The tonic key is F sharp; there is no key-signature. The first theme oscillates between the keys of F sharp major and D sharp minor. It cadences on the chord of D sharp min + maj 7 + aug 4, which also suggests D maj, at bars (5), (10) and (15). *Ex. 48* The tonal ambiguity is continued in part B, where at bars (16-18), a white-note cluster between the min 6th A-F is superposed with D sharp upon the chord of F sharp maj in second inversion. The dominant, C sharp, is accented at bar (18). The arpeggiated figure at (19) is based on fifths. The fifths in the L.H. of bars (20-22) ascend chromatically from A flat - E flat to B flat - F, while the inferior resonances in the L.H., in aug 4ths, rise also from A-E flat to B-F, and the superior resonances in



R.H. fall from F-B to E flat-A. The L.H. accompaniment to the chords in fourths in bar (23) is in Mode II 1, moving to the dominant of F sharp, stated in aug 4ths at bar (24).

In period "b" of theme 2, the chords following the C sharp at bar (40) are in Mode III 1, and those at bar (41) are in Mode II 2. At bars (42-44) Mode III 2 in the R.H. is superposed on Mode IV 2 in the L.H. <sup>Ex.50</sup> The theme cadences at bar (62) on the chord of F sharp maj + 6 + 9, with a cluster in the bass forming an inferior resonance.

The two themes are combined at bars (63-94). Note in bars (80-83) that the second theme is marked *f* and accented. The piece cadences on C sharp, forming Mode IV 3 at bar (101), and concludes with the final fragment of the second theme, also finishing on C sharp at bar (102).

v. Regard du Fils sur le Fils

The main characteristic of this piece, harmonically, is its polymodality. The tonic key is F sharp major, and the bottom stave comprises a complete sentence on the "Thème de Dieu" in this key. There is no key-signature. This is accompanied by a pedal group in Mode VI 3 in the top stave, superposed on a pedal group in Mode IV 4 in the middle stave. <sup>Ex.51</sup>

The bird-calls on pp.19-20, can be analyzed as a Binary Sentence in four periods as follows: a, (22-23); b, (24-25); c, (26-27); d, (28-33). <sup>Ex.52</sup> At the repetition on pp.22-23, each period is extended as follows: a, (53-55); b, (56-57); c, (58-59); d, (60-65).

The piece cadences on the chord of F sharp maj + 6, with 13 repetitions of the final fragment of the bird call at bars (74-76).

Note that the principle of a pedal group in the high register of the piano, accompanying a theme, is augmented in this piece to incorporate two, superposed pedal groups.

vi. Par Lui tout a été fait

The subject of the fugue is in Mode IV 5, and the countersubject begins with an aug 4 which is followed by a returning chromaticism in sequence. The two are superposed at bars (1-2). The subject is varied by change of register at bars (3-5), as is the inversion of the response at bars (9-11), which appears first, accompanied by the inversion of the countersubject, at bars (7-8). Periods "a" and "b" at bars (3-6) and (9-12) are accompanied in the L.H. by the subject treated in "agrandissement asymétrique". In bar (5), the chromatic scale descending from F sharp to A sharp also accompanies the subject in the R.H. Both period "a" and "b" cadence on the aug 4th D-G sharp.

In period "c", the subject is stated in canon, in three voices, the second and third  $\downarrow$  min 9 from the voice above, at bars (13-20), and is followed at (21-23) and (25) by the countersubject varied by change of register. In period "d" the subject is also in canon in three voices, the second  $\downarrow$  5 from the first, and the third  $\downarrow$  aug 4 from the second. This is accompanied by a pedal group of six chords in the bass, which is then transposed, alternating with a chromatic wedge opening from a min 2 to a fourth, at bars (26-33). This is followed by the inversion of the countersubject varied by change of register at (35-42), and a complete statement of the subject in octaves with the countersubject at (43-44).

The final period, "e" of this section, constitutes a statement of the subject in change of register, with each note preceded by a

double acciacatura. It is accompanied by the chords from bar (23) in fragmentation at bars (45-49). <sup>Ex. 53</sup>

Part B1 of section [A], which treats the subject in N.R. rhythms, accompanied by a fragment of the subject in "agrandissement asymétrique" on pp.28-29, was analyzed in the preceding chapter.

In part C, the groups forming very short values are composed of fragments of the countersubject, at bars (62), (64), and (66), gradually augmented until the whole countersubject is stated at bar (68).

The stretto on the subject in "agrandissement asymétrique", part A of section [B], on pp.35-36, is in three voices a min 6 apart.

Sections [A] and [B] of this piece are atonal, with the subject centred on the note D sharp. The progression of chords at bar (23) is constructed as follows: the first three are chords of superposed fourths and fifths, with the first two arranged according to the same principle as the chord of the 13th + aug 4th with appoggiatura, the third being a transposition of the last of the "accords de carillon"; the next two are contractions of the "thème d'accords". <sup>Ex. 54</sup> These are repeated in period "d", interpolated with the inversion of the countersubject at bars (35), (37), (40) and (42). The same chords, in dissociation, accompany the subject at bars (45-46), and then conclude this part, in trills preceded by triple acciacaturas at bars (47-49). <sup>Ex. 53</sup> The same chords, in dissociation and in canon, constitute the groups of very long values in part C on p.30.

In part B of section [B] on p.37, the countersubject is harmonized in chords composed mainly of fourths and fifths. This part leads to section [C], where the "Thème de Dieu" in F sharp major, period "al", is accompanied by an inferior resonance consisting of the chords

from bar (23), on pp.38-39 at bars (161-163). At bars (168-169) the "Thème d'accords" is stated in arpeggio, and is followed at bar (170) by the first appearance of the "Thème d'amour", derived from bar (15) of Regard du Père. Period "a2", on pp.40-41 is † maj 3 in B flat major, and period "a3" on pp.41-42, is again † maj 3 in D major. The chords interpolated at bar (189) occur in bars (207) and (210) of part B of section [C], and are also to be found in element "e" of Regard des Anges, on p.99. They are derived from fragmenting the "Thème d'accords". *Ex. 55*

Part B comprises a canon on the "Thème de Dieu", in F sharp major, indicated with a key-signature, with the chords interpolated at (207) retrograded at (210). This is followed by a pedal on the "Thème d'amour", accompanied by a wedge expanding from a single note to a 5th, with the notes of the ascending arpeggio of F sharp maj + 6 inserted at intervals of multiples of 3 semiquavers, at bars (211-219). At bar (220) the arpeggio is stated every second semiquaver. The progression which follows at bar (221) is based entirely on the "Thème d'accords" in different arrangements and transpositions.

Part C section [C] at bars (222-228), comprises groups of very short values, on the "Thème de Dieu", and groups of very long values, on the first chord from the concentration of the "Thème d'accords". The Coda is composed of two elements, namely, a canon on the subject of the fugue, at bar (230), and an arpeggio formed from the chord of F sharp major, followed by the second of the concentrated "Thème d'accords", with the final fragment on the whole tone scale, at bar (231).

This piece contains a number of important timbral effects, as follows: the inferior resonance to the "Thème de Dieu", comprising the chords from bar (23) at bars (161-162); the chord arpeggiated in opposite

directions, moving to a double trill, all of which is held in the pedal, at bar (176); the series of acciaturas in maj 2nds, moving to maj 2nds, again all held in the pedal, at bar (178)<sup>Ex. 56</sup>; and the chords preceded by chords in acciatura, acting as a superior resonance to the chord of F sharp major, at bars (188-189).<sup>Ex. 55</sup>

vii. Regard de la Croix

This piece is constructed as a Song Sentence on the "Thème de l'étoile et de la croix", which was analyzed in Regard de l'étoile. It is accompanied at bars (1-2) by chords in fourths, doubled in the L.H., in which the middle F and A remain static, while the outer voices, beginning on E flat and E, descend chromatically to A and B flat, and rise to D and E flat.<sup>Ex. 57</sup>

At the cadence at bars (3-4), Mode VI 4 is superposed on Mode IV 6, with the chord of A flat maj + 6, establishing the tonic key at bar (4).<sup>Ex. 58</sup> The progression of chords in fourths at bars (5-6), (9-11), (14-17) and (20-21) alternates with the superposition of Mode VI 4 on Mode IV 6, at bars (7-8), (12-13), (18-19) and (22-23). The final chord, at bar (29) is A flat min + 6, followed by an inferior resonance.

viii. Regard des hauteurs

The first introductory element, at bars (1) and (56), is composed of F sharp maj7+ 9 + 6 in the R.H. superposed on C maj7+ 9 + 6 in the L.H.<sup>Ex. 59</sup>

The Coda, on p.54 at bar (62), comprises a 10-note pedal in the R.H. containing all the notes of the chromatic scale except C and D sharp, superposed on all twelve notes of the scale disposed in the cycle of fifths, ascending from the extreme bass of the piano to the extreme

*Ex. 60*  
treble. The last chord, at bar (63) is composed of fourths and fifths, with the fifth, G-D, at the extremities, and is followed by an inferior resonance on A flat in fourths. The piece is atonal.

ix. Regard du temps

The first two chords of the theme are derived from the second of the concentrated chords of the "Thème d'accords". *Ex. 61* These are repeated with the pedal B in the top voice at bar (1). The first two chords of bar (2) are the chords of E maj + maj 7 + aug 5 followed by D maj + maj 7 + 9 + aug 5 which are in Mode VII 2, and appeared first in Regard d'étoile on p.7 at bar (25). *Ex. 62*

The rhythmic canons comprise chords in fourths, with the bass stave in aug 4ths. The Coda, at bars (43-44) repeats the last four chords of the theme, followed by a superior resonance in fourths.

x. Regard de l'Esprit de joie

The "Thème de danse orientale et plain-chantesque" in section [A], is based on the neumes of plainchant. The first period, at bar (1), comprises the following neumes: *Ex. 63*

Clivis: 2 notes, descending;

Climacus: 3 notes, descending;

Porrectus resupinus: a 3-note neume, with the second lower than the other two, followed by a fourth note, higher than the third note;

Distropha: 2 notes, both the same;

Porrectus: 3 notes, with the second lower than the other two.

The section cadences with a Podatus, at bar (31), which is a two-note neume, the second being higher than the first, on the aug 4, F sharp-C,

which is stated four times. <sup>(25)</sup> *Ex. 63*

The "Thème de joie" consists of the ascending major scale, minus the leading note, from dominant to dominant. In its first statement it is in E flat major, thus ascending from B flat to B flat, at bar (34). The interval of the falling min 3 plays an important part in the cadences of the "Air de chasse", section [C], for example at bars (61), (63) and (69). Section [B2], part B, at p.69, is based on the "Thème de Dieu".

The "Thème de danse orientale..." is centred on F sharp as tonic, with C, the aug 4, taking the role of the dominant. The chords at the cadences are composed of these two notes doubled at the semitone, i.e. F and C sharp.

Part A of section [B1] is based on the "Thème de joie", each statement of which is preceded by an introductory harmonic progression. The first begins on the chord of A maj 6 + aug 4 + aug 5, i.e. ↑ min 3 from the tonic of section [A1], at bar (33). The bass ascends chromatically from C sharp to B flat, the final chord being B flat maj 7 + 6 + aug 5, the dominant of E flat major, which is the key of the first statement of the theme, at (34). The superior resonance at the end of (34) is in Mode IV 2, with the last two-note chord, E-A, reiterating the tonality of A. <sup>*Ex. 64*</sup> This resonance occurs at the end of each statement of the theme. The theme is followed at (35) by an arpeggiated codetta figure, beginning and ending on B flat, the dominant. The introduction to the second statement of the theme, in C maj, ↓ min 3, begins on E flat maj, and moves to G maj 7, the dominant, at bars (36-37). The codetta figure at (38), begins and ends on the dominant. The third introduction begins on

C maj and moves to E maj 7, the dominant of the third statement of the theme, in A maj, ♯ min 3, at bars (39-40). This part therefore begins and ends in A maj, which is mid-way between F sharp and C, the tonic and dominant of section [A1]. The third statement of the theme is developed and harmonized with chords which are all arrangements and transpositions of the concentration of the "Thème d'accords", contained within the doubling of the theme in the outer voices, at bar (40). *Ex. 65*

This is followed by an "agrandissement asymétrique", on the pedal E, the dominant of A, at pp.62-63, which is in turn followed by a pedal on E, with three different timbres. Firstly at bar (54), accompanied by the chords of F sharp maj and C maj in oscillation; secondly, at (55-58), preceded by chords in arpeggio as acciacaturas; thirdly, stated simply in octaves at (59).

The first part of section [C] is in A major, indicated by a key-signature. The theme is in Mode II, with the following transpositions: Mode II 1, (60-62), (69-71), (74-75) and (81-83); Mode II 2, (63-68) and (76-80); Mode II 3, (72-73). The harmonic progression is as follows, in A maj: I, (60-62) - V, (63-68) - I, (69-71) - IV, (72) - I (73-74) - II<sub>7</sub> with 3rd sharpened, i.e. V of V, (75) - V, (76) - I, (77-83). The accompaniment in the R.H. also follows this progression.

Part B, on pp.65-67, repeats the theme in D flat maj, ♯ maj 3. It, and the accompaniment in the L.H., are also in the different transpositions of Mode II. Part C, on pp.67-68, repeats the theme in F maj, ♯ maj 3. Again, it is in the different transpositions of Mode II.

Section [B2], the second development on the "Thème de joie" and the "Thème de Dieu", begins on p.69, with a sentence on the "Thème de joie" which at bars (132-135) is harmonized in chords of fifths, over the



*Ex. 66*

sub-dominant and tonic of A flat major. At bars (136-137) it is harmonized in thirds moving chromatically, leading to the key of B maj,  $\uparrow$  min 3, the key of bars (138-143), where the theme is harmonized first in thirds, then in fifths over the sub-dominant and tonic of B major.

Part B, on pp.69-71, comprises two periods on the "Thème de Dieu", firstly in B major with Mode II 3 at bars (144-148), and Mode II 1 at (149-150). At bars (152-153), Mode III 1 is superposed on Mode II 3. The second period is in D major,  $\uparrow$  min 3, with Mode II 3 at bars (159-163) and Mode II 1 at (164). Mode III 4 is superposed on Mode II 3 at bars (166-167).

In part A2 of section [B2], the "Thème de joie" is stated at bars (175-177) in B flat maj, alternating the sub-dominant and tonic. The passing group at bars (178-181) modulates by way of the German sixth, stated clearly at bar (181), to the dominant of F sharp major, where the first four notes of the "Thème de joie" are harmonized with transpositions of the "Thème d'accords" in concentration, at bars (182-184).

In section [A2], pp.72-75, the "Thème de danse orientale..." is doubled in fourths, accompanied by a pedal group of five chords in the L.H. in Mode VII 3. The tonic of F sharp maj is stated at the cadences.

The first period of the Coda comprises a statement of the "Thème de joie" in B major at bars (217-219), i.e. IV of F sharp. The second period, at bar (220), comprises an arpeggio on F sharp maj, accompanied by three groups of figuration; the first in Mode IV 3, the second in Mode VII 3, and the third containing all 12 notes of the chromatic scale. On p.76, the dominant pedal is accompanied firstly by the oscillating chords of F sharp and C major, at bars (221-222), and secondly by alternating two chords in acciacatura to the dominant,

the second of which is F sharp maj + 6, at bars (223-228).<sup>Ex. 67</sup> This repeats the different timbral effects at the dominant pedal, which were pointed out at bars (54-58) on p.63. The final period of the Coda comprises the first motif from the "Air de chasse", in F sharp maj, and Mode II 1, accompanied in the L.H. by ascending 5ths on the chord of F maj 9, at bar (229). The final descending arpeggio at bar (230), begins in Mode II 1, at the first nine notes, followed by Mode II 2, and the last nine notes constitute the scale of D flat maj, i.e., C sharp maj, the dominant of F sharp.

The harmonic modulations of this piece are arranged according to a pattern of rising and falling thirds, which may be summarized as follows:

Section [A1]: F sharp //

Section [B1]: E flat - C - A / Pedal on dom. of A //

Section [C]: A / D flat / F //

Section [B2]: A flat - B / B - D / B flat //

Section [A2]: F sharp //

#### xi. Première communion de la Vierge

The piece is based on the "Thème de Dieu" in sections [A] part A, [B] part A, and the Coda. Part B of section [A], at bars (17-19), comprises the theme "la Vierge et l'Enfant".

All statements of the "Thème de Dieu" are in Mode II 2, and B flat major, the tonic key. The figurations accompanying the theme at bars (1), (3), (5) and (9) are in Mode IV 2. The descending chords at bars (2) and (4) are in Mode II 2.<sup>Ex. 68</sup> Periods "c" and "d" at bars (10-15) are also in Mode II 2.

Part B, the codetta on the theme "la Vierge et l'Enfant", with the pedal group in the high register, are in Mode II 3, at bars (17-19). The section concludes on the chord of B flat maj 6, followed by a superior resonance on F sharp maj/ C maj, and an inferior resonance consisting of a cluster on A, at bar (20).

The whole of section [B] part A, on pp.79-80 at bars (21-41), is in B flat maj, Mode II 2, including the cadenzas at bars (26-27) and (34-35).

The chords at bar (43), p.81, which begin part B, are derived from the cadential chords at bar (34) of part A, which in turn are an harmonization of the D preceded by the acciacatura E, at bar (26). The R.H. is the same as bar (34), with the L.H. changed to chords in fourths. <sup>Ex. 69</sup> This figure gives rise to the whole rhythmic augmentation analyzed in the preceding chapter. At bar (52) the last three chords derive from bar (23) of Par Lui tout a été fait. <sup>Ex. 54</sup> The first two of these are repeated at bar (57). At bars (58-60) all the chords form different inversions and transpositions of the chord of the dominant, with appoggiaturas. <sup>Ex. 70</sup> The arpeggios from (61-66) are based on the dim 7th of B flat major. Those at bars (67-68) are in Mode III 3, forming the chord of resonance, and those at bars (69-70) constitute C maj 9 over the pedal of F, i.e. V of V over the dominant of B flat maj. At bar (72), the dominant is stated, F maj 9 + 6 giving Mode II 3. The dominant pedal is held at bars (61-72).

Part C, p.83, bars (73-74) comprises in the L.H. the ascending open fifth of the dominant, and in the R.H. the figuration from bar (1) in Mode IV 2. The Coda at bars (75-80) is in Mode II 2 and B flat

major, cadencing on the chord of B flat maj in second inversion.

This piece contains a number of important and characteristic timbral effects. The first is the figuration in the high register at bars (1-5) which changes to the groups ascending on the pentatonic scale of F sharp, each of which concludes with an oscillation on the min 9th, at bar (6), which in turn leads to the birdsong at bars (7-8). The pedal group in the high register in the Codetta has already been pointed out above. The superior and inferior resonances to the chord at bar (20) produce the effect of a gong. Note also the fact that the Mode IV 2 figuration over the dominant at bar (73) is held in the pedal at bar (74) so that the resonance set up is sustained.

### xii. La Parole toute-puissante

The monody is centred on D. Note particularly the reiterated percussive bass, giving the effect of a tam-tam, sustained as a pedal throughout the piece. Arpeggiated acciacatura figures are also employed, especially at the cadences at bars (15), (28-33) and in the Coda, A timbral effect which appears for the first time is the use of a trill between a cluster and a single note, with the note accented at first, then the trill beginning softly and making a crescendo to ff. This occurs at bars (22-23), (25-26) and at the final cadence, (55-56).

### xiii. Noël

All of the thematic material in sections [A1] and [A2] is composed of self-contained, basically timbral, elements. "Les cloches", at bars (1-5), comprise chords of 4ths and 5ths, with, in the top stave, the middle note doubled at the semitone. The figure at bar (8) gives

the effect of a xylophone, and bars (15-16) consist of a maj 2nd, preceded by a quick arpeggiated figure, and followed by its echo, doubled, in repetition, at the maj 2nd. <sup>Ex.76</sup> Period "b" of section [B] comprises the theme of "la Vierge et l'Enfant", at bars (36-38).

Part A of section [A1] contains an inferior resonance comprising a cluster on A, and ends at bar (6) with a superior resonance consisting of the "Thème d'accords" in contraction. The last chord of "les cloches" at bar (6) is in Mode IV 3. <sup>Ex.77</sup>

The first chord of period "a" of part B, at bar (8) is in fifths, and is preceded by an acciacatura chord as appoggiatura. Period "b" at bars (10-12), constitutes the "Thème d'accords" in dissociation. <sup>Ex.78</sup>

Theme 2, which begins section [B] on p.93 at bars (26-34) is in Mode III 1. The third theme, "la Vierge et l'Enfant" is in Mode II 2, and is accompanied by a pedal group in the top stave, which is in Mode III 4, at bars (36-38). The chords at bars (38-40) are in Mode III 2. Periods "c" and "d", at bars (42-52), except for the fragments recalling theme 3, in Mode II 2 and Mode III 4 at bars (48-50), are in Mode III 1.

#### xiv. Regard des Anges

The first element "a", of section [A], bars (1-4), comprises the superposition of C maj on F sharp maj. <sup>Ex.79</sup> Element "b", at bars (5-6), is composed of the "Thème d'accords", firstly in original form, then arranged in two chords, which are repeated a tone lower. Element "c" is a trill at the extremes of the piano, formed from aug 4ths, in Mode IV 3. Element "d", at bars (9-13), also employs the aug 4th, comprising three voices in canon, a fifth apart, doubled at the aug 4. The final element "e", from the last two chords of bar (14) to the end

of bar (16) and including the last four chords of (17), is derived from the "Thème d'accords", in concentration. <sup>Ex. 80</sup>

The addition to element "b" in the second strophe, at bar (23), consists of a 12-note chord arranged in fourths, and centred on the note B flat. The addition to the same element in strophe 3 at bar (48), is a bird-call, with an arpeggiated accompaniment, of which the base forms the returning chromaticism, C sharp, D sharp, C, C sharp, D sharp.

In section [B], the L.H. of the first period, on p.103 at bars (78-83) is derived from element "a" of section [A]. <sup>Ex. 81</sup> Bars (84-85) repeat the head of element "d", the rhythmic canon, and the L.H. of the second period, at bars (86-88) is constructed on the "Thème d'accords", element "b" of section [A]. These three elements alternate in the L.H. throughout section [B]. The Codetta of this section, on p.106, constitutes a returning chromaticism at bars (128-129), followed by Mode VII 6 at bar (130).

The final strophe, on p.107, is based on element "e" of section [A], and repeats in bars (134-135) the L.H. of this element. This motif is then treated in a complex variation on the principle of "agrandissement asymétrique". <sup>Ex. 82</sup>

#### xv. Le baiser de l'Enfant-Jésus

This piece is based on the "Thème de Dieu", in F sharp major, the tonic key, which is indicated by a key-signature. The whole of section [A] is in Mode II with the following transpositions: Mode II 1, (1), (3), (6), (8), (11), (15-16), (20-21), (23), (25-27), (32-34) and (39); Mode II 2, (2), (4), (7), (9), (22), (24), (28) and (35); Mode

II 3, (12) and (17), At bar (14), the first five chords are in Mode II 3, and the last two are in Mode II 2. At bar (19), the first seven chords are in Mode II 3, the last two in Mode II 1. In the R.H. of bars (31) and (38), the first group of chords is in Mode II 1, the second in Mode II 3, the third in Mode II 1, and the fourth in Mode II 2. This sentence is repeated exactly at bars (40-52), with the decoration following the appropriate transpositions of Mode II. The cadenza on p.112 at bars (52-60), is in Mode II 2.

Part A of section [B], on pp.113-114 at bars (63-72), is in Mode II 1. In part B, the three ascending chords over the pedal of C sharp, at the beginning of bars (73-76), and the passing group derived from them at bar (77), are in Mode II 1. <sup>Ex. 83</sup> The "Thème d'accords" in its original version, is stated at bar (73), and the "accords de carillon" at bar (74). At bar (75) two versions of the chord of resonance are stated, with appoggiaturas. The first is in Mode III 2, the second in Mode III 3. The chord of the dominant, in different inversions and transpositions, is stated at bar (76). These chords are stated in different arrangements at bar (78) as follows: <sup>Ex. 83</sup> the first two chords are chords of resonance, the second two are contractions of the "Thème d'accords", and the last four are derived from the "accords de carillon".

Part C of section [B], at bars (79-84), comprises a chromatic ascent over the dominant pedal, C sharp, and at bars (90-94), consists of a returning chromaticism around C sharp. <sup>Ex. 84</sup>

The theme of section [C], on pp.117-119, is in F sharp major, and in Mode II, with the following transpositions: Mode II 1, (95), (97),

(99) and the second half of (100); Mode II 2, (98), the first half of (100), and (101-102); Mode II 3, (96). The theme is repeated  $\uparrow$  min 3 in A maj at bars (103-105) returning to F sharp major at (105). The theme moves to the subdominant, in Mode II 3 at bar (106), and returns to the tonic at (107). Bars (108-109) alternate the dominant, and Mode II 2, with the tonic, and Mode II 1, and bars (110-111), over the dominant pedal, are in Mode II 2. The cadence of the second period, in the tonic, is in Mode II 1, at bar (112). The final period alternates the subdominant and the tonic at bars (113-114), where it is in Mode II 3, followed at bar (115) by Mode VI 2. The section cadences in F sharp major, with the penultimate bar, (117), in Mode II 2.

Part A of section [D] alternates the tonic and Mode II 1, with the dominant and Mode II 2, at bars (119-126). Part B, at bars (127-134), comprises in the R.H., an arpeggio on the chord of F sharp maj + 6, and in the L.H. the falling minor third from the "Thème de Dieu", C sharp - A sharp. The work concludes on the perfect cadence in F sharp maj, at bars (135-136), with the falling min 3 in the top voice.

xvi. Regard des prophètes, des bergers et des Mages

The first theme of this piece is a litany on six notes, imitating the effect of the oboe, at bars (22-29). The second theme is constructed as a returning chromaticism on C and C sharp, falling a min 3 to A, at bars (36-43). Both themes centre around C, and suggest the tonality of A min.

Theme 1, in monody, at bars (22-29), is harmonized at bars (30-31), and stated in arpeggio at bar (33). Note that the fifth note of this bar is C sharp and not A sharp. The sentence concludes with a statement of the theme in octaves at bar (35).



Theme 2 is accompanied by a melodic figure centred on F sharp, at bars (36-41). The two last notes of the theme, C and A, are harmonized with the same chord of fourths on F, giving F, C, F sharp, at bars (42-43). Note that the aug 4, C-F sharp, the centres of the theme and its accompaniment are here emphasized. The accompaniment to the theme is repeated in canon at bars (44-51), with the theme superposed, the note F sharp acting as the link between bars (51-54). The theme is harmonized in fifths and fourths at bars (55-56), the last two notes at (56) having the same harmony, differently arranged, as at bars (42-43). The section ends with four statements of the theme at bar (57), with the theme in the two outer voices, accompanied by two inner voices in returning chromaticism.

The two themes are stated together in section [D], the first in thirds in the R.H., the second in the L.H. at bars (60-67).<sup>Ex. 86</sup> Theme 1 is harmonized at bars (68-69), followed by theme 2 with accompaniment at (70), and in thirds, with the arpeggiated version of theme 1 at (71). The section concludes with the two themes superposed in octaves at bar (73).

The Coda comprises the two themes, superposed and doubled in thirds, at bars (95-97), followed by a cadential figure, derived from birdsong, at (98),<sup>Ex. 87</sup> and concludes with the last three notes of the second theme in contrary motion and octaves at bar (99). The cadential figure at (98) re-appears in the Exposition of Regard de l'Eglise d'amour on p.175.

The accompaniment in the R.H. to the rhythmic accelerando and rallentando of section [A1] and [A2] on pp.122-123, and 126-127, consists of a pedal group of four chords in Mode IV 3, following, in augmentation, the outline of the second theme.<sup>Ex. 88</sup>

xvii. Regard du silence

This piece contains no melodic, thematic material, but is constructed entirely on modal progressions and special chords. Sections [A] and [C] are both pedal groups, with Mode III 4 in the R.H. superposed on Mode IV 4 in the L.H., on pp.128-129, and 135-137 at bars (1-19) and (88-109).<sup>Exc. 89</sup>

Part A of section [B] comprises an harmonic litany on the notes G and F, followed by a chordal progression with superior resonances, in Mode III 3 where the melodic interval is augmented to a falling min 3, at bars (27-29). The harmonic litany is constructed in the following manner: chords of fourths, (20); two inversions of the chord on the dominant over the bass of A flat, (21); the "Thème d'accords" in concentration, (22); the chords of contracted resonance on D flat, (23); three statements of the chord of the 13th + aug 4th with appoggiatura, at (24-26).<sup>Exc. 90</sup> The cadencing bars of this part, (30-36), on p.130, are in Mode II 2.

The first element of the bridge passage, part B, comprises chords on F sharp maj, alternating with C maj, in the R.H., superposed on Mode IV 4 in the L.H. at bar (37). The second element is constructed on the chord on the dominant, in opposed arpeggios, at bars (38-39).<sup>Exc. 91</sup> Bar (38) employs the same transpositions as at bar (21). The third element is a superposition of the arpeggio of A flat maj on C major, forming Mode III 1, at bar (40).

Bars (41-44), beginning part C, are formed from the "Thème d'accords", in original version, followed by their contraction, as was found in element "b" of Regard des Anges, at bars (5-6). These are

stated in the bass, with their retrograde superposed in the treble. Bars (45-47) on p.132, are in Mode III 3, and are followed at bar (48) by three transpositions of the chord of the 13th + aug 4 with appoggiatura. Part C concludes at bars (49-52) in Mode II 2. Note that the final chord at (52) is the chord of B flat maj + 6 + aug 4, the chord from Pelléas et Mélisande which influenced Messiaen's harmonic thinking. *Ex. 92*

This piece contains a number of striking and characteristic timbral structures. In sections [A] and [C], two pedal groups are superposed, with the intensity, ppp. Thus the structure which was originally employed to accompany a theme has now become a structural element in its own right. The harmonic litany at bars (20-26) is echoed in Mode III 3, with the intensities forming a crescendo from mf, to f, to piu f, and the intensities of the superior resonances progressing from p, to mf, to f. This is followed by a chord, accented and held, while the resonance is prolonged by soft, arpeggiated figuration, at bars (30) and (32). The same technique, with different figuration, is used at bar (40). Note especially the use of chords stated in rapid arpeggios, superposed in opposition, at bars (38-39). *Ex. 91*

#### xviii. Regard de l'Onction terrible

Sections [A1] and [A2], constituting chromatic accelerandi and rallentandi, on pp.138-139 and 151, at bars (1-19) and (180-198), are composed of chords of fourths. The chords arpeggiated in opposition at bar (21) are chords of resonance with the following transpositions of Mode III: Mode III 2; Mode III 3; Mode III 4; and Mode III 1. Those in bar (22) are different inversions and transpositions of the

*Exc. 93*

chord on the dominant. These are stated in retrograde at bar (178).

The thematic material of section [B] is based on the aug 4, harmonized in open fifths, followed by resonances which are held in the pedal. At bars (23-29), G-C sharp is followed by arpeggiated figurations in fourths and seconds at (24) and (28), which resolve onto the chords of contracted resonance in arpeggio at bars (25) and (29). At bars (30-34), the aug 4ths, F sharp - C, G sharp - D, doubled in fifths, are followed by chordal figuration in Mode VII 5. The figuration plus the chord at the beginning of bar (32) give all the notes of the chromatic scale except D, which is provided by the last note of the motif at bar (31), held in the pedal. The resonance at bar (37), composed of chords of fourths in the L.H., gives all twelve notes except C sharp, which is provided by the last note of the motif at bar (36).

In period "b" at bar (55), the chord of E maj + maj 7 + aug 5 is followed by D maj + maj 7 + aug 5, with E held as a pedal. The progression is then repeated in sequence, and followed at bar (56) with a passage in fourths, beginning on the first two chords of the "Thème d'accords".

The chordal passage on p.144 at bars (91-95) is based melodically at bars (91-92) on the aug 4, and at (93-95) on a returning chromaticism. The melody is doubled in the outer voices, while harmonized with concentrations of the special chords in harmonic pedal. There are six chords of which the first is a chord of resonance in Mode III 4, the fourth is a chord of contracted resonance, and the last two are the "Thème d'accords" in contraction. The same series of chords is repeated on p.149 at bars (167-171). The cadences at the end of parts A1 and A2 at bars (97) and (173-177) comprise arpeggiated chords of fourths and fifths.

*Exc. 95*

xix. Je dors, mais mon coeur veille

The first part of Theme 1 at bar (9) finds its precedent in <sup>Ex. 96</sup> bar (95) of the theme "le baiser" on p.117. The second part is a quotation of "la Vierge et l'Enfant", at bars (11-12). The second theme of this piece is the "Thème d'amour" from Regard du Père.

The piece is in F sharp major, indicated by a key-signature. Sections [A1] and [A2] on pp.152 and 157 at bars (1-7) and (69-77) are constructed solely on the perfect chord of F sharp major.

In section [B1], the first theme is in Mode II 1, at bars (9-22), cadencing in A maj + 6 at bar (10) and F sharp maj + 6 at bar (14). Note the falling min 3 in the L.H., accompanied by 5ths in the R.H., which act as superior resonances at bars (12) and (16).<sup>Ex. 97</sup> This is taken up as a cadence at bars (17-19), with F sharp - D sharp at the beginning of each bar forming A maj + aug 4, and C sharp - A sharp at the end of each bar, in F sharp maj. The section cadences on F sharp maj + 6 in second inversion, with the descending fifth C sharp - F sharp acting as inferior resonance, at bar (22). This motif, as inferior resonance, is used at all of the cadences in sections [A] and [B].<sup>Ex. 96</sup>

Section [C] begins with the "Thème d'amour" harmonized firstly in parallel dominant 7ths. These descend chromatically at bars (24-25) as follows: C, B, B flat, at bar (24), A, A flat, at bar (25). It is then harmonized in dominant 7th chords which are both maj and min at bar (26), G, E flat, F, which are repeated and resolve at bar (27) to D maj 7 followed by E maj 7, † maj 3 from the cadence at bar (25).<sup>Ex. 98</sup> Bars (28-29) move from D sharp maj to A sharp maj, bar (29) being in Mode II 2. Bar (30), comprising chords in fourths, leads to the cadence on A sharp maj 7, with a superior resonance composed of the "Thème d'accords"

*Ex. 99*  
 in contraction at bar (31). This is † aug 4, from the cadence in E at bar (27). The repetition of the period at bars (32-39), cadences at bar (39) on G sharp maj 7, the dominant of the dominant of F sharp. It is followed by a superior resonance comprising the "Thème d'accords" in contraction, which form all the superior resonances to sections [C] and [B2]. The dominant key, C sharp maj, is emphasized at bar (44), where the "Thème d'amour" is harmonized by the chord of C sharp maj 9 + 6. This resolves to F sharp maj at bar (45). The progression is repeated at bars (46-49), and is followed by a long resolution over the dominant pedal at bars (50-52), leading to the first theme at bar (53).

The Coda, on p.157, at bars (79-87), recalls fragments of the two themes, alternating with the falling fourth, F sharp - C sharp, and concluding on the first inversion of F sharp major, with the falling fourth as inferior resonance, thus rendering the chord in its second inversion.

xx. Regard de l'Eglise d'amour

The two main themes of this piece are the "Thème de Dieu" and the "Thème d'amour". The first theme of section [A], part A1, is extended at the right and left at each repetition at bars (1-6), while alternating with the element "en gerbe rapide". *Ex. 100* This is formed from alternating C maj and F sharp maj in the R.H. concluding on F sharp, while the L.H. comprises a progression in 5ths, D - G - D - A, each of which is preceded by an appoggiatura chord. The L.H. concludes on D sharp, which, with the F sharp of the R.H. suggests, and thus leads to, the key of B major, which is the key of the first statement of the "Thème de Dieu" at bars (7-8).

The second statement of this theme is  $\uparrow$  maj 3 in D flat maj, at (17-18), and the third statement is again  $\uparrow$  maj 3 in F maj, at bars (27-30). Note the cadential figure at bar (30), which first appeared in the final cadence of Regard des prophètes... on p.127. <sup>Ex.87</sup>

The "agrandissement asymétrique", which alternates with the "Thème de Dieu", is accompanied in the R.H. by a 12-note motif arranged in two groups of six notes. Each bar contains two statements of the row. Four variations of the row are stated at bars (9-12), and are repeated at bars (13-16). <sup>Ex.101</sup> The same 12-note motif is used in part B2 on pp.167-169 at bars (93-104).

Part C is based on the "Thème d'amour", and comprises a series of sequences moving from C maj 7 at bars (31-32) to C sharp maj 7 at bar (84), the dominant of F sharp maj. Chords in fourths are used as superior resonances at the cadences of the theme at bars (39-46) and (50-54), while a pedal group in Mode III 3 is used to accompany the theme at bars (47-49). Chords in fourths are again used as superior resonances to the cadences at bars (64-71) and (77-84), with Mode III 3 in the R.H. at (72-76).

The bridge passage on p.169 at bars (105-111), is based on the "Thème de Dieu" in the L.H. with chords of fourths in the R.H. Section [D] is constructed on Messiaen's special chords over the dominant pedal of C sharp. The "accords de carillon" are at bars (112-117), the "Thème d'accords", (118-121), the chords of resonance in Mode III 2, III 3, III 4 and III 1 at bars (122-125), and the inversions and transpositions of the chord on the dominant, at (126-128). These are repeated at bars (129-142). The second bridge passage on pp. 171-172 consists of chords

of fourths at bars (143-154), with notes added progressively at (155-158), and concludes on C sharp in octaves at (159-160).

Section [B] part A, constitutes the Exposition of the piece, and comprises a complete sentence on the "Thème de Dieu" in F sharp major, repeating exactly the whole of Regard du Père, on pp.172-175 at bars (161-196), with additional resonances at the cadences. Note that the L.H. of bar (175) is in Mode III 3. The extended repetition of the cadential figure at bars (196-198), first appeared at bar (30).

The Coda, at bar (200) is on the chord of B maj + 6, with the last five chords in Mode II 3, resolving to the tonic at bars (201-202). This is repeated at bars (203-205). At bar (206), F sharp maj 13, with Mode III 2; at (207), C sharp maj 7 + 6, with Mode II 2; at (208), F maj superposed on F sharp maj + 6, with Mode VI 2; at (209), B min 7 + 6, with Mode III 1; at (210), G sharp maj 9, with Mode VI 5; at (211) and (213), F sharp maj + 6, with Mode II 1; and at (212) and (214), C sharp Maj 7 + 6, with Mode II 2. The Coda, and thus the whole work, resolves onto the tonic, F sharp maj + 6 at bars (215-216). The harmonic progression described above can be summarized as follows, in F sharp maj:

IV - I - IV - I - I<sub>13</sub> - V<sub>7</sub> - I + Neapolitan 6 - IV - II<sub>9</sub> - I - V<sub>7</sub>  
                  (V of V)   (V of V)  
 - I - V<sub>7</sub> - I. *Exc. 102*

A final statement of the "Thème de Dieu" follows the tonic chord, with a superior resonance derived from birdsong, and an inferior resonance comprising a descent in fourths and fifths, at bars (217-220).

The evolution of the melodic and harmonic structures follows very much the same path as the evolution of the rhythmic structures,



for the Vingt Regards sur l'Enfant-Jésus consolidates those functions introduced in the Visions de l'Amen, and at the same time reduces to a minor role the use of key-signatures, for they are employed in only six of the twenty pieces.

Particular melodic structures used are: returning chromaticism in the second, fourth and eighteenth pieces; change of register, as a developmental structure in the sixth piece, which is unique in the piano works in that the melodic structures of the first part are derived from the structural devices of the fugue; the litany, particularly in the fourth and eleventh pieces; plainchant neumes in the tenth piece. A new melodic structure, "agrandissement asymétrique", is introduced in the third piece, and employed in the sixth, tenth and last pieces.

Harmonic structures used are: the harmonization of a theme, doubled in the outer voices, particularly in the first, tenth and eighteenth pieces; polymodality in the fifth, seventh and seventeenth pieces; pedal groups in the fifth, sixth, tenth, eleventh, thirteenth, fourteenth, sixteenth, seventeenth and eighteenth pieces.

Two new chordal progressions are introduced in this work, namely, the "Thème d'accords" which appears for the first time in the sixth piece, and the "accords de carillon", introduced in the second piece. These progressions are characterized by their use in concentration and dissociation, the "Thème d'accords" appearing in different forms in the tenth, fourteenth, fifteenth, nineteenth and twentieth pieces, the "accords de carillon" appearing especially in the fifteenth and twentieth pieces. Note the thematic use of the "Thème d'accords" in the thirteenth and seventeenth pieces.

The chordal structures which, from their appearance in the Visions de l'Amen, appear consistently throughout the piano works, are employed as follows: the chord of the dominant appears in the eleventh piece, and then in the fifteenth, seventeenth, eighteenth and last pieces; the chord of resonance is used in the eleventh, fifteenth and last pieces; and the chords of contracted resonance appear in the seventeenth piece.

A particular harmonic structure is introduced in this work, namely, the use of the twelve notes of the chromatic scale to form an harmonic element. The first example of this is the first element in the second piece. Other examples are found in the Coda of the eighth piece, and in element "b" of the second strophe of the fourteenth piece.

A number of important timbral structures are introduced in this work. The first is the extensive use of acciacaturas in the sixth and tenth pieces. Note how this is used as the basis for the section comprising a rhythmic augmentation in the eleventh piece. The second is the use of the chords of F sharp maj and C maj in oscillation, in the eighth, tenth and fourteenth pieces, and the third is the use of chords arpeggiated in opposition, particularly in the eighteenth piece.

Whereas only one piece in the Visions de l'Amen employed the special harmonic functions in their own right, for their main role was as accompaniment to thematic material, at least four pieces of the Vingt Regards are constructed almost entirely from these functions, namely, the thirteenth, fourteenth, seventeenth and eighteenth. Once freed from the domination of a tonality, marked by the use of the key-signature, these structures form, along with the rhythmic, melodic and timbral

structures, self-contained elements, which may be used mosaically. The piece itself may then be atonal, as the eighth, seventeenth and eighteenth pieces; or the elements may revolve around a central tonality, as a modal melody revolves around a central tone, for example in the second, eleventh, fifteenth, nineteenth and twentieth pieces; or again, an element may have its own tonal centre without this necessarily being related to the other elements, as in the sixth, tenth, thirteenth, sixteenth and seventeenth pieces. The Vingt Regards therefore clearly marks this evolutionary step in the development of Messiaen's language throughout the piano works.

5. Cantéyodjayâ and Quatre Etudes de rythme

i. Cantéyodjayâ

Period "a", "cantéyodjayâ", at bars (1-2), is a 12-note phrase arranged in three groups as follows: (26) *Ex103*

D flat, C, B flat, E flat, A; note the *aug* 4th, E flat - A; *1/1 Jim. 5th*  
 C, B, D, A, G sharp; with *aug* 4th, D - (A) - G sharp;  
 F sharp, G, F, D sharp, E; a returning chromaticism.

Period "b1", at bar (6) is centred around the *aug* 4, G sharp - D, from *Ex.104* the second group of the row. This is stated again at bar (7), with E flat - A, from the first group, and E - B flat. The period cadences on G sharp - D at bar (8), repeated at bars (9-10) as D-G sharp, D acts as the tonic note of periods "b1" and "b2", with G sharp as a quasi

26. Mason, C., 'On the Left Wing', Musical Times, Vol.95, (March, 1954), 136, groups the phrase as follows: D flat, C, D, E flat; C, B, B flat, A, G sharp; F sharp, G, F, D sharp, E; which arranges the row according to the returning chromaticism stated in the L.H., but does not explain the use of the *aug* 4ths in periods "b1" and "b2", which are stated in the row.

dominant. Each bar of period "b2", at bars (16-21), begins at A, and moves to the accent on D sharp, the aug 4 from the first group of the row. Each phrase concludes on G sharp - D. Bar (22) is also centred around E flat - A.

Period "c", at bars (29-30), comprises a quotation of the "Thème d'accords" from the Turangalîla-Symphonie, and is based on chords of fourths, with the last chord in Mode II 2, as are the fourth and fifth chords of bar (31). *Ex.105* The cadencing chord at bar (34) is in fourths.

The theme employed as the consequent to period "a3" at bars (37-40), recurs as a characteristic theme in Messiaen's works after this period, particularly in the Entrée of the Messe de la Pentecôte, on p.2, bars (21-23), in the pedal part, and in La Rousserolle Effarvate. *Ex.106*

The melody of element "d", on pp.6-7 at bars (41-61) is centered on the aug 4, D - A flat, with the tonic as D, as was the case in period "b1" and "b2". The accompaniment in the L.H. is a pedal group of two chords in Mode VI 6.

Element "e", on pp.8-10, at bars (64-101), is in Mode IV 4 in the middle stave. The top and bottom staves together form Mode VII 2. The entire "Mode de durées..." comprises 24 pitches divided into three divisions, 24 durations, and 5 intensities, namely pp, p, mf, f, ff. The first division uses 8 chromatic durations with the demisemiquaver as the unit, the second, 8 chromatic durations with the semiquaver as unit, and the third, 8 chromatic durations with the quaver as the unit of duration.

The chords which cadence Refrain 1, in superior resonance, on p.11 at bar (111), are chords of contracted resonance on G maj 9. The R.H. figure of Refrain 2 (112-114) is a quotation from the Turangalîla-Symphonie 2nd movement, on p.42, three bars before fig. 7. *Ex.107* The

arpeggios of element "g" on p.12 at bars (126-128) are derived from the concentration of the "Thème d'accords" of the Vingt Regards, and are also found in the piano part of Turungalîla II on p.277, at fig.10.<sup>Ex.108</sup>

The chords employed in element "h" at bars (129-136) are those which first appeared in the Visions de l'Amen, No.ii, p.13 at bars (101-102); they will hereafter be referred to as the "Turning chords".<sup>Ex.109</sup> At bar (137) of element "h", the first two chords are the chord of the 13th + aug 4 with appoggiatura, and those which follow are chords of contracted resonance, as are the last two chords of bar (138). The R.H. of element "i" at bars (140-163), is based on a melodic formula which recurs in the Offertoire of Messe de la Pentecôte, on p.4, at bars (11-12), and the L.H. comprises a chromatic scale.<sup>Ex.110</sup>

The first bar of the second couplet, element "j", p.14, bar(168), has affinities with the cadential flourish in piano 2 of No.v of the Visions de l'Amen, on p.55 at bar (70).<sup>Ex.111</sup> Note the aug 4ths, A flat - D, and A - E flat in this bar. The first two chords of element "k" on p.15 at bar (171), derive from element "f" on p.12, bar (124). The second two are chords of fourths. Bar (173) comprises the progression of two chords in Mode II 2, followed by the chord of the 9th and two chords in Mode II 3. Note the aug 4, G sharp - D in bar (175), which moves to F sharp - A at (176-177).

Element "l", on p.15 at bars (178-181), is based on a returning chromaticism, and concludes on p.16 at bars (187-188) with a quotation in the R.H. of one of the motives from the 2nd movement of the Turungalîla-Symphonie, p.42 at fig.7.<sup>Ex.112</sup> This motive also occurs in the Rechant of the second of the Cinq Rechants. The bridge passage which follows element "l" at bars (191-193) and at (195), is constructed on

fourths and fifths. In element "m", on p.17, the chords in bars (201-202) and (208-209) are based on the "Thème d'accords" from the *Ex. 113* Vingt Regards. The chords of the dominant over C sharp are used at bars (206-207). The first two chords of bar (210), composed of fourths, first appeared in bar (23) of No. vi of the Vingt Regards, and the last two chords of bar (211) are taken from bar (120) of the 1st Couplet on p.11. *Ex. 114*

In Couplet 3, element "o" at bars (244-258) consists of a set of intervensions on D, E, D sharp and A, the L.H. set having been analysed in the preceding chapter. The R.H. comprises a pedal on these notes, repeated in semiquavers, with the following durations: 2, 3, 4, 8; which are the same as the first statement of the L.H. Element "p", on p.20 at bars (259-264) is a canon in six voices on the following intervals: 4th, aug 4th, maj 2nd, 4th, min 3rd. *Ex. 115* The arpeggiated figures of element "q" at bars (274-275), are based on the chords of contracted resonance. In the repetition of "c" on p.22, at bars (279-282), the chords used as superior resonances derive from the fifth and sixth chords of bar(31) of element "c" on p.5. The min 3 inferior resonances derive from the conclusion of the canon at bar (264). In element "t", at bar (291), the sixth and seventh chords which appear also in bar (289), derive from bar (210) on p.17.

The second half of the bridge passage, at bars (298-320) on p.24, is based entirely on the aug. 4.

The second recall of element "c" at bars (327-333), which states the whole of the last phrase of "c" at bars (31-34) on p.5, uses as its inferior resonance, the chords of element "f" which appear at bar (120)

The Coda, at bars (349-350), is based on Mode II, with the exception Mode II 2 in the first four chords of the L.H., and the rest of the L.H. in Mode II 1. The R.H., except for the first four chords, is in Mode II 2.

### ii. Neumes rythmiques

The neumes of the first period were analyzed in the preceding chapter. The following is an analysis of a number of the resonances accompanying the neumes.

The first and third chords of bar (5) are derived from the chords contracted resonance. <sup>Ex.116</sup> These appear also at bars (16-17), (29), (49), (84), (89) and (96-97). The cadences at bars (11) and (98) are based on the chord of resonance in Mode III 1. <sup>Ex.117</sup> The chord in fourths which first appears in element "h" at bar (14) is in Mode IV. <sup>Ex.118</sup> The chord which is in Mode IV 1, the appoggiatura in Mode IV 6. This occurs also at bars (31), (41-43), (62), (72), and (86). Other chords in fourths are found in element "d", the second chord at bar (9), element "k" at bar (10), element "l" at bar (28), element "o" at bar (35), element "p", bar (36) and element "t", at bar (57), the last chord of which derived from <sup>Ex.119</sup> Thème d'accords, p.15, at bars (171-172). Other elements containing chords in fourths are "w" at bar (70), and the cadences "f" at bars (21) and (74).

The cadence on p.7 at bar (64) is based on the chord of the cadence on A flat maj, and the first chord of element "x" on p.10 at bar (10) is a contraction from the "Thème d'accords" of the Vingt Regards. <sup>Ex.120</sup>

Note especially in this work, the timbral structure comprising chords played simultaneously at the extremes of the piano in N.R. rhythm, as in the Refrain [C] at bars (12), (34), (65) and (99).

iii. Mode de valeurs et d'intensités

The mode of 36 pitches and 24 durations employed in this work, also comprises 7 intensities and 12 attacks. The 7 intensities are as follows: ppp, pp, p, mf, f, ff and fff, and the attacks range from the normal attack with no sign, to a sign consisting of a staccato with an accent marked sf. Each note of the mode has its own duration, its own intensity and its own attack, and thus the only freedom allowed in the work is in the arrangement of the pitches, which Messiaen disposes freely, as with his other modes. In the following analysis, the notes of each division of the mode are referred to by their position in that division, which corresponds with their duration, as the first note of each division has the value of a single unit of duration, the second two units, and so on.

There are five permutations of the first division of the mode, which occur throughout the work. The first appears at bars (24-28) as follows:

1, 12, 2, 11, 3, 10, 4, 9, 5, 8, 6, 7 //

The second is found at bars (36-40):

1, 11, 3, 9, 5, 7 / 8, 4, 10, 2, 12, 7 //

The third occurs at bars (53-57):

6, 7, 12, 1, 5, 8, 11, 2, 4, 9, 10, 3 //

The fourth at bars (81-86):

8, 1, 12, 7, 2, 11, 6, 3, 10, 5, 4, 9, //

The fifth forms the Coda of the top stave for it constitutes a statement of the first division in its original order at bars (103-108), omitting



the 11th value, which is stated immediately after the value 12, followed by a repetition of the last value:

1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12 / 11, 12 //

Three permutations of the second division of the mode are to be found:

The first at bars (29-39):

1, 2, 3, 12, 11, 10, 5, 4, 6, 9, 8, 7 //

The second at bars (39-49):

1, 11, 3, 9, 5, 7 / 8, 4, 10, 2, 12, 6 //

The third at bars (86-96):

9, 4, 5, 10, 3, 6, 11, 2, 7, 12, 1, 8 //

One permutation of the third division is to be found at bars (61-80):

1, 7, 2, 8, 3, 9, 4, 10, 5, 11, 6, 12 //

A main motif of the first division of the mode is formed from the first four notes, falling from E flat to D, and then to A and A flat, i.e. a perfect fifth encompassing two aug 4ths. <sup>Ex. 121</sup> A main motif of the second division comprises the falling 5th G - D, the first two notes of the division, followed by the third note, B flat, thus constituting a falling maj 6th. <sup>Ex. 122</sup> The last note of the third division, and consequently the last note of the mode, C sharp, with the duration of 12 quavers, is employed only three times throughout the work, marking the end of each period.

The two motifs mark particularly the beginning and end of each period, where they coincide. They begin the work at bar (1). The

second motif is stated twice at the end of period "a" at bars (27-29) firstly in retrograde, then in its original form, as follows: 3, 2, 1, 4 / 1, 2, 3, 4 / with the first note of the second statement coinciding with the C sharp of the third division. It then coincides with the first motif at the beginning of period "b", where it is stated as follows: 1, 2, 3 /. The first motif begins period "b" at bar (29) as follows: 1, 2, 12 / , and is followed in bar (31) by a second statement: 1, 2, 4 / .

At the end of period "b" on p.9, the second motif again coincides with the C sharp in the bass, in retrograde form: 3, 2, 1 /. Period "c" begins with the first motif: 1, 4, 2, 3 / at bars (78-79), followed by its retrograde: 4, 2, 1 / at (79), and 2, 4, 3, 1 / at (80). The second motif follows the first at bar (79), as 1, 3, 2 / , and is repeated at bar (83) as 1, 2, 4 / .

Period "c" concludes, as do the other two periods, with a statement of the second motif, this time augmented at bars (106-109) as follows: 1, 2, 3 / 1, 2, 4 / 1, 2 / 1, 2 // . The work concludes with the second motif following the first, as at the beginning of each period, with the final C sharp in the bass.

#### iv. Ile de Feu 1

The first theme is centred on E, beginning with the maj 3rd, E - G sharp, and ending with the aug 4, C sharp - G, before cadencing on the final E, at bars (1-2). It is followed by a cadential passage based on the aug 4ths, D - A flat and A - E flat, concluding on F - B and the 5th B - F sharp, at bar (3), with an inferior resonance at bar (4) on the returning chromaticism, B flat, B, G flat, A, C.

In the first variation, the theme is stated in the L.H.,

accompanied by birdsong, cadencing on G sharp, forming a maj 3 with the final E of the theme, at bars (5-6). This is followed at bars (7-9) by a passage based on the aug 4.

The second variation states only the first seven notes of the theme, accompanied by resonances in fourths at bar (11), and is followed by a passage alternating B maj in the L.H. with C maj in the R.H., concluding on the chord of the dominant with appoggiaturas in C maj, at bars (12-13). The period concludes with figurations superposing F sharp maj, alternating with white notes, in the R.H., on C maj in the L.H. at bar (14), and an arpeggio with F sharp maj in the L.H. and C maj in the R.H. at bar (15), cadencing at bar (17) with a trill in clusters at the extremes of the piano. The bridge passage at bars (18-19), consists of a pedal of 6 notes in Mode V 1 in the R.H. superposed on an 8-note pedal in Mode II 3 in the L.H.

The third variation of the first theme at bar (20), comprises the theme accompanied by 5ths and 4ths in F sharp with the chromatic min 2 derived from bar (14) in the R.H., and the percussion from the first statement of the theme at bars (1-2). It is extended by the repetition of the last four notes of bar (20) at bar (21), and cadences on the maj 3 G sharp - E at (21-22), with the final E extended by a glissando from E - E in the R.H. accompanied by the pentatonic scale on F sharp maj in the L.H. at bars (23-24).

The second theme is also centred on E, with the motivic intervals being the maj 3, E - G sharp, and the aug 4, E - B flat, as stated in the antecedent at bars (25-27). The accompaniment comprises a melody in Hindu style, constructed after the rules of the Hindu jatis. (27) Ex.126

The melody at bars (25-28) is repeated at bars (30-34). The last note of the second theme begins the last statement of the first theme, which repeats the first seven notes of the first variation, at bar (35). This is followed at bar (36) by the descending chords derived from bar (14) in the R.H., with ascending chords in C maj in the L.H. The work concludes with the rest of the theme harmonized at bar (37), with the last two notes followed by an inferior resonance at bar (38). The last note is repeated at bar (39), preceded by an arpeggiated acciacatura in fourths.

v. Ile de Feu 2.

The theme, in the L.H. at bars (1-7), is centred on the note E, and suggests the tonality of E min. The main interval is the min 3, and the antecedent cadences at bar (4) on the aug 4th of E, i.e., A sharp. The resonances to the theme, mainly in 4ths and 5ths, in the R.H., suggest the key of D sharp min. <sup>Ex.127</sup> The first variation of the theme at bars (28-34) consists of the theme doubled in sevenths in the R.H., with the accompaniment in the L.H. comprising basically a pedal on the 4ths, G - C sharp and F sharp, with the note D sharp, which is doubled at the aug 4 at the cadences. In the second variation, on pp.4-5 at bars (55-61), the theme in the L.H. is harmonized in 4ths and 5ths, while the accompaniment in the R.H. comprises figurations in 3rds, 4ths and 7ths.

The L.H. of bar (68) on p.6, in the development section, is composed as a wedge beginning on C - B, which moves chromatically outwards until all 12 notes of the scale have been stated, i.e., C, B, D flat, <sup>Ex.128</sup> B flat, D, A, etc. This leads to the final part of the development at

bars (70-75), comprising a series of permutations, in perpetual semiquaver movement, on 12 notes, following the same principle as the Interversions of this work, which were analyzed in the preceding chapter.

The foundation of the permutations in the L.H. is that at bar (75), which constitutes the chromatic scale from C to B. The order of the notes of the first L.H. permutation at bar (70), derived from this, is as follows: 9, 1, 2, 10, 11, 4, 5, 12, 8, 7, 6, 3. <sup>Ex. 129</sup> Each of the others follows this order, using as its foundation the preceding permutation. The R.H. follows the same order of permutation, using as its foundation <sup>Ex. 130</sup> the order of notes in the R.H. at bar (75). Each series of permutations is therefore a closed system.

The set of permutations is followed at bars (76-85) by a statement of the theme upon which is superposed the Interversions IX and X. The Codetta to this section of the work comprises three elements. The first repeats, in the L.H., the last three bars of the theme at bars (83-85) in semiquavers, and completes the penultimate bar of the theme as found in bars (5-6) of its first statement. It is accompanied by a pedal group of four chords which were originally stated at bar (64). The second is constructed on two pedal groups of four notes each, at bar (87). That in the R.H. is repeated in sequence,  $\uparrow$  maj 3 each time, while that in the L.H. is repeated  $\uparrow$  5 each time. The final element comprises the last four notes of the theme with their original resonances, at bars (88-89).

The Introduction to section [E] at bars (90-91) on p.8, consists of the antecedent of the theme, with its original resonances, stated in semiquavers. The L.H. of bars (92-111) comprises ten permutations of a

*Ex. 131*

12-note row. Each permutation is followed immediately by its retrograde. At bars (112-131) the ten permutations with their retrogrades are retrograded, so that bar (131) states the original row in retrograde.

The Coda, at bars (132-134), begins with a statement of the consequent of the theme, i.e. bars (5-7), with its original resonances, in semiquavers, thus complementing the antecedent stated at bars (90-91). The last two notes of the theme, forming a descending min 3, are stated 12 times at bars (133-134), then augmented to a descending 4th, harmonized in 4ths at bars (135-136), and finally stated in their original version, with their original resonances at bar (137).<sup>*Ex. 132*</sup> The work ends with an inferior resonance to the last two notes of the theme, comprising a returning chromaticism, at bar (138).

As was pointed out above, the permutations of the Interversions were analyzed in the preceding chapter. As well as comprising 12 pitches, four attacks and five intensities are also employed, each note thereby having its own attack and own intensity, as well as its own duration. The attacks are: the normal attack with no sign; the accent, -; the normal accent; and the accent with staccato. The intensities used are: p, mf, f, ff, sfff.

Two important innovative structures are introduced in Cantéyodjayâ and the Quatre Etudes de rythme. These are the "mode de durées, de hauteurs et d'intensités", and the process of interversion. As was pointed out in the preceding chapter, the structure "mode de durees..." is first employed in Cantéyodjayâ, as element "e", and then extended to form an entire piece in Mode de valeurs et d'intensités. The principle of interversion is used in Cantéyodjayâ in its original, simple form, namely the continuous permutation of four notes. However it is associated, for the first time with a rhythmic structure. This principle is extended in Ile de Feu 2 to include a set of permutations, melodic and rhythmic, on a set of twelve notes, each permutation using as its foundation the preceding

permutation. This process of melodic development then becomes an important melodic structure in Messiaen's works.

The use of elements comprising a twelve-note group is established in these works. Particular examples are the first theme of Cantéyodjayâ, from which derive the periods "b" and "b'" which follow, and the Interversions of Ile de Feu 2. Notice also that the last section of Ile de Feu 2 is constructed on permutations of a twelve-note series.

Now that the mosaic form of construction is firmly established in these works, one of the important characteristics which become evident is the way in which the same elements appear from work to work, either juxtaposed and contrasted with new elements, or in varied forms. Examples of this are the use of thematic material in Cantéyodjayâ which appears later in Messe de la Pentecôte and La Rousserolle Effarvate; the use of the three chords of accompaniment, the Turning chords, which first appeared in the Visions de l'Amen, in Cantéyodjayâ; and the use of the "Thème d'accords", derived from the Vingt Regards, allied with a Hindu rhythm, in Cantéyodjayâ. The structures which appear as constants throughout Messiaen's piano works, the chord of resonance, the chord of the dominant and the chords of contracted resonance, are used also in these works, a particular example being Neumes rythmiques where they are used to form a number of the resonances to the rhythmic neumes.

#### 6. Catalogue d'Oiseaux and La Fauvette des Jardins

When speaking of the Catalogue d'Oiseaux, Messiaen made the following point:

...dans mon Catalogue d'Oiseaux, on pourrait encore relever un plus grand nombre d'innovations parce que la reproduction du timbre des oiseaux m'a contraint à de constantes inventions d'accords, de sonorités, de combinaisons de sons et de complexes de sons qui aboutissent à un piano qui ne sonne pas "harmoniquement" comme les autres pianos. (28)

In this section, therefore, no attempt is made to give a detailed melodic, harmonic and timbral analysis of all of the birdcalls. Instead, certain characteristic examples are examined.

i. Le Chocard des Alpes

The Strophe, Antistrophe and Epode, on pp.1-2, 4-6 and 11-12, are each based on a twelve-note mode.

The chord of element "a", "Cri du Chocard" at bar (34), is constructed in 4ths, and is the same chord as that employed in the Coda of Ile de Feu 2 at bar (135), with the fourth, B - E, added. <sup>Ex.132</sup> The element "c", which appears first at bar (36), is composed of an ascending arpeggiated figure, doubled mainly in major and minor thirds. <sup>Ex.133</sup> The element "b" is constructed as free permutations on a 12-note figure, which, at its first appearance at bar (50), comprises three permutations. <sup>Ex.134</sup>

ii. Le Lorient

Element "a" consists of an inferior resonance to the bird-calls, which is gradually extended to form an harmonic progression. It is centred on E major, and in part A of section [A] comprises the perfect chords of F sharp major and G sharp major, ascending by tone, each chord containing the natural resonance of the seventh. This occurs at bars (1), (3) and (8). <sup>Ex.135</sup> At bar (10), the chord of F sharp major resolves to E major.

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28. Samuel, C., op.cit., p.134. Johnson, R.S., op.cit., gives a complete list of the birds used in Messiaen's music as Appendix III, pp.199-208. He also groups the calls in four categories, see pp.132-135.



In part B, the progression at bar (14) consists of chords of the 9th descending by tone as follows: F sharp maj 9 - E maj 9 - D maj 9 - C maj 9, resolving onto the perfect chord of E major. <sup>Ex. 136</sup> Bar (16) repeats the resonance which began the piece, and at bar (18) the chord of F sharp maj with the resonance of the 7th resolves to E major.

The first progression of section [B] on p.3, at bar (31) comprises a descent in tones, repeating the progression of bar (14), this time in perfect chords. The progression returns to F sharp and resolves onto the chord of A minor, the cadence being in Mode II 1. The top voice of this progression is in Mode II 1. The second progression of this section, at bar (43), begins the tonal descent of the preceding progressions, but displaced at the aug 4, as follows: F maj - E maj, then aug 4 to B flat maj - A flat maj. The progression returns to C maj, the last chord of the descent in the other two, and resolves onto the initial chord, in minor form, an aug 4 from C maj, forming a cadence in Mode II 1. All are perfect chords. The first four chords of the third progression, on p.5 at bar (54), comprise a progression of perfect chords in the Dorian Mode; A min - G maj - F maj, concluding on the chord of D minor which resolves an aug 4th onto the chord of G sharp major, forming a cadence in Mode II 3. The final progression of this section therefore cadences on the mediant of E major. <sup>Ex. 137</sup>

The first progression of section [C], at bar (99), begins as a sequence moving  $\uparrow$  min 3 at each repetition, and alternating maj and min chords as follows: F sharp min,  $\uparrow$  4 to B maj; A min,  $\uparrow$  4 to D maj; C min. It then returns to A min, i.e.  $\downarrow$  min 3, and descends by tone; A min - G maj - F maj, to resolve onto E major. The last two chords of the progression are repeated at bar (102).

The call of the Lorient on p.9 at bars (114-118) is accompanied by an harmonic progression in E major, with the melody doubled in the outer voices, as analyzed below. <sup>Ex.138</sup> A circle above the chord function indicates that the root is omitted.

V<sup>o</sup>9 + aug 5 - I - II<sup>o</sup>9 - V<sup>o</sup>9 / I - II<sup>o</sup>9 + aug 5 /  
(V of V)

V7 - IV + 6 - V<sup>o</sup>9 + aug 5 / I + 6 - II<sup>o</sup>9 + aug 5 - V7 - II<sup>o</sup>9 /

V<sup>o</sup>9 + aug 5 - I //

This derives from the "Thème d'amour" of the sixth movement of the Turangalila-Symphonie. The call of the Lorient which follows, at bar (119), is composed of chords of resonance in Mode III 1, and the resonance to the call at (120) comprises a descent by tone of the parallel dominant 7ths, C maj 7 - B maj 7. The first two chords of the call at bar (121) are the chords of contracted resonance, and the last two form the chord of the 13th + aug 4, with appoggiatura.

The resonance at bar (132) on p.11, repeats the first, i.e., F sharp maj 7 - G sharp maj 7, and the final resonance of the piece remains on F sharp maj 7, at bar (135).

Note that the call of the Rouge-gorge on pp.2 and 3 at bars (13) and (30), comprises the descending pentatonic scale of F sharp maj in the R.H. superposed on the descending scale of C major in the L.H. <sup>Ex.140</sup>

### iii. Le Merle bleu

Element "a", "les falaises", is constructed on permutations of a 12-note mode, for example at bars (1), (4) and (24-26). <sup>Ex.141</sup> The call of the "Merle bleu" is composed in the following manner, in order to render the timbre of the call: The song is in the R.H., in double notes on the pentatonic scale of A major. This is doubled chromatically, at a softer

intensity, in the L.H., and is preceded by an inferior resonance formed from the chords of contracted resonance on A major. This can be seen particularly at bars (31-39) and (46-53) on pp.3-5. *Ex.142*

The ends of section [A], the first and second parts of section [B], and the first part of section [C], are marked by the element "h", "la mer bleue", which comprises a progression in Mode II. The first statement appears on p.5 at bars (59-63), and is in Mode II 1. *Ex.143* It concludes on the perfect chord of A maj  $\frac{6}{4} + 6 + \text{aug } 4$ , which is followed by an inferior resonance in 4ths, and by a progression in Mode III 3 at bars (64-66), comprising arpeggiated perfect chords in polytonality: F maj - C sharp maj - A maj, superposed on F sharp maj - D maj - B flat maj; i.e.,  $\downarrow$  maj 3 at each repetition.

The second statement, at the end of part 1 of section [B], is on p.9 at bars (110-114), and is also in Mode II 1. The progression is  $\downarrow$  min 3 from the previous statement, and concludes on the chord of F sharp maj  $\frac{6}{4} + 6 + \text{aug } 4$ . It is followed by the same progression in Mode III 3 at bars (115-117). The third statement, at the end of section [B], pp.18-19 at bars (227-235), is also in Mode II 1, and begins  $\downarrow$  min 3 from the second, but modulates so as to conclude on the chord of A maj  $\frac{6}{4} + 6 + \text{aug } 4$ . It is followed by the progression in Mode III 3 at bars (236-238). The final statement is found on p.23 at bars (277-279), and this repeats the first three bars of the original statement at bars (59-61). This element therefore centres on the tonality of A major.

The final "souvenir du Merle bleu", at bars (299) and (302), is on the pentatonic scale of A major, the scale employed as the basis for all the calls of the "Merle bleu".

iv. Le Traquet Stapazin

Element "a", "vignobles en terrasses", is composed on all the notes of the chromatic scale, and cadences with the chords of contracted resonance on A major, at bars (1-2), (19-20), (52-53) and (196-197). The "Fauvette à lunettes", which appears for the first time in this piece, comprises a call in single notes over the chord of E maj + 6. The first call is at bar (7-9), but it may be seen more clearly on pp.25-27 at bars (258-259), (261), (263-264) and (270-271), where it is used to conclude the piece. <sup>Ex. 144</sup> The call itself is also based on the chord of E maj, with the added 2nd, F sharp, at bar (8). With successive calls more notes are added e.g., at bar (14), B flat, C and G; at bar (26), F; at bar (72), D sharp and A; and at bar (259), D.

The call of the "Bruant Ortolan" is always preceded by an inferior resonance based on the chord of the 9th of C, which moves to a chord on C composed of 4ths and 5ths, e.g., at bars (5-6) and (23-24). <sup>Ex. 145</sup> The call of the "Chardonneret", on pp.3-4 at bars (41-46) is preceded at each repetition by an inferior resonance comprising arpeggios on the transposed inversions of the chord of the dominant. <sup>Ex. 146</sup>

In section [B], the element "i", which appears for the first time on pp.8-9, is based on the transposed inversions of the chord of the dominant, which occur as the first chord of each bar, over the bass of C sharp at bars (106-110), and the bass of E at bars (111-117). The inferior resonances to each chord are chords of 4ths, and the superior resonances comprise the "Turning chords" at bars (106), (109) and (116) and the concentrated "Thème d'accords" at bars (110), (115) and (117). <sup>Ex. 147</sup>

In part 2 of section [B], the chords of the dominant in element "i"

are again transposed  $\uparrow$  min 3 to the bass of G at bars (129-132), with the final transposition  $\uparrow$  min 3 to the bass of B flat, at bars (134-140), on pp.12-13. They are followed by the "Turning chords" at bars (129), (131) and (134), and the "Thème d'accords" at bar (130).

The final statement of element "i", in section [C], on pp.22-23 at bars (239-241), begins with the chord of the dominant in its original transposition over C sharp, i.e.  $\uparrow$  min 3 from bars (134-140), which moves  $\downarrow$  min 3 to B flat at bar (240), and again  $\downarrow$  min 3 to the bass of G at bar (241). Each chord is followed by the "Turning chords" and the "Thème d'accords".

The third and fourth chords of element "o", on pp.25-26 at bars (257) and (260) are the chords of contracted resonance on A flat maj. Each statement of the element cadences on the chord of E maj + 6, which is then employed as the resonance to the call of the "Fauvette à lunettes".

#### v. La Chouette Hulotte

Element "a" of this piece was analyzed in the preceding chapter as comprising a mode of 49 pitches, 49 durations, and 7 intensities, which are the following: ppp, pp, p, mf, f, ff, fff. The intensities are arranged in sequence with the pitches so that the extremes span the aug 4, A - D sharp, as follows:

A, G sharp, G, F sharp, F, E, D sharp, D, C sharp, C, B, B flat, A.  
 fff, ff, f, mf, p, pp, PPP, PP, P, mf, f, ff, fff.

In the final calls of the "Chouette Hulotte", on pp.8-9, note the ten different harmonizations of the falling minor 3rd, C - A, at the end of each call at bars (137-140) and (147-153). <sup>Ex. 148</sup> Bars (141-143) are also based on this interval, harmonized in 4ths and 5ths at (141), and 5ths, min 7ths and

min 9ths at bars (142-143) where the melodic line descends chromatically from C to A. The work cadences on the falling C - A, the bottom notes of the R.H. chords, at bar (153).

vi. L'Alouette Lulu

Element "a", "la nuit", comprises a series of harmonic progressions with the tonal centre, B flat major. The R.H. chords are conceived as resonances of the bass, and the general principle of their construction is that, of the three voices, one moves chromatically while the other two move in fourths.

In section [A], there are six statements of element "a", in three groups of two. The first and last groups are the same, at bars (1-4) and (9-12); all three groups resolve onto the chord of B flat major. <sup>Ex. 149</sup> In the first and last groups, the top voice moves chromatically, E flat - E - F, resolving onto D, the third of B flat maj, while the other two move from the 4th, F - B flat, to the 5th, G flat - D flat, returning to F - B flat of the chord of B flat maj. The bass descends chromatically from G flat - F - E, then descends an aug 4 to B flat. The middle group resolves onto B flat maj + aug 5 at bar (5), and onto the perfect chord of B flat maj at bar (7), where the bass is altered to E flat - G flat - C flat - B flat.

In section [B] the same principle is followed, with the three chords resolving onto D maj + aug 4, i.e.  $\uparrow$  maj 3 from B flat, at bar (13) and onto the chord of F maj + min 9, i.e.  $\uparrow$  min 3 from D, at bar (24) on <sup>Ex. 150</sup> p.4. On p.6 at bar (39), the chord of resolution is G maj + min 9, i.e. a tone higher than at (13). The two fragments of element "a" which follow comprise a falling min 3 in the bass, at bar (42), G - E, beginning on the tone of the last resolution at (39), <sup>Ex. 151</sup> and  $\downarrow$  4th, D - B, at bar (45). These

are accompanied by resonances in 4ths.

In section [C], all of the resonances resolve onto the chord of B flat maj, with varied basses, which from bars (49-54) avoid resolving onto B flat, until bar (55). The chord at bar (53) is B flat maj  $\frac{6}{4}$  + aug 5. At bars (57-62), element "a" is the same as the first group of section [A] at bars (1-4), with the last statement at bar (61) comprising only the last two chords, namely, the aug 4 resolution in the bass from E to B flat.

vii. La Rousserolle Effarvatte

The R.H. of "musique des étangs", forming element "a" of this piece, consists of two notes doubled at the min 9th, while the L.H. comprises a pedal group of nine chords, six of which are in 4ths, two of which constitute a min 7, and one a min 9. The R.H. is constructed on the notes G flat, A flat and B flat; the L.H. contains the other nine notes of the chromatic scale. This appears at bars (1-10) and on pp.50-51 at bars (737-745).  
*Ex.152*

Note how the timbre of the beginning of the call of the "Rousserolle Effarvatte", on p.4 at bars (19-27), is rendered by doubling the call chromatically at the extremes of the piano. *Ex.153*

Element "h", "lever de soleil" and "coucher de soleil" is composed of modes in superposition. In part 1 of section [B], on pp.11-12 at bars (133), (138) and (143-144), Mode III 1, as superior resonance, is superposed on Mode II 1. *Ex.154* The chords which follow the first statement, acting as an inferior resonance to the call of the "Merle noir", at bar (134), are chords of contracted resonance on A major. *Ex.154* Those at bar (139) are the chord of the 13th + aug 4 with appoggiatura. The chords at bars (145-148) are the chords of contracted resonance, followed by the chords from the cadence at

bar (23) of Cantéyodjayâ, the chord of the 13th + aug 4 with appoggiatura, and as inferior resonance to the call of the "Rouge-gorge", the first two chords from element "c" at bar (29) of Cantéyodjayâ.<sup>Ex.155</sup>

Element "h" on pp.13-14, at bars (159-160) and (165-166), comprises Mode VI 1 superposed on Mode IV 5. At bar (179) on p.15, it consists of Mode IV 5 only. At bars (161-162), the last two chords of bar (29) of element "c" of Cantéyodjayâ are employed, and the "Thème d'accords" in contraction, at bar (163) act as inferior resonance to the call of the "Merle noir".<sup>Ex.156</sup> Bars (167-168) repeat the chords of bar (146), and the chords at bar (182) derive from element "k" at bar (171) of Cantéyodjayâ.<sup>Ex.157</sup> The chords of inferior resonance to the call of the "Merle noir" at bar (183) are the chord of the 13th + aug 4 with its appoggiatura.

The melodic line of element "l", "iris jaunes", is the theme used in element "a" of Cantéyodjayâ at bars (37-40), employed also in the Entrée of the Messe de la Pentecôte. This occurs at bars (191-192) where it is followed by two transpositions of the chord of the dominant, over the bass of C sharp, at bar (193), and on p.18 at bar (230).<sup>Ex.158</sup> The L.H. of element "l'" "digitale pourpre", on pp.19-20 and 21-22 at bars (258-262) and (292-295), is in Mode III 1. The "Turning chords", also used in element "h" of Cantéyodjayâ at bars (130-132), are employed in element "h'", "les nenuphars", in section [C], pp.25-26 at bars (367-374).<sup>Ex.159</sup>

In part 2 of section [D], on pp.38-39, element "H", at bars (568-571) comprises the superposition of Mode III 1 on Mode II 2, and at bars (572-577), the superposition of Mode VI 1 on Mode IV 5. On pp.40-41, Mode IV 5 is used at bar (582); Mode III 1 on Mode II 1 at bars (583-595).



On p.42, Mode VI 1 is superposed on Mode IV 5 at bars (605-608). Mode IV 5 is employed alone at bar (609), and also in the last statement of element "h" on p.45 at bar (643).

viii. L'Alouette Calandrelle

The inferior resonance to the call of the "Alouette Calandrelle", which appears at the beginning and the end of the piece on pp. 1, 7 and 8, at bars (1-8), (70-79) and (96-97), comprises the two perfect chords, G sharp maj and F sharp maj, descending by tone, with C sharp added as the top voice to the first chord so that this voice forms the falling min 3, C sharp - A sharp. <sup>Ex.160</sup>

The other resonances to the call of the "Alouette Calandrelle" used throughout the piece are analyzed as follows:

On pp.2-3, at bar (15), the chords of contracted resonance in arpeggio; at bar (17), the chords from the cadence at bar (23) of Cantéyodjayâ; <sup>Ex.161</sup> at bar (19), the "Turning chords", also found at bar (130) of Cantéyodjayâ; at bar (21), <sup>Ex.162</sup> the chords from element "f" of Cantéyodjayâ on p.12 at bars (123-125); <sup>Ex.163</sup> and at bars (24-25) the transposed inversions of the chord of the dominant over the bass of C sharp.

On pp.4-5, the chords at bar (43) are derived from those at bar (21); bars (49) and (51) are based on the chord of the dominant in arpeggio; the progression at bar (53) is derived from the inferior resonance of the first refrain of Cantéyodjayâ at bars (106-109); and the final resonance to the call of the "Alouette Calandrelle" in section [C] at bars (55-56) comprises the concentrated "Thème d'accords" in arpeggio. <sup>Ex.164</sup>

ix. La Bouscarle

Element "d" of this piece, "flèche bleue-verte du Martin-pecheur", which appears twice, on pp.1 and 21 at bars (9-10) and (222-223), is composed as a progression in Mode III 3. The inferior resonances to the call of the "Martin-pecheur" which follows the first statement of element "d", at bars (12) and (14), comprises the chords of contracted resonance on D flat maj and A maj. <sup>Ex.165</sup> The element "e", "l'eau reflète les saules et les peupliers", which concludes section [A] and begins section [C] on pp.2-4 and 17-18 at bars (20-44) and (176-190), is constructed on free permutations of a twelve-note mode. <sup>Ex.166</sup>

Element "g", "la rivière", consists of progressions in different transpositions of Mode III, cadencing in parts 1 and 2 of section [B], on pp.4-9, on A major + 6, in part 3 of section [B], on pp.12-13, on E major 9, which acts as an inferior resonance to the call of the "Fauvette à tête noir", and in section [C], on p.19, on A major + 6.

On pp.4-6, element "g" employs Mode III 3 at bar (46); Mode III 1 at bar (48); Mode III 3, with the last two chords in Mode III 1 at bar (50); Mode III 3, with the first chord, repeated in the bars which follow, in Mode III 1 at bars (57-60); Mode III 3 at bar (78); Mode III 1 at bar (80); Mode III 3, with the fifth chord in Mode III 2, and the last two in Mode III 1, at bar (82); and Mode III 3, with the first chord and its repetitions in Mode III 1, at bars (96-99). On pp.12-13, Mode III 4 is used at bars (126) and (129); at bar (132) Mode III 4 alternates with Mode III 2 and the chord of E maj 9, Mode III 1 is superposed on the dominant and tonic of E maj at bars (133-135), and at bar (136) Mode III 2 alternates with the chord of E maj 9. The last statement on p.19

mixes Mode III 3 with the first chord which is in Mode III 1, at bars (206-210).

In the element "f", "vol nuptial du Martin-pecheur", which appears three times, on pp.5, 8-9 and 16-17, the L.H. is centred on the chord of A major. In the first statement, the L.H. of bars (54-55) comprises the chord of A maj, and at bar (56), E maj 7. In the second, the L.H. is on the open 5th of A at bars (87-88), the second half of this statement, at bars (89-93), consisting of an harmonic litany, derived from Debussy and first used in bar (14) of Le nombre léger and bars (25-28) of Un reflet dans le vent of the Préludes.<sup>Ex.168</sup> The final statement begins, in the L.H. of bar (161) on E maj 7, moves † min 3 to G maj 7 at bar (162), and † maj 3 to B maj 7 at (163), resolving onto the chord of A major at bars (164-165). The second half comprises the litany quoted in the second statement, at bars (166-172).

Note that, at the end of the piece, on p.21, the statement of element "d" is again followed by the chords of contracted resonance on D flat maj and A maj. Note also the timbral effect of the arpeggiated cluster in the bass marked "comme un tam-tam lointain", which, with the chord of A maj + 6, acts as an inferior resonance to the call of the "Rouge-gorge", on pp.6, 9 and 19 at bars (61), (100) and (210).<sup>Ex.169</sup>

x. Le Merle de roche

The chords of contracted resonance, the chord of the 13th + aug 4 with appoggiatura, and the concentration of the "Thème d'accords" are used in element "a", "la nuit", as inferior resonances to the clusters representing "la main de pierre". In the first statement on p.1, the

chords of contracted resonance on A major are used at bars (1) and (3), with the chord of the 13th at bars (5-6). The latter is repeated in the second statement on p.2 at bar (17). The last statement of section [A], on p.3 at bar (29) employs the "Thème d'accords". The last two statements of element "a", at the end of the piece on pp.27-28, uses the chords of contracted resonance on A major at bars (327) and (329), the chord of the 13th with appoggiatura at bars (331-332), and the "Thème d'accords" at bar (337). <sup>Ex.170</sup>

The elements "f", "Stegosaure", "Diplodocus" and "fantomes de pierre", are composed as free permutations of a twelve-note mode. This can be seen most clearly at bars (82-85) on p.7, where each bar marks the different permutations of the twelve notes. <sup>Ex.171</sup>

The transposed inversions of the chord of the dominant are employed consistently throughout the piece in the call of the "Merle de roche". A particularly clear example is found on p.10 at bars (116-119). <sup>Ex.172</sup>

#### xi. La Buse variable

Element "b", "vol de la Buse", is composed as a series of interversions on a twelve-note series. They follow the same system as the Interversions of Ile de Feu 2, which were analyzed in the preceding chapter. There are 32 permutations.

In section [A], the first permutation is in the R.H. of bar (10), and is derived from the chromatic scale from C to B, with the twelve notes arranged in the following order: <sup>Ex.173</sup>

7 - 1 - 12 - 5 - 11 - 2 - 8 - 3 - 10 - 4 - 9 - 6.

The second permutation follows the same order, using as its foundation the first. This appears in the R.H. of bar (11). The other

permutations are as follows:

3rd permutation, L.H. bar (10); 4th permutation, L.H. bar (11);  
 5th, R.H. (12); 6th, R.H. (13);  
 7th, L.H. (12); 8th, L.H. (13);  
 9th, R.H. (14); 10th, R.H. (15);  
 11th, L.H. (14); 12th, L.H. (15);  
 13th, R.H. (16); 14th, R.H. (17);  
 15th, L.H. (16); 16th, L.H. (17).

The next sixteen permutations conclude section [C], and thus the piece, on pp.16-17:

17th, R.H. (175); 18th, R.H. (176);  
 19th, L.H. (175); 20th, L.H. (176);  
 21st, R.H. (177); 22nd, R.H. (178);  
 23rd, L.H. (177); 24th, L.H. (178);  
 25th, R.H. (179); 26th, R.H. (180);  
 27th, L.H. (179); 28th, L.H. (180);  
 29th, R.H. (181); 30th, R.H. (182);  
 31st, L.H. (181); 32nd, L.H. (182).

The calls of the "Grive Draine" in each of the refrains are accompanied by two oscillating perfect chords, C Maj and E flat min, *Ex.174* at bars (30-34). The same applies for the second refrain at (51-62), excepting that the call terminates on the chord of G flat + maj 9. In the final refrain, (134-152), the chords at the end of the call move as follows: C maj, D min, E flat min, G flat + maj 9.

xii. Le Traquet rieur

Element "a", "joie de la mer bleue", which appears four times in this piece, on pp. 1, 6, 12 and 19 at bars (1-3), (43-45), (90-92) and (150-152), is constructed as a resonance around the chord of A major. It begins with a cluster preceded by an acciacatura in the bass of the piano, as an inferior resonance to the chord of A major, followed by an arpeggio on the open fifth of A, and concludes with alternating chords forming the twelve notes of the chromatic scale. The three fragments forming the element are held in the pedal. <sup>Ex. 175</sup>

The calls of the "Traquet rieur" are based on the transposed inversions of the chord of the dominant. This can be seen most clearly on pp. 12-13, where the last chords of bars (96-102) are all chords on the dominant with appoggiaturas. The first chord of bar (100) is the chord of the dominant on E major with appoggiatura, and with its resolution, and the first three chords of bar (101) is based on the chord of the dominant of F sharp major, with its appoggiaturas. The L.H. of bars (96-98) follow the harmonies of the transposed inversions of the chord of the dominant over a common bass, moving  $\uparrow$  min 3 at each bar. The bass of bar (96) is C sharp, of (97), E, and of the first three chords of (98), G, the last chord moving to B flat. Bar (103) is composed entirely of transposed inversions of the chord of the dominant. <sup>Ex. 176</sup>

The chords of contracted resonance are also employed in this call. Examples can be found at bar (22), where the last two chords are formed from the chords of contracted resonance on A major, and in bar (35) which is constructed from the first chord of the same progression. At bar (94), the first group is based on the chords of contracted

*Ex. 177*

resonance on D flat major. The chord of the 13th + aug 4 with appoggiatura is also used, and an example can be seen at bar (20) on p.3, where the last two chords are formed on this progression on F sharp major.

On pp.4-5, at bars (29-31), the call of the "Traquet rieur" is based on the "Turning chords", which were found at bars (129-130) of element "h" of Cantéyodjayá. *Ex. 178*

xiii. Le Courlis cendré

The timbre of the first part of the call of the "Courlis cendré" is rendered in the following manner. At bars (1-3), the call is doubled in sixths in the R.H., and then doubled chromatically in the L.H. It is preceded by an inferior resonance on the perfect chord of E flat minor arranged as a 10th. *Ex. 179* At bars (4-5) the R.H. doubles the call in sixths, fifths and fourths, the L.H. doubles the call chromatically, and the inferior resonance comprises the chord of E minor arranged as a 10th.

Element "L", "l'eau", on pp.14-15, is constructed as a set of interversions on a twelve-note series, beginning with the same permutation as the first permutation of element "l" in the R.H. of bar (10) of La Buse variable, i.e. with the following order of notes derived from the chromatic scale from C to B: *Ex. 173*

7 - 1 - 12 - 5 - 11 - 2 - 8 - 3-10 - 4 - 9 - 6 .

This is stated in the R.H. of bar (141). The L.H. derives from the R.H., following the same order of notes. These are used as the foundation for the set of permutations, in which the R.H. is always based on the R.H. permutation in the preceding bar, and the L.H. on the L.H. permutation

of the preceding bar. A new order of notes is used for the permutations, thus the R.H. and L.H. of bar (142) are derived respectively from the R.H. and L.H. of bar (141), with the order of notes as follows:

8 - 7 - 6 - 11 - 9 - 1 - 3 - 12 - 4 - 5 - 10 - 2.

There are sixteen permutations of the R.H. row and sixteen of the L.H. at bars (142-157). *Exc. 180*

The element "n", "sirène du phare", with its inferior resonance, the note A, forms an eleven-note chord, containing all the notes of the chromatic scale except C. This occurs at bars (177), (184) and (197). *Exc. 181*

The last element "p", "bruit du ressac", alternates the pentatonic scale on F sharp major in the L.H., with clusters on the scale of C major in the R.H. *Exc. 182*

### La Fauvette des Jardins

Element "h" of this work, "le lac", is constructed mainly on the transposed inversions of the chord of the dominant. It begins section [B], on p.4 at bars (60-64). Bar (60) comprises the transposed inversions over the bass of F, resolving onto a cadence on C maj/min in Mode II 1. *Exc. 183*

At bar (62), the transposed inversions of the chord of the dominant are over the bass of E flat, ↓ maj 2, resolving onto B flat maj/min in Mode II 2. Note the chord of contracted resonance on G major at the end of bar (64).

The second statement of "h" occurs at the beginning of section [C] on p.18 at bars (291-296). The chord of the dominant is transposed over the bass of E at (291), and D at (293). The resolution at (292) is in Mode II 3, and at (294), Mode II 1. The last chords at (296) are



again derived from the chords of contracted resonance. The other statements of "h" in this section are on pp.21, 22 and 24-25, at bars (353), where the chords of the dominant are arranged over the bass of A, (356-357) and (413-415).

The statement of "h" which begins part 2 of section [D], is on p.47 at bars (874-875). The first two chords are chords of the dominant over B flat and B, the second two are contracted resonance chords on D maj and D flat maj, resolving onto A maj + 6. The statement on p.48, uses Mode III 3 followed by Mode III 1 at bar (886); the second, third and fourth chords of (887) are chords of contracted resonance on F sharp, C and F sharp; the first two chords of (888) are chords of the dominant, the second two, chords of contracted resonance on D maj and D flat maj; these resolve onto A maj + 6 at (889), the last chord of which is the chord of contracted resonance on D maj; the first two chords of (890) are chords of the dominant, resolving onto D maj + 6 at bars (891-892).

At bar (900), the transposed inversions of the chord of the dominant, forming element "h", are over the bass of E, which is doubled in the top voice. These are repeated at bar (901), and resolve onto D major at (902) where a progression in Mode II 2 is superposed on Mode III 3. At bar (951) on p.53, element "h'" comprises a progression on the chord of the dominant with added appoggiaturas, resolving onto A major + 6, which acts as an inferior resonance to the call of the "Fauvette à tête noire", at bar (952).

The last statement of element "h", in the Coda, on p.55 at bars (978-980) comprises the transposed inversions of the chord of the

dominant over a common bass which moves  $\uparrow$  min 3 at each repetition. The first is on E, the second, G, and the third, B flat. These resolve onto the progression of F major, followed by F minor at (981), D major, D minor at (982) and A major, A minor at (983).

Element "a", "la nuit", is constructed as a returning chromaticism at bars (1) and (3). These are followed by superior resonances which at bar (4) are constructed from the chord of the dominant. *Exc. 184* The first is with appoggiatura on E major, the second is on that of C major. On p.9, at bar (146), the returning chromaticism of "a" is extended, with an inexact inversion added in the L.H. The last statement of "a", beginning the Coda, on p.54 at bar (968) is also doubled in inversion.

The first statement of element "g", "les aulnes", on p.3, resolves onto the chord of the dominant at bar (50). On p.14, at bars (200-205), element "g" is based on the chord of the dominant. The statement of element "k", "épilobes et roseaux", which follows, begins at bar (206) with an arrangement of the chords of contracted resonance *Exc. 185* on D flat, and uses the chord of the dominant at bars (207-208).

In the augmented call of the "Fauvette des jardins" which concludes section [B] on pp.14-18, the chord of the dominant is used as follows: *Exc. 186* at bar (214); the first chord of bar (215); at bars (224), (231); the last chord of (237); at (245); the first two chords of (266); the first chord of (271); and at bar (279). Examples of the use of the chords of contracted resonance are the following: *Exc. 186* the first two chords of (232) are those on D flat maj; the first chord of (235) is on the resolution in F sharp maj; bar (243) comprises the chord on B flat maj;

the last chord of (280), with (281) form the chords of contracted resonance on D maj; the cadencing chord of this call is the first chord of contracted resonance on A flat maj, at bar (289).

It was pointed out above that on p.47, element "h" resolves onto A maj + 6. From this point, the beginning of part 2 of section [D], until the end, the work is centred on the tonality of A major. The resolution onto A maj + 6 is repeated at bar (881) on p.48. At bar (891), element "h" resolves onto the subdominant of A, cadencing in A major at bar (894). The subdominant resolution is repeated at bar (902). The tonic is recalled on p.52 as the inferior resonance of the call of the "Fauvette à tête noir", and again, after the statement of "h", on p.53. After the last statement of "h" on p.55, the work cadences in A major in the following manner. At bars (981-983), the progression, F maj/min - D maj/min - A maj/min, is stated, with the two chords at bar (984), each followed by superior resonance, forming B maj 7, arranged in fourths with E, the dominant of A, added, and E maj 7 with dim 5, i.e., aug 4, and the tonic added. The resolution to the tonic is suspended by the insertion of the element "g'" at bars (986-989), and finally stated at bar (990). This progression can therefore be analyzed as follows:

$$\text{VI6 natural} - \text{IV6} - \text{I6} - \text{II}_7^+ + 4 - \text{V}_{74}^6 + 4 - \text{I}$$

(V of V)

with the bass at bars (984) and (990) moving chromatically from B - B flat - A.

The main thematic material of the Catalogue d'Oiseaux and La Fauvette des Jardins is derived from birdsong. The structural unity of the works is established by contrasting and juxtaposing the continually

varying calls with fixed melodic and harmonic structures, many of which are derived from the preceding works. Some of these structures are also employed within the birdsongs in order to render the particular timbre of a bird, and examples of this have been indicated in this section.

Harmonic progressions, based on a tonality, are used in the second and sixth pieces of the Catalogue. Modal progression are used in the third, seventh and ninth, and also in La Fauvette des Jardins. The use of a theme, harmonized and doubled in the outer voices is found in the second of the Catalogue.

Structures based on permutations of twelve notes appear in the first, third, fourth, seventh, ninth and tenth of the Catalogue, and also as a resonance to the chord of A major in the twelfth, with the procedure of interversions on a twelve-note series being employed in the eleventh and thirteenth pieces. A "mode de valeurs et intensités" is used in the fourth piece.

Quotations from Cantéyodjayâ are to be found in the seventh and eighth pieces, and the Turning chords appear in the fourth, eighth and twelfth. The "Thème d'accords" is quoted in the fourth, seventh, eighth and tenth pieces.

Of the special chords, the chord of resonance is found in the second piece; the chord of the dominant in the seventh, eighth, tenth and twelfth; the chord of the 13th + aug 4 with appoggiatura in the seventh, tenth, twelfth and La Fauvette des Jardins; and the chords of contracted resonance in the second, seventh, eighth, ninth, tenth and twelfth pieces of the Catalogue, as well as in La Fauvette des Jardins. The transposed inversions of the chord of the dominant play an important part in the fourth piece, and La Fauvette des Jardins, for they constitute one of

the main structural elements of these works.

It is evident, therefore, that the melodic, harmonic and timbral structures of Messiaen's piano works, rest on the same principle as, and evolve in conjunction with, the formal and rhythmic structures. As with the rhythmic structures, they become functional elements in their own right when they are freed from the essentially tonal thematic material of the Visions de l'Amen, and consolidated as mosaic structural elements in the Vingt Regards de l'Enfant-Jésus. Thus each function, whether it be melodic, modal or composed of the special chordal structures, is conceived and employed as a single unit within a mosaic structure. As was pointed out in the section dealing with the Visions de l'Amen, the work itself may be essentially atonal, or it may revolve around, and conclude on a particular tonality. Particular examples of the latter case are: the second, which centres on E major; the third, which revolves around A major; the sixth, which centres on B flat major; the eighth, which centres on F sharp major; and La Fauvette des Jardins, which concludes in A major.

As was also indicated at the beginning, and in the third section of this chapter, the basic principle of construction of Messiaen's harmonic functions is that of the addition of appoggiaturas to chords built from the resonances of a particular fundamental, a process analogous to the use of the mixtures of the organ. This again exemplifies the principle of a unit of construction, which is augmented and varied.

Ex 1 Chord of Resonance

Ex 2 Chord on the Dominant

Ex 3 La Colombe

PRÉLUDES

country motif

Ex 4

Chant d'extase

Ex 5

Ex 6

Ex 7

Ex 8 Le nombre léger

Debussy: Hommage à Rameau

Ex 9

Instantes devants

Ex 10

Ex 11

Ex 12.

Ex 13

ppp VI 5

Ex 14

(22)

(6)

Ex 15. Cloches d'angoisse...

(14)

p

Ex 16

pp

mf

(19)

(40)

Ex 17.

pp

VI 1

II 2

Ex 18

Plainte calme

middle period

pp

(6)

(5) (7)

Wagner: *Tristan and Isolde* - Overture

Langsam (1)

Ex 19. Un reflet dans le vent

Grieg: *Chanson de Solweig*

(31) (36)

Ex 20

(91) (92) (5) (6)

Ex 21

(25)

Ex 22 Debussy: *Pelléas et Mélisande*

(49) (50)

VISIONS DE L'AMEN.

Amen de la Création

Ex 23

(1) (1)

II 1 8 V 2



Amen des étoiles

Ex 24.

Amen de l'agonie de Jésus

Moussorgsky: Boris Godounov

Ex. 32.

Amen du Désir

Ex. 32-38

2

Ex. 33.

Ex. 35.

Amen des Anges des saints...

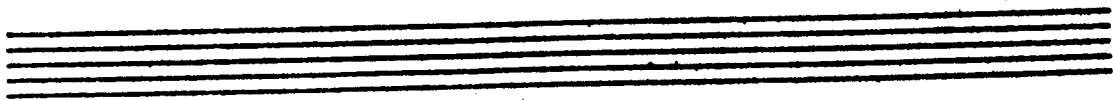
Ex. 36

Ex. 37.

Ex. 38.

Amen du Jugement

(2)



Ex. 39

Ex. 39-43

Handwritten musical score for Ex. 39, featuring a grand staff with treble and bass clefs. The music includes various notes, rests, and dynamic markings such as 'p' and 'f'. There are also some handwritten annotations in parentheses like '(u)' and '(w)'.

Ex. 40

Handwritten musical score for Ex. 40, showing a grand staff with treble and bass clefs. The notation includes chords and melodic lines with some handwritten annotations like '(sc)'.

Année de la Consommation

Ex. 41

Handwritten musical score for Ex. 41, consisting of two systems of a grand staff. The first system is marked with a brace and the number '1'. The second system is marked with a brace and the number '2'. The music is dense with notes and includes dynamic markings like 'mf' and 'f'.

Ex. 42

Handwritten musical score for Ex. 42, showing a grand staff with treble and bass clefs. The notation includes chords and melodic lines with some handwritten annotations like '(u)' and '(w)'.

Ex. 43

Handwritten musical score for Ex. 43, showing a grand staff with treble and bass clefs. The notation includes chords and melodic lines with some handwritten annotations like '(u)' and '(w)'.

VINGT REGARDS SUR L'ENFANT-JESUS.

Thème d'amour

Ex 44 Regard du Père

Musical score for Ex 44, 'Regard du Père'. It consists of two staves. The upper staff contains a melodic line with various ornaments and slurs. The lower staff provides piano accompaniment with chords and rhythmic patterns. Dynamic markings include 'VII 3' and 'II 2'. There are also some handwritten annotations like '(7) Ex 45' and '(15)'.

Regard de l'étoile.

Ex 46

Musical score for Ex 46, 'Regard de l'étoile'. It consists of two staves. The upper staff has a melodic line with slurs and accents. The lower staff has piano accompaniment with chords and a section labeled 'accords de corillon'. Dynamic markings include 'III 2' and 'f'. There are also some handwritten annotations like '(5)'.

Ex 47. L'échange

Musical score for Ex 47, 'L'échange'. It consists of two staves. The upper staff has a melodic line with slurs and accents. The lower staff has piano accompaniment with chords and a section labeled 'ff'. Dynamic markings include 'ff' and 'p'. There are also some handwritten annotations like '(21)'.

Regard de la Vierge.

Ex 48

Musical score for Ex 48, 'Regard de la Vierge'. It consists of two staves. The upper staff has a melodic line with slurs and accents. The lower staff has piano accompaniment with chords and a section labeled 'pp'. Dynamic markings include 'pp' and 'ff'. There are also some handwritten annotations like '(1)', '(5)', '(20)', and '(10)'.

Ex 50

Musical score for Ex 50. It consists of two staves. The upper staff has a melodic line with slurs and accents. The lower staff has piano accompaniment with chords and a section labeled 'pp'. Dynamic markings include 'pp' and 'ff'. There are also some handwritten annotations like '(10)'.

Ex 51 Regard du Fils sur le Fils

Ex. 51-58.

Handwritten musical score for Ex 51, consisting of two staves. The top staff contains a melodic line with various accidentals and phrasing slurs. The bottom staff contains a piano accompaniment with chords and rhythmic patterns. There are circled numbers (1) and (2) above the top staff.

Handwritten musical score for Ex 52, consisting of a single staff with a melodic line. It includes various accidentals and phrasing slurs. There are circled numbers (22) and (23) above the staff.

Handwritten musical score for Ex 53, consisting of two staves. The top staff has a vocal line with the lyrics "Par Lui tout a été fait" written below it. The bottom staff is a piano accompaniment. There is a circled number (45) at the end of the piece.

Handwritten musical score for Ex 54 and Ex 55, consisting of two staves. The top staff has the lyrics "contracted thème d'accords" written above it. The bottom staff is a piano accompaniment. There is a circled number (149) at the end of the piece. Dynamics include *mf* and *ff*.

Handwritten musical score for Ex 56, consisting of two staves. The top staff has a melodic line with various accidentals and phrasing slurs. The bottom staff is a piano accompaniment. There are circled numbers (170) and (171) above the top staff. Dynamics include *fff*, *f*, *tr*, and *mf*.

Regard de la Croix

Handwritten musical score for Ex 57 and Ex 58, consisting of two staves. The top staff has a melodic line with various accidentals and phrasing slurs. The bottom staff is a piano accompaniment. There are circled numbers (1) and (2) above the top staff. Dynamics include *mf* and *pp*.

Ex 59 Regard des hauteurs

Ex 60

*p* *mf*

Ex 61 Regard du temps

Ex 62

*mf*

Ex 63 Regard de l'Esprit de joie

*f*

Ex 64

*f*

Ex 65

Ex 66

*ff*

Ex 67

*ff*

Première communion de la Vierge

Ex 68

*ff*

Ex 69

Ex 69-80

Handwritten musical notation for Exercise 69, consisting of two staves. The notation includes various rhythmic values, accidentals, and dynamic markings such as *p* and *f*. The piece is divided into three measures, each labeled with a circled number: (1), (2), and (3).

Handwritten musical notation for Exercise 70, consisting of two staves. The notation includes various rhythmic values, accidentals, and dynamic markings such as *p* and *f*. The piece is divided into two measures, each labeled with a circled number: (1) and (2).

Handwritten musical notation for Exercise 71, consisting of two staves. The notation includes various rhythmic values, accidentals, and dynamic markings such as *f*. The piece is divided into two measures, each labeled with a circled number: (1) and (2).

Handwritten musical notation for Exercise 72, consisting of two staves. The first staff contains the lyrics "la parole toute-puissante" above the notes. The notation includes various rhythmic values, accidentals, and dynamic markings such as *ff*. The piece is divided into two measures, each labeled with a circled number: (1) and (2).

Handwritten musical notation for Exercise 75, consisting of two staves. The first staff contains the lyrics "Noël" above the notes. The notation includes various rhythmic values, accidentals, and dynamic markings such as *p* and *pp*. The piece is divided into two measures, each labeled with a circled number: (1) and (15).

Handwritten musical notation for Exercise 77, consisting of two staves. The notation includes various rhythmic values, accidentals, and dynamic markings such as *p*. The piece is divided into two measures, each labeled with a circled number: (1) and (11).

Handwritten musical notation for Exercise 79, consisting of two staves. The first staff contains the lyrics "Regard des Anges" above the notes. The notation includes various rhythmic values, accidentals, and dynamic markings such as *p*. The piece is divided into two measures, each labeled with a circled number: (1) and (16).

Ex 81

Ex 82

Le baiser de l'Enfant-Jésus

Ex 83

Ex 84

Ex 85: Regard des prophètes

Ex 86

Ex 88



Ex 89 Regard du silence

Regard de l'Onction terrible

Ex. 95

Ex. 95-100

Handwritten musical score for Exercise 95. It consists of two staves, treble and bass clef. The music is written in a complex rhythmic style with many accents and slurs. A measure number '(95)' is written in parentheses at the end of the first staff.

Ex 96. Je dors mais mon coeur veille

Ex 97

Handwritten musical score for Exercise 96 and 97. It features two staves. The first staff has the lyrics 'Je dors mais mon coeur veille' written above it. There are measure numbers '(9)' and '(12)' in parentheses. The music includes dynamic markings like 'mf' and 'pp'.

Ex. 98

Handwritten musical score for Exercise 98. It consists of two staves with a complex melodic line in the upper staff and a more rhythmic accompaniment in the lower staff. Measure numbers '(10)' and '(27)' are present.

Ex 99

Handwritten musical score for Exercise 99. It shows two staves with a melodic phrase in the upper staff. A measure number '(21)' is written in parentheses.

Ex. 100

Regard de l'église d'amour

Handwritten musical score for Exercise 100. It features a single staff with the lyrics 'Regard de l'église d'amour' written above it. The music starts with a dynamic marking 'ff' and includes measure numbers '(2)' and '(3)' in parentheses.

Ex 101

Handwritten musical score for Exercise 101. It consists of a single staff with a melodic line. A measure number '(9)' is written in parentheses.

Ex 102

Ex 102-110

(201) (218)

I II III IV V VI VII VIII IX X XI XII

Ex 103 *Cantéyod jayâ.* Ex 104

(1) (b)

#6

Ex 105 Ex 106

(29) (11) (40)

Ex 107

(112)

Ex 108

(121) (124)

Ex 109 Ex 110

(126) (142)

Ex 111

Musical notation for Example 111, a single staff with various notes and rests.

Ex 112.

Musical notation for Example 112, a single staff with notes and rests.

Ex 113

Ex. 114

Musical notation for Examples 113 and 114, two staves with notes and rests.

Ex 115

Musical notation for Example 115, two staves with notes and rests.

Ex 116

Neumes rythmiques

Ex. 117

Ex 118

Ex. 119

Ex. 120

Musical notation for Examples 116 through 120, two staves with notes and rests.

Ex 121

Mode de valeurs et d'intensité

Ex. 122

Musical notation for Examples 121 and 122, two staves with notes and rests.

Ile de feu I.

Ex 123

Ex. 124

Musical notation for Examples 123 and 124, two staves with notes and rests.

Ex 125

Handwritten musical score for Exercise 125, featuring a grand staff with treble and bass clefs, dynamic markings like 'ff', and various musical notations including slurs and accents.

Ex 126

Handwritten musical score for Exercise 126, a single staff with treble clef, showing a melodic line with slurs and dynamic markings.

Ex 127

Handwritten musical score for Exercise 127, featuring a grand staff with treble and bass clefs, dynamic markings like 'mf' and 'ff', and the title "Le de feu 2" written above the staff.

Ex 128

Handwritten musical score for Exercise 128, a single staff with bass clef, showing a melodic line with slurs and dynamic markings, ending with circled numbers (68) and (69).

Ex 129

Handwritten musical score for Exercise 129, a single staff with bass clef, showing a melodic line with slurs and dynamic markings, ending with a circled number (70).

Ex 130

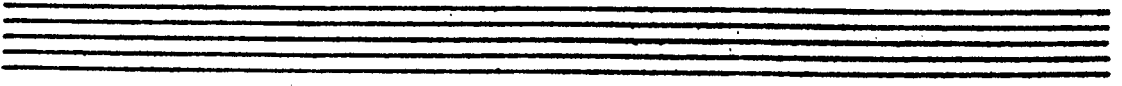
Handwritten musical score for Exercise 130, a single staff with treble clef, showing a melodic line with slurs and dynamic markings, ending with a circled number (71).

Ex 131

Handwritten musical score for Exercise 131, a single staff with bass clef, showing a melodic line with slurs and dynamic markings, ending with a circled number (72).

Ex 132

Handwritten musical score for Exercise 132, featuring a grand staff with treble and bass clefs, dynamic markings like 'ff' and 'fff', and the title "Le Chocard des Alpes" written above the staff.



Ex. 133

CATALOGUE D'OISEAUX

Ex. 132-14

Le Chocard des Alpes

Ex. 134

Ex. 135 Le Loriot

Ex. 136

Ex. 137

Ex. 138

Ex. 139

Ex. 140

Ex. 141

Le Merle bleu

Ex. 142.

Handwritten musical score for Ex. 142, featuring two staves. The music includes various notes, rests, and dynamic markings such as *mf* and *f*. There are also some performance instructions like accents and slurs. The piece is marked with a circled number (32).

Ex. 143.

Handwritten musical score for Ex. 143, featuring two staves. The music includes complex rhythmic patterns and dynamic markings such as *mf* and *p*. There are also some performance instructions like accents and slurs. The piece is marked with a circled number (67).

Ex. 144. Le Traquet. Stapezin

Handwritten musical score for Ex. 144, titled "Le Traquet. Stapezin", featuring two staves. The music includes dynamic markings such as *mf* and *p*. There are also some performance instructions like accents and slurs. The piece is marked with a circled number (129).

Ex. 145.

Handwritten musical score for Ex. 145, featuring two staves. The music includes dynamic markings such as *p* and *mf*. There are also some performance instructions like accents and slurs. The piece is marked with a circled number (5).

Ex. 147.

Handwritten musical score for Ex. 147, featuring two staves. The music includes dynamic markings such as *mf* and *f*. There are also some performance instructions like accents and slurs. The piece is marked with circled numbers (106) and (110).

Ex. 148.

Handwritten musical score for Ex. 148, titled "La Chovette Hulotte", featuring two staves. The music includes dynamic markings such as *mf*, *ff*, and *f*. There are also some performance instructions like accents and slurs. The piece is marked with circled numbers (121) and (140).

Ex. 149. L'Alouette Lulu

Ex. 149-156

ppp  $b^+$   $b^+$   $b^+$   $b^+$  (1)

Musical notation for Ex. 149, featuring piano (p) and bass staves. The piano staff contains chords with dynamic markings *ppp* and *b<sup>+</sup>*. The bass staff contains a melodic line with a dynamic marking *p*.

Ex. 150 (12) Ex. 151 (20) (42)

Musical notation for Ex. 150 and Ex. 151. Ex. 150 includes piano and bass staves with dynamics *pp*, *mf*, and *f*. Ex. 151 continues the piece with dynamics *mf* and *f*.

Ex. 152 La Rousserole Effarvante Ex. 153 (12) (19)

Musical notation for Ex. 152 and Ex. 153. Ex. 152 includes piano and bass staves with dynamics *p* and *mf*. Ex. 153 continues with dynamics *mf* and *f*.

Ex. 154. (177) (174)

Musical notation for Ex. 154, featuring piano and bass staves with dynamics *p*, *pp*, and *mf*.

Ex. 155 (146) (147) (148) (149) (150) (151) (152) (153) (154) (155) (156)

Musical notation for Ex. 155, featuring piano and bass staves with dynamics *mf* and *f*. The notation includes many accidentals and complex chord structures.



Ex 157.

Ex 158.

Handwritten musical score for Ex 157 and Ex 158. Ex 157 is on the left, Ex 158 on the right. The score is written on two staves (treble and bass clef). Ex 158 includes dynamic markings *mf* and *f*, and measure numbers (19) and (19a).

Ex 159.

Handwritten musical score for Ex 159. The score is written on two staves. It includes dynamic markings *pp* and *mf*, and measure number (27).

Ex 160

Alouette Calandrelle

Handwritten musical score for Ex 160 and Ex 161. Ex 160 is on the left, Ex 161 on the right. The score is written on two staves. Ex 161 includes dynamic markings *mf* and *f*, and measure number (17).

Ex 162

Ex 163.

Handwritten musical score for Ex 162 and Ex 163. Ex 162 is on the left, Ex 163 on the right. The score is written on two staves. Ex 162 includes dynamic markings *p* and *mf*, and measure number (11). Ex 163 includes measure number (11).

Ex 164

Handwritten musical score for Ex 164. The score is written on two staves. It includes dynamic markings *mf*, *f*, and *mf*, and measure numbers (51) and (55).

Ex 165

La Boucarda

Handwritten musical score for Ex 165. The score is written on two staves. It includes dynamic markings *f* and *p*, and measure number (12).

Ex. 166

Handwritten musical score for Ex. 166, measures 121-127. The score is written on a grand staff with treble and bass clefs. It features complex rhythmic patterns and dynamic markings such as *pp* and *mf*. Measure numbers (121), (126), and (127) are indicated above the staff.

Ex. 166-172

Ex 167

Ex. 168

Handwritten musical score for Ex. 168, measures 128-129. The score is written on a grand staff with treble and bass clefs. It features complex rhythmic patterns and dynamic markings such as *mf* and *pp*. Measure numbers (128) and (129) are indicated above the staff.

Ex. 169

Handwritten musical score for Ex. 169, measures 130-131. The score is written on a grand staff with treble and bass clefs. It features complex rhythmic patterns and dynamic markings such as *pp*. Measure number (131) is indicated above the staff.

Ex. 170. Le Merle de roche

Handwritten musical score for Ex. 170, measures 132-137. The score is written on a grand staff with treble and bass clefs. It features complex rhythmic patterns and dynamic markings such as *p*. Measure numbers (132), (137), and (137) are indicated above the staff.

Ex. 171

Handwritten musical score for Ex. 171, measures 138-142. The score is written on a grand staff with treble and bass clefs. It features complex rhythmic patterns and dynamic markings such as *ff*, *mf*, *p*, and *pp*. Measure number (142) is indicated above the staff.

Ex. 172

Handwritten musical score for Ex. 172, measures 143-147. The score is written on a grand staff with treble and bass clefs. It features complex rhythmic patterns and dynamic markings such as *ff*. Measure number (147) is indicated above the staff.

Ex 173. La Buse variable

Ex. 170-178

Handwritten musical score for Exercise 173, 'La Buse variable'. It consists of two staves. The top staff is in treble clef and the bottom in bass clef. The music features a melodic line with various intervals and a bass line with chords and moving lines. Dynamics include 'pp' (pianissimo) and 'f' (forte). There are handwritten annotations like '8', '9', 'b2', 'h+', and '(m)'.

Handwritten musical score for Exercise 174. It consists of two staves. The top staff is in treble clef and the bottom in bass clef. The music features a melodic line with slurs and accents, and a bass line with chords. Dynamics include 'ff' (fortissimo). There are handwritten annotations like '(12)' and '(22)'.

Handwritten musical score for Exercise 175, 'Le Traquet rieur'. It consists of two staves. The top staff is in treble clef and the bottom in bass clef. The music features a melodic line with slurs and accents, and a bass line with chords. Dynamics include 'p' (piano) and 'fff' (fortississimo). There are handwritten annotations like '8', '1', '6', and 'G)'.

Handwritten musical score for Exercises 176 and 177. It consists of two staves. The top staff is in treble clef and the bottom in bass clef. The music features a melodic line with slurs and accents, and a bass line with chords. Dynamics include 'f' (forte) and 'ff' (fortissimo). There are handwritten annotations like '(10?)' and '(14)'.

Handwritten musical score for Exercise 178. It consists of two staves. The top staff is in treble clef and the bottom in bass clef. The music features a melodic line with slurs and accents, and a bass line with chords. Dynamics include 'mf' (mezzo-forte) and 'ff' (fortissimo). There are handwritten annotations like '(24)'.

Two sets of empty musical staves at the bottom of the page.

Le Courlis cendré

Éc. 179-184.

Ex. 179.

Handwritten musical score for Ex. 179, featuring three staves with treble, alto, and bass clefs. The music includes various notes, rests, and dynamic markings such as 'mf' and 'p'. A circled '11)' is visible at the top right of the first staff.

Ex. 180.

Handwritten musical score for Ex. 180, featuring two staves with treble and bass clefs. The music includes various notes, rests, and dynamic markings such as 'p'. Circled numbers '(14)' and '(102)' are present above the staves.

Ex. 181.

Ex. 182.

Handwritten musical score for Ex. 181 and Ex. 182, featuring two staves with treble and bass clefs. The music includes various notes, rests, and dynamic markings such as 'fff' and 'ff'. A circled number '(177)' is present above the first staff.

La Fauvette des Jardins

Ex. 183

Handwritten musical score for Ex. 183, featuring two staves with treble and bass clefs. The music includes various notes, rests, and dynamic markings such as 'pp'. Circled numbers '(10)' and '(11)' are present above the staves.

Ex. 184.

Handwritten musical score for Ex. 184, featuring two staves with treble and bass clefs. The music includes various notes, rests, and dynamic markings such as 'p' and 'mf'. A circled number '(6)' is present above the second staff.

Ex. 185

Ex. 185-187

Handwritten musical notation for Ex. 185, measures 120-127. The score is written on two staves. The upper staff contains chords and melodic lines, with dynamic markings *mf* and *f*. The lower staff contains a bass line. Measure numbers (120) and (127) are written above the staff. There are some handwritten annotations and corrections throughout the passage.

Handwritten musical notation for Ex. 186, measures 231-232. The score is written on two staves. The upper staff contains chords and melodic lines, with dynamic markings *f*. The lower staff contains a bass line. Measure numbers (231) and (232) are written above the staff.

Handwritten musical notation for Ex. 187, measures 90-99. The score is written on two staves. The upper staff contains chords and melodic lines, with dynamic markings *fff*, *ff*, *f*, *mf*, *ppp*, and *af*. The lower staff contains a bass line. Measure numbers (90) and (99) are written above the staff. There are several handwritten annotations and corrections throughout the passage.

EPILOGUE

While this dissertation does not attempt to draw any definite conclusions concerning the historic importance of Messiaen's music, it does set out to show the very close relationship between the structural functions of his music and the philosophic ideas set out in his writings, thereby attempting to indicate a possible direction for further study of Messiaen and his music.

It has been shown in the final section of the dissertation that the formal, rhythmic and harmonic functions of the piano music are based on the principle of the self-contained unit - namely, the rhythmic unit of duration, the formal mosaic element, and the harmonic resonance, or individual chord.<sup>(1)</sup>

This form of construction poses the question of unity, for how, from a number of self-contained elements, is a unified work constructed? The problem of unity was of prime importance to Webern, for example, who saw, and solved it in the following terms:

Composers tried to create unity in the accompaniment, to work thematically, to derive everything from one thing, and so to produce the tightest - maximum - unity. And now everything is derived from this chosen succession of twelve notes, and thematic technique works as before, on this basis, ...unity is completely assured by the underlying series. It is always the same; only its manifestations are different.<sup>(2)</sup>

- 
1. It is worth pointing out that this style of harmonic thinking is fundamental to Messiaen. When analyzing harmony in, for example, Mozart or Wagner, in class, he sees each chord as an entity in itself, describing its properties and naming it, but is never concerned with voice-leading.
  2. Webern, A., The Path to the New Music, (Vienna, 1960), p.40.

It is evident that this point of view is diametrically opposed to Messiaen's. The elements in his music embrace the most diverse sources, and cannot be thematically linked. That this is a deliberate intention on Messiaen's part can be seen from the following statements:

Je veux écrire de la musique qui soit  
un acte de foi, une musique qui touche  
à tous les sujets sans cesser de toucher  
à Dieu (3)

God for me is manifest, and my conception  
of sacred music derives from this conviction:  
God being present in all things, music dealing  
with theological subjects must be extremely  
varied. (4)

Thus Messiaen's intention is to seek unity within the greatest possible diversity.

It will be recalled that Paul Claudel considered that all relationships which are manifested in the world are limitless, and that the universe is an ensemble with every element having secret relationships with every other. Like Messiaen, and following Aquinas, he believed that all the forms in the world are symbols of Divine Essence. His technique for revealing this was the Metaphor - the co-existence of two different things.<sup>(5)</sup> As was shown in Part 2 of this dissertation, this is essentially the same technique as that employed by the Surrealists - the fusion of two mutually distant realities, or the juxtaposition of two elements normally unrelated to each other. This produces the merveilleux, the chance happenings which create a dialogue between the conscious and the unconscious.<sup>(6)</sup> The poet's role is, therefore, his ability to see

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3. See Vol.I, Part 2, p.98.

4. Ibid., p.99.

5. See Vol.I, Part 2, p.153.

6. Ibid., p.176.

the thread connecting disparate elements, the fil-conducteur, thereby imposing the form of his interior vision on what surrounds him.<sup>(7)</sup>

The analysis of Messiaen's piano music shows that his process of composition follows the same basic principle; that is, the placing together of diverse and disparate elements, which pre-supposes that each element is self-contained and without transition to its neighbour. Messiaen is therefore in direct line with the Surrealists. This process of construction has been described by Roger Shattuck as follows:

The modern sensibility...began to proceed, not so much by untrammled expansion of the unities as by a violent dislocation of them in order to test the possibility of a new coherence....a work of art began to co-ordinate as equally present a variety of times and places and states of consciousness. The process, because it seeks to hold these elements in a meaningful relationship, relinquishes the basic unity and also the quality of self-forgetfulness which characterizes romanticism. Not self-forgetful, the artist of the twentieth century seeks the means to become literally self-remembering, self-reflexive, without convention of location or of logical consistency.

In shying away from the word "unity" however, criticism in all the arts has unwittingly settled on another term to convey the idea of how the parts of a modern work of art are put together... This factotum word is juxtaposition: setting one thing beside the other without connection. The twentieth century has addressed itself to the art of juxtaposition as opposed to earlier arts of transition. (8)

The reader will only need to recall the numerous self-quotations in Messiaen's works, as many of the same elements appear from piece to piece, in order to have a clear illustration of the process of

7. See Vol.I, Part 2, p.177.

8. Shattuck, Roger, The Banquet Years, (Vintage Books, 1957), p.332.



self-remembering. Thus Messiaen's is an art of juxtaposition, and it is in this manner that he consciously expresses the passage of time.

It is pertinent, at this point, to re-examine Messiaen's notion of time, for he states that duration does not belong to music but, on the contrary, music belongs to time.

The greatest creation of God is Time, which is the absolute opposite of Eternity. Everything which we do evolves in time, including music. As a result, duration, not music, is the important thing.

And to re-state the definition of time given in Part 2:

Time is number observed as before and after.<sup>(9)</sup>

It is only when each moment is defined in terms of a unit of duration that it can be observed as before and after; or that time, in terms of this definition, becomes expressible. Therefore, in creating the concept of the unit duration, each duration in Messiaen's music becomes observable as a phase of a motion, and thus, as existing in time.

The same principle applies to the formal structures, for it is from each mosaic element that the movement of the piece is determined. The harmonic structures serve basically, although not always, to colour the durational movement of these elements, thereby allowing the passage of time to be more clearly perceived. This concept of time has been outlined as follows:

...because time is defined in terms of before and after, it is necessarily unidirectional because each phase of the primary motion is numerically distinct from its neighbours before and after. (10)

9. See Vol.I, Part 2, p.114.

10. Ibid., p.100.

This accords with the idea of juxtaposition, however, behind this process lies a deeper motivation, revealed in a paradox, as Shattuck explains:

Juxtaposition implies succession, ...Had the montage form of art been concerned with a real succession of events, transitions would have been included rather than suppressed, for transitions supply the guided tour, or order of events. But since instead of transitions we have contrast and conflict, the successive nature of these compositions cannot sustain itself. Ultimately it becomes apparent that the continually conflicting elements of montage ...are to be conceived not successively but simultaneously, to converge in our minds as contemporaneous events. ...The aspiration of simultanism is to grasp the moment in its total significance or, more ambitiously, to manufacture a moment which surpasses our normal perception of time and space.(11)

This points to the opposite of time, as defined by Messiaen, for if successive events are simultaneous, they must belong to eternity,<sup>(12)</sup> and, as Messiaen states, it is only God who is ubiquitous and who therefore exists in eternity.

Tout entier en tous lieux,  
 Tout entier en chaque lieu,  
 Donnant l'être à chaque lieu,  
 A tout ce qui occupe un lieu,  
 Le successif vous est simultan  ...(13)

Thus Messiaen's music, in consciously defining time and duration, in appointing each element which belongs in time its duration, by implication seeks to express that which lies beyond time - namely, eternity. Therefore, unlike the position put forward by Webern, where each

11. Shattuck, R., op.cit., p.345.

12. See Vol.I, Part 2, pp.100-101.

13. Ibid., pp.99-100.

manifestation is a variation of the given original material, Messiaen seeks to express the "divine essence", or the common, eternal origin of diverse manifestations.

APPENDIX ITHE MEANINGS OF THE NAMES OF THE 120 DECI-TALASFROM THE SANGITA-RATNAKARA BY SARNGADEVA.

As the notational values of the deci-tālas are given in Lavignac<sup>(1)</sup> and are reproduced by Johnson,<sup>(2)</sup> the present writer has not considered it necessary to list them here. The following meanings were given by Messiaen in his class at the Paris Conservatoire during the scholastic year 1974-1975.

1. Aditâla : the root of the talas.
2. Dvitiya : second tala.
3. Tritiya : third tala.
4. Caturthaka : fourth tala.
5. Pañcama : fifth tala.
6. Niççankalila : play without fear.
7. Darpana : mirror.
8. Simhavikrama : force of the lion.
9. Ratilîla : the game of Rati (Shakti of the God of Love).
10. Simhalîla : play of the lion.
11. Kandarpa : God of love.
12. Viravikrama : strength of the hero.
13. Ranga : colour.
14. Çriranga : lord of colour.
15. Caccari : name of a percussion instrument in the south of India.
16. Pratyanga : limbs of the body.

17. Yatilagna : the right moment to stop.
18. Gajalîla : play of the elephant.
19. Hamsalîla : play of the duck.
20. Varnabhinna : difference of colour.
21. Tribhinna : divided in three.
22. Râjacûdâmâni : king of kings.
23. Rangadyota : the colour which shines.
24. Rangapradîpaka : luminous colour.
25. Râjatâla : rhythm of the king.
26. Tryasra varna : three colours.  
 Miçra varna : mixture of colours.  
 Caturasra varna : four colours.
27. Simhavikridita : leap of the lion.
28. Jaya : victory.
29. Vanamâli : he who wears a necklace of wild flowers, (the God, Vishnu).
30. Hamsanâda : way of the duck.
31. Simhanâda : way of the lion.
32. Kudukka : instrument of percussion.
33. Turangalîla : lîla; game  
 turanga; something which goes fast (e.g. a galloping horse). The speed of the rhythm of the Creator.
34. Çarabhalîla : game of passion.
35. Simhanandana : son of the lion.
36. Tribhângi : cut in three.
37. Rangâbharana : filled with coloured water.

38. Mantha : the churning of butter.  
Refers to Hindu symbology in which the universe is created through churning a lake of milk.  
Four different forms of this tala are given.
39. Kokilâpriya : cuckoo.
40. Nihsâruka : cloud, or fog.
41. Râjavidyâdhara : the most wise of all.
42. Jayamangala : blessing of victory.
43. Mallikâmouâ : perfume of jasmin.
44. Vijayânanda : pleasure of victory.
45. Candanihsâruka : perfume of camphor.
46. Jayaçri : Goddess of beauty and harmony, (Lakshmi).
47. Makaranda : pollen.
48. Kirti : reputation.
49. Çrikirti : excellent reputation.
50. Pratitâla : echo of rhythm.
51. Vijaya : victory.
52. Bindumâlî : (no meaning given).
53. Sama : equality.
54. Nandana : the son, i.e., the child who gives joy.
55. Manthikâ : he who churns the butter, i.e., he who upsets the tranquility of the lake.
56. Dipaka : he who lights the fire.
57. Udikshana : someone who seeks.
58. Dhenkî : an apparatus for harvesting rice.
59. Vishama : not equal.
60. Varnamanthikâ : analysis of colour; i.e., decomposition of light.

61. Abhinanda : congratulation.
62. Ananga : God of love.
63. Nāndī : he who guards the door of Shiva.
64. Mallatāla : the difficult rhythm.
65. Kankāla : resignation.
- (1) pūrna : perfect resignation.
- (2) khanda : partial resignation.
- (3) sama : equal resignation.
- (4) vishama : unequal resignation.
66. Kanduka : inconsistency, change.
67. Ekatālī : the little duration.
68. Kumuda : lotus.
69. Catustāla : tala of four durations.
70. Dombuli : (no translation - perhaps an instrument of percussion).
71. Abhanga : (no translation)
72. Rāyavankola : (no translation)
73. Vasanta : Spring
74. Laghuçekhara : light diadem.
75. Pratāpaçekhara : intellectual power - the force which emanates from the forehead.
76. Jhampā : jump, going out.
77. Gajajhampa : jump of the elephant.
78. Caturmukha : four faces.
79. Madana : God of love.
80. Pratimanthaka : to churn again.
81. Pārvatilocana : the eyes of Parvati (the Shakti of Shiva).

82. Rati : love.
83. Lîlâ : divine play.
84. Karanayati : the silent tala.
85. Lalita : sweet and refined.
86. Gârugi : (no translation).
87. Râjanârâyana : king of kings.
88. Lakskmiça : the peace which descends from Lakskmi (the Shakti of Vishnu).
89. Lalitapriya : very loved.
90. Çrinandana : favourite son of Lakskmi.
91. Janaka : father.
92. Vardhana : augmentation.
93. Râgavardhana : the rhythm which gives life to the raga.
94. Shattâla : six durations.
95. Antarakrîdâ : the play of the separation.
96. Hamsa : duck.
97. Utsava : festival.
98. Vilokita : to examine.
99. Gaja : elephant.
100. Varnayati : improvisation of the melody.
101. Simha : lion.
102. Karuna : pathetic.
103. Sârasa : stork.
104. Candratâla : rhythm of the moon.
105. Candrakalâ : beauty of the moon.
106. Laya : tempo - slow or fast movement.



107. Skanda : God of war - material strength.
108. Tripura : folded in three.
109. Dhattâ : (no translation).
110. Dvandva : dispute or combination of two elements.
111. Mukunda : name given to the God, Vishnu.
112. Kuvindaka : (no meaning given).
113. Kaladhvani : sweet sonority.
114. Gauri : name of Goddess, the Shakti of Shiva.
115. Sarasvatîkanthâbharana : the necklace of Saravati (Shakti of Brahma).
116. Bhagna : broken.
117. Râjamriganka : the king who is as beautiful as the moon.
118. Râjamartanda : king beautiful as the sun.
119. Niççanka : without fear.
120. Çârngadeva : the name of the author of this table - he probably composed this tala as his signature.

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1. Lavignac, A. and Laurencie L. (eds.), Encyclopédie de la Musique et Dictionnaire du Conservatoire, Part I, Vol.I, (Paris, 1913-1931), 301-304.
  2. Johnson, R.S., Messiaen, (London, 1975), Appendix II, 194-198.

APPENDIX IICATALOGUE OF WORKS

<u>Title</u>	<u>Date</u>	<u>Publisher</u>
PIANO		
La Dame de Shalotte	1917	-
La tristesse d'un grand ciel blanc	1925	-
Préludes	1929	Durand
1. La colombe		
2. Chant d'extase dans un paysage triste		
3. Le nombre léger		
4. Instants défunts		
5. Les sons impalpables du rêve		
6. Cloches d'angoisse et larmes d'adieu		
7. Plainte calme		
8. Un reflet dans le vent		
Les Offrandes oubliées (arr.for piano)	1930	Durand
Fantaisie burlesque	1932	Durand
Pièce pour le Tombeau de Paul Dukas	1935	<u>Revue musicale</u>
		May/June 1936
Rondeau	1943	Leduc
Visions de l'Amen	1943	Durand
1. Amen de la Création		
2. Amen des étoiles, de la planète à l'anneau		
3. Amen de l'agonie de Jésus		

4. Amen de désir
5. Amen des Anges, des Saints, du chant des oiseaux
6. Amen du Jugement
7. Amen de la Consommation

Vingt Regards sur l'Enfant-Jésus 1944 Durand

1. Regard du Père
2. Regard de l'étoile
3. L'échange
4. Regard de la Vierge
5. Regard du Fils sur le Fils
6. Par Lui tout a été fait
7. Regard de la Croix
8. Regard des hauteurs
9. Regard du temps
10. Regard de l'Esprit de joie
11. Première communion de la Vierge
12. La parole tout puissante
13. Noël
14. Regard des Anges
15. Le baiser de l'Enfant-Jésus
16. Regard des prophètes, des bergers et des Mages
17. Regard du silence
18. Regard de l'Onction terrible
19. Je dors, mais mon coeur veille
20. Regard de l'Eglise d'amour

Cantéyodjayâ	1948	Universal
Neumes rythmiques	1949	Durand
Mode de valeurs et d'intensités	1949	Durand
Ile de Feu I and II	1950	Durand
Catalogue d'Oiseaux	1956-8	Leduc
Book I	1. Le Chocard des Alpes	
	2. Le Lorient	
	3. Le Merle bleu	
Book II	4. Le Traquet Stapazin	
Book III	5. La Chouette Hulotte	
	6. L'Alouette Lulu	
Book IV	7. La Rousserolle Effarvate	
Book V	8. L'Alouette Calandrelle	
	9. La Bouscarle	
Book VI	10. Le Merle de roche	
Book VII	11. La Buse variable	
	12. Le Traquet rieur	
	13. Le Courlis cendré	
La Fauvette des jardins	1970	Leduc

## VOICE AND PIANO

Deux Ballades de Villon	1921	-
1. Epître à ses amis		
2. Ballade des pendus		

- |   |      |               |
|---|------|---------------|
| Trois melodies (Soprano)                                | 1930 | Durand        |
| 1. Pourquoi?  |      |               |
| 2. Le sourire   |      |               |
| 3. La fiancée perdue                                    |      |               |
| La Mort du Nombre (Soprano, tenor, violin and<br>piano) | 1930 | Durand        |
| Vocalise (Soprano)                                      | 1935 | Leduc         |
| Poèmes pour Mi (Soprano)                                | 1936 | Durand        |
| Book I 1. Action de grâces                              | 1937 | arr.orchestra |
| 2. Paysage  |      |               |
| 3. La maison  |      |               |
| 4. Epouvante  |      |               |
| Book II 5. L'Epouse                                     |      |               |
| 6. Ta voix  |      |               |
| 7. Les deux guerriers                                   |      |               |
| 8. Le collier   |      |               |
| 9. Prière exaucée                                       |      |               |
| Chants de terre et de ciel (Soprano)                    | 1938 | Durand        |
| 1. Bail avec Mi   |      |               |
| 2. Antienne du silence                                  |      |               |
| 3. Danse du bébé-Pilule                                 |      |               |
| 4. Arc-en-ciel d'innocence                              |      |               |
| 5. Minuit pile en face                                  |      |               |
| 6. Résurrection   |      |               |

Harawi (Soprano) 1945 Leduc

(Chant d'amour et de mort)

1. La ville qui dormait, toi
2. Bonjour toi, colombe vert
3. Montagnes
4. Doundou tchil
5. L'amour de Piroutcha
6. Répétition planétaire
7. Adieu
8. Syllabes
9. L'escalier redit, gestes du soleil
10. Amour, oiseau d'étoile
11. Katchikatchi les étoiles
12. Dans le noir

#### ORGAN

- |                                  |      |         |
|----------------------------------|------|---------|
| Esquisses modales                | 1927 | -       |
| Variations écossaises            | 1928 | -       |
| Le Banquet céleste               | 1928 | Leduc   |
| L'hôte aimable des âmes          | 1928 | -       |
| Diptyque                         | 1930 | Durand  |
| Apparition de l'Eglise éternelle | 1932 | Lemoine |
| L'Ascension                      | 1934 | Leduc   |
1. Majesté du Christ demandant sa gloire à son Père
  2. Alléluias sereins d'une âme qui désire le ciel
  3. Transports de joie d'une âme devant la gloire du Christ qui est  
la sienne

## 4. Prière du Christ montant vers son Père

- |                         |  |       |
|-------------------------|--|-------|
| La Nativité du Seigneur | 1935                                   | Leduc |
| Book I                  | 1. La Vierge et l'enfant               |       |
|                         | 2. Les bergers                         |       |
|                         | 3. Dessesins éternels                  |       |
| Book II                 | 4. Le Verbe                            |       |
|                         | 5. Les Enfants de Dieu                 |       |
| Book III                | 6. Les Anges                           |       |
|                         | 7. Jésus accepte la souffrance         |       |
|                         | 8. Les Mages                           |       |
| Book IV                 | 9. Dieu parmi nous                     |       |
| Les Corps Glorieux      | 1939                                   | Leduc |
| Book I                  | 1. Subtilité des corps glorieux        |       |
|                         | 2. Les eaux de la grâce                |       |
|                         | 3. L'Ange aux parfums                  |       |
| Book II                 | 4. Combat de la Mort et de la Vie      |       |
| Book III                | 5. Force et agilité des corps glorieux |       |
|                         | 6. Joie et clarté des corps glorieux   |       |
|                         | 7. La mystère de la Sainte Trinité     |       |
| Messe de la Pentecôte   | 1950                                   | Leduc |
|                         | 1. Entrée                              |       |
|                         | 2. Offertoire                          |       |
|                         | 3. Consécration                        |       |
|                         | 4. Communion                           |       |
|                         | 5. Sortie                              |       |

Livre d'Orgue	1951	Leduc
1. Reprises par interversion		
2. Pièce en trio		
3. Les Mains de l'abîme		
4. Chants d'oiseaux		
5. Pièce en trio		
6. Les Yeux dans les roues		
7. Soixante-Quatre durées		

Verset pour la fête de la Dédicace	1960	Leduc
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Méditations sur la Mystère de la Sainte Trinité	1969	Leduc
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#### ORCHESTRA

Fugue en ré mineur	1928	-
Le Banquet Eucharistique	1928	-
Simple chant d'une âme	1930	-
Les Offrandes oubliées	1930	Durand
1. La Croix		
2. Le Péché		
3. L'Eucharistie		
Le tombeau resplendissant	1931	MS on hire Durand
Hymne au St Sacrement	1932	Broude Bros.
L'Ascension	1933	Leduc
1. Majesté du Christ demandant sa gloire à son Père		
2. Alléluias sereins d'une âme qui désire le ciel		
3. Alléluia sur la trompette, alléluia sur le cymbale		
4. Prière du Christ montant vers son Père		



Poèmes pour Mi (arr, Orchestra)	1937	Durand
Turangalîla-Symphonie	1946-48	Durand
1. Introduction		
2. Chant d'amour I		
3. Turangalîla I		
4. Chant d'amour II		
5. Joie du sang des étoiles		
6. Jardin du sommeil d'amour		
7. Turangalîla II		
8. Développement de l'amour		
9. Turangalîla III		
10. Final		
Chronochromie	1960	Leduc
Et expecto resurrectionem mortuorum	1964	Leduc
CHOIR		
O Sacrum Convivium!	1937	Durand
Choeurs pour une Jeanne d'Arc	1941	-
Cinq Rechants	1949	Salabert
CHOIR AND ORCHESTRA		
Trois petites Liturgies de la Présence divine	1944	Durand
1. Antienne de la Conversation intérieure		
2. Séquence du Verbe, Cantique divine		
3. Psalmodie de l'Ubiquité par amour		
La Transfiguration de Notre Seigneur Jésus-Christ	1963-69	Leduc

## QUARTET - Clarinet, violin, cello, piano

Quatuor pour la Fin du Temps	1941	Durand
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## PIANO AND ORCHESTRA

Reveil des Oiseaux	1953	Durand
Oiseaux exotiques	1956	Universal
Sept Haïkai	1962	Leduc

1. Introduction

2. Le parc de Nara et les lanternes de pierre

3. Yamanaka-Cadenza

4. Gagaku

5. Miyajima et le torii dans la mer

6. Les oiseaux de Karuizawa

7. Coda

Couleurs de la Cité céleste	1963	Leduc
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Des Canyons aux Etoiles	1974	
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## VIOLIN AND PIANO

Thème et Variations	1932	Leduc
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Fantaisie	1933	-
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## FLUTE AND PIANO

Le Merle noir	1951	Leduc
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## 8 SOPRANOS AND 4 VIOLINS

Messe	1933	-
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## ONDES MARTENOT

Fête des belles eaux	1937	-
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Deux Monodies en quarts de ton	1938	-
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Musique de scène pour un Oedipe	1942	-
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## MUSIQUE CONCRETE

Timbres-durées	1952	-
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## THEORETICAL WORKS

Vingt leçons de solfège modernes	1933	Lemoine
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Vingt leçons d'harmonie	1939	Leduc
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Technique de mon langage musical	1942	Leduc
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Traité de rythme	In preparation	
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