

MESSIAEN'S MODES OF LIMITED TRANSPOSITIONS ("most distinctive" of 7)

Mode 2 (8-28) 3 transpositions

Musical notation for Mode 2 (8-28) on a treble clef staff. The notes are: G#4, A4, Bb4, C5, D5, Eb5, F5, G#5.

Mode 3 (9-12) 4 transpositions

Musical notation for Mode 3 (9-12) on a treble clef staff. The notes are: G4, A4, Bb4, C5, D5, Eb5, F5, G#5.

Mode 4 (8-9) 6 transpositions

Musical notation for Mode 4 (8-9) on a treble clef staff. The notes are: G4, A4, Bb4, C5, D5, Eb5, F5, G#5.

Mode 6 (8-25) 6 transpositions

Musical notation for Mode 6 (8-25) on a treble clef staff. The notes are: G4, A4, Bb4, C5, D5, Eb5, F5, G#5.

Stravinsky  
Symphonies of  
Winds  
1920

2a. Number of subsets of 8-note modes (modes 2, 4, 6):

7 (8) 6 (28) 5 (56) 4 (70) BUT NOT ALL "DIFFERENT" — musical

6 classes of hexachord  
#3 classes of tetrachord  
②

3. Subsets: e.g., In Mode 2, 8 'triads' in major-minor pairs with roots forming a diminished 7<sup>th</sup> from C# Richness of resources. Many subsets are not symmetric (not redundant). Symmetry over-rated.

implications  
my papers  
on chords

4. The modes in Messiaen's music: constantly present even in late music.;

5. GO OVER EACH MODE (PLAY) AND STRESS INTERVAL CONTENT. [Board] — Character of the mode

6. Analytical issues: Not easy. Even identifying the modes sometimes difficult. Interpreting the foreground presents another array of issues.

Prélude VI provides examples.

Especially with "polymodality"  
"Mind-Boggling"

IV. The Modes as they occur in ~~the~~ of the Preludes (with assistance of my associate) Refreshing to hear some music.

the main  
issues

→ Prélude I: 'La colombe' (Handout)

a. Form: ABABC i.e., AAB

b. Melody of Section A (play)

c. 32<sup>nd</sup> figure: pictorial (dove) and elegant counterpoint—all Mode 2: alternation of "major" and "minor" triads

PLAY slowly

d. 'E-major triad' and diatonic section: Section B: Diatonic w/4-23

e. Mixture of diatonic-tonal and Mode 2 octatonic

MADELEINE PLAY ALL

The unusual ending: *résonance supérieure* (organ)

→ Prélude III: 'Le nombre léger

1. The melodic line in Mode 2, with E-major triadic notes emphasized and linear subsets of 8-28. Headnote and apex note (marked on example) ←

are G#, third of triad. End of the eight-bar period (traditional): successive tritones that form 6-30, the hyper-octatonic hexachord →

that Musorgsky used in the Coronation scene of Boris Godunov, →

later appropriated by Stravinsky in Petrouchka. Each 4-bar phrase presents Mode 2 in its entirety.

Appears prominently in  
Prélude III  
(Planète  
Colombe)

2. Accompaniment: Also Mode 2, same form as melody. Look at bar 1: successive triads: E-maj, G-maj., Eb-maj. Db-maj. Each line is trichord 3-8 (026). Bar 2 is the same, except the trichord outlined is 3-2 (013).

(This linear pattern breaks in bar 3.)  
 Handout p. 5: Rare scalar form of Mode 2 in bar 12, contrary motion. (CI)  
 3. Bar 13: New section: Polymodal CIII on upper staff, CI on lower. More complex manipulations: octatonic (Mode 2) cycles.

MADELEINE PLAY ALL (Handout has only two pages)

→ Prélude VI. Cloches d'angoisse et larmes d'adieu (Bells of Anguish and Tears of Farewell) — title may well apply to the analyst!

MADELEINE PLAY BARS 1-5. SEE HANDOUT FOR ANNOTATIONS

1. Example of polymodality: the combining of more than one mode: three in this instance—Mode 2, Mode 3, and Mode 6.
2. The big chords: characteristic of all the late music. Innovative. New sounds.
3. The modal constituents: Messiaen identified them for Madeleine Forte, but did not provide quite the whole story:

Pictorial pedal point (the tears).

Bars 2-3: Chords read as verticals are all Mode 3, but constituents combine Mode 3 (9-12) and Mode 6 (8-25).

Bar 4: verticals are non-modal

Bar 5: verticals are non-modal, but r.h. is Mode 6 (8-25), l.h. is Mode 2. General: The modal constituents occur in the horizontal dimension. General: Chords arise in both vertical and horizontal.

Bars 2-3 r.h. 7-33 (whole-tone) represents Mode 6 (8-25), lacking pc 6.

Bar 2 l.h. 7-33 represents Mode 6, but a different transposition (lacking pc 2). Notice the different dynamic markings, intended to separate the two components.

Bar 3 l.h. is all of Mode 3 (9-12).

Bar 4 r.h. is all of Mode 3 (9-12) at transposition of the l.h.

of bar 3 (down a half step and 'unordered').

Bar 4 l.h. has the same pc content as bar 3 r.h.: 7-33 of Mode 6, lacking only pc 6 to complete the 8-note mode (8-25)

Bar 5: r.h. all of Mode 6, l.h. all of Mode 2. Thus, every line in the r.h. is a subset of Mode 6, while every line in the l.h. is a subset of Mode 2.

Bars 6-10 repeat bars 1-5.

The two chords at the beginning of bar 5 merge to form 6-30 of Mode 2.

→ PRELUDE VI) Plainte calme

MADELEINE PLAY

Based upon Mode 2 (see notation upper left of handout) Collection II in the 2-1 ordering.

The melodic line (passing E)

The Ab7 sonority

The bell sounds: Ab7 + D7, a quotation of the bells in the Coronation scene from Musorgsky's Boris Godunov.

Bar 15: Diatonic section

Bar 17: Romantic gesture: "appoggiaturas" But Mode 3 (9-12) followed by Mode 6 (8-25).

Bar 24: "Modal counterpoint." If you analyzed this passage, not knowing that it involved modes of limited transpositions . . . .

MADELEINE PLAY PLAINTÉ CALME AGAIN—TIME PERMITTING

Questions:

VI. Messiaen's motivations: Innovation, control of material. By 1929 12-tone serial music was the major avant-garde music. BUT NOT KNOWN IN FRANCE UNTIL 1945 (René Leibowitz). Then came Boulez and Darmstadt.

How did Messiaen discover the modes?—influence of Maurice Emmanuel, who wrote modal music. Emmanuel also introduced M. to the Greek rhythmic modes. Theoretical basis: division of the octave into equal parts.

VII. Influence of Messiaen upon contemporary composition.

VIII Analysis and performance implications?

'Orientation' to structure: It seems that performers should know something about the music they are playing!

E.g., meaning of accents in 'La Colombe'

Subsets of 8-28: {1,2,4,5,7,8,10,11}

8 7-Element Subsets

7-31

{1,2,4,5,7,8,10} {11,1,2,4,5,7,8} {10,11,1,2,4,5,7}  
{8,10,11,1,2,4,5} {7,8,10,11,  
1,2,4} {5,7,8,10,11,1,2} {4,5,7,8,10,11,1} {2,4,5,7,8,10,11}

28 6-Element Subsets

6-Z13

{1,2,4,5,7,8} {10,11,1,2,4,5} {7,8,10,11,1,2} {4,5,7,8,10,11}

6-Z23

{2,4,5,7,8,10} {11,1,2,4,5,7} {8,10,11,1,2,4} {5,7,8,10,11,1}

6-27

{1,2,4,5,7,10} {4,5,7,8,10,1} {8,11,1,2,4,5} {11,2,4,5,7,8}

{10,11,1,2,4,7} {5,8

,10,11,1,2} {7,8,10,11,1,4} {2,5,7,8,10,11}

6-30

{1,2,4,7,8,10} {11,1,2,5,7,8} {10,11,1,4,5,7} {8,10,11,2,4,5}

6-Z49

{1,2,4,5,8,10} {4,5,7,8,11,1} {10,11,1,2,5,7} {7,8,10,11,2,4}

6-Z50

{1,2,5,7,8,10} {7,8,11,1,2,4} {10,11,2,4,5,7} {4,5,8,10,11,1}

56 5-Element Subsets

5-10

{1,2,4,5,7} {2,4,5,7,8} {4,5,7,8,10} {11,1,2,4,5} {10,11,1,2,4}

{8,10,11,1,2} {7

,8,10,11,1} {5,7,8,10,11}

5-16

{1,2,4,5,8} {1,4,5,7,8} {10,1,2,4,5} {4,5,7,8,11} {10,11,1,2,5}

{7,10,11,1,2} {7

,8,10,11,2} {4,7,8,10,11}

5-19

{1,2,4,7,8} {1,2,5,7,8} {7,8,10,1,2} {7,8,11,1,2} {10,11,1,4,5}

{10,11,2,4,5} {4

,5,7,10,11} {4,5,8,10,11}

5-25

{2,4,5,7,10} {5,7,8,10,1} {2,5,7,8,10} {11,1,2,4,7} {11,2,4,5,7}

{8,11,1,2,4} {8

,10,11,1,4} {5,8,10,11,1}

5-28

{8,10,1,2,4} {2,4,5,8,10} {2,4,7,8,10} {11,1,2,5,7} {11,1,4,5,7}

{5,7,8,11,1} {5

,7,10,11,1} {8,10,11,2,4}

5-31

{1,2,4,7,10} {4,5,7,10,1} {7,8,10,1,4} {5,8,11,1,2} {8,11,2,4,5}

{11,2,5,7,8} {1

,0,11,1,4,7} {2,5,8,10,11}

5-32

{1,2,5,7,10} {5,8,10,1,2} {4,5,8,10,1} {8,11,1,4,5} {7,8,11,1,4}

{11,2,4,7,8} {1

,0,11,2,4,7} {2,5,7,10,11}

70 4-Element Subsets

4-3

{1,2,4,5} {4,5,7,8} {10,11,1,2} {7,8,10,11}

4-9

{1,2,7,8} {10,11,4,5}

4-10

{2,4,5,7} {5,7,8,10} {11,1,2,4} {8,10,11,1}

4-12

{1,4,5,7} {2,4,5,8} {10,1,2,4} {4,7,8,10} {11,1,2,5} {5,7,8,11}  
{7,10,11,1} {8,1}

0,11,2}

4-13

{1,2,4,7} {2,5,7,8} {4,5,7,10} {7,8,10,1} {11,2,4,5} {8,11,1,2}  
{10,11,1,4} {5,8}

,10,11}

4-Z15

{1,2,5,7} {2,4,7,8} {8,10,1,2} {4,5,8,10} {11,1,4,5} {7,8,11,1}  
{10,11,2,4} {5,7}

,10,11}

4-17

{1,4,5,8} {10,1,2,5} {4,7,8,11} {7,10,11,2}

4-18

{1,2,5,8} {1,4,7,8} {10,1,4,5} {7,10,1,2} {4,5,8,11} {7,8,11,2}  
{10,11,2,5} {4,7}

,10,11}

4-25

{8,10,2,4} {11,1,5,7}

4-26

{2,5,7,10} {5,8,10,1} {11,2,4,7} {8,11,1,4}

4-27

{2,4,7,10} {5,7,10,1} {8,10,1,4} {2,5,8,10} {11,1,4,7} {11,2,5,7}  
{8,11,2,4} {5,

8,11,1}

4-28

{1,4,7,10} {5,8,11,2}

4-Z29

{1,2,4,8} {1,5,7,8} {10,2,4,5} {7,8,10,2} {7,11,1,2} {4,5,7,11}  
{10,11,1,5} {4,8}

,10,11}

56 3-Element Subsets

3-2

{1,2,4} {2,4,5} {4,5,7} {5,7,8} {7,8,10} {11,1,2} {10,11,1}  
{8,10,11}

3-3

{1,2,5} {1,4,5} {4,5,8} {4,7,8} {10,1,2} {7,8,11} {10,11,2}  
{7,10,11}

3-5

{1,2,7} {8,1,2} {7,8,1} {2,7,8} {4,5,10} {11,4,5} {10,11,4}  
{5,10,11}

3-7

{2,4,7} {2,5,7} {5,7,10} {8,10,1} {5,8,10} {11,1,4} {11,2,4}  
{8,11,1}

3-8

{1,5,7} {2,4,8} {10,2,4} {8,10,2} {4,8,10} {11,1,5} {7,11,1}  
{5,7,11}

3-10

{1,4,7} {2,5,8} {10,1,4} {7,10,1} {4,7,10} {11,2,5} {8,11,2}

{5,8,11}

3-11

{1,4,8} {1,5,8} {10,1,5} {10,2,5} {7,10,2} {7,11,2} {4,7,11}

{4,8,11}

# Prélude I

pour piano

OLIVIER MESSIAEN

## La colombe

mode 2 (all) Tone-painting  
Lent, expressif, d'une sonorité très enveloppée

1-2

mode 2 (w/o G4)  
ppp  
p  
ppp  
E-major (#)

3-6

rubato  
p  
pp  
CIII mode 2  
expressif  
pp  
CII mode 2

7-9

cresc.  
p  
pp  
E major + C  
mode 2 (all 3 forms)



10-12

A tempo

Rall.

ppp

pp

ppp

3-16

p

rubato

pp

expressif

pp

7-19

crese.

0-23

Rall.

"RESONANCE SUPERIEURE"

ppp

p

pp

# Prélude III

pour piano

OLIVIER MESSIAEN

## Le nombre léger

Mode 2 (C#, D#, E, F, G, G#, A#, B)  
 Vif et léger  
 le chant expressif  
 all. de Mode 2 except E (7-21)  
 mf

1-2

3-4

5-6

7-8

7-10

1-12

Mode 2: Two forms

13-14

(14)-15

15-(16)

# Prélude VI

pour piano

OLIVIER MESSIAEN

'Polymodality' Hsu p. 54 (from Messiaen)

## Cloches d'angoisse et larmes d'adieu

Très lent

mode 6: [11, 0, 1, 3, 5, 7, 9] lacks pc 6  
6-22: [11, 0, 1, 3, 5, 7]

mode 6  
7-33: [7, 8, 9, 11, 1, 3, 5] lacks pc 2

7-33: [11, 0, 1, 3, 5, 7, 9] mode 6 (T<sub>4</sub> 4 bar 2)

9-12: [3, 4, 5, 7, 8, 9, 11, 0, 1] mode 3

5-26 C9-12, 6-25  
6-34 C9-12  
5-21 C9-12, 6-226 C9-12  
6-34 C9-12

9-12: [2, 3, 4, 6, 7, 8, 10, 11, 0] mode 3 (T<sub>11</sub> bar 3) 7-28 (pc 0)

7-33 (pc 5)

6-22 (pc 8, 10)

4-26 mpp

7-31

mode 6  
8-25: [4, 5, 6, 8, 10, 11, 0, 2] (all)

8-28: [1, 2, 4, 5, 7, 8, 10, 11] (all) CI

mode 6  
7-33: [11, 0, 1, 3, 5, 7, 9]

same as bar 3 r.h. (lacks pc 6) 8-13 8-26

6-30 CI [5, 7, 8, 11, 1, 2]

mf

pp

# Prelude VII

Mode 2

pour piano

OLIVIER MESSIAEN



## Plainte calme

1-3

Lent

Mode 2 8-28 (CII)

pp expressif

Mode 2 (all) 5-10 (CII)

completes 8-28

5-25

pn

(marquez le chant et la voix intérieure)

4-7

completes 8-28

6-30 "Crownation"

6-249

Mode 2 (CII)

"A<sup>b7</sup>"

8-11

pn

12-15

Reversed + reordering

Diatonic 4-22

Canon 4-22

p

"E<sup>b</sup> major" (7-35)

6-30 "Crownation" (clitural)

**Pressez**

"D<sup>b</sup> major" (7-35)

*cresc.*

Mode 3 (7-22)      Mode 6 (5-30)

**Rall.**      **A tempo**

Box 15

4-32      4-16      4-16

6-30 CTT      5-31 CTT

*p*

**Pressez**      **Rall.**      **Rall. molto**

*cresc.*

5-10

5-25

8-28 CTT (all)

Box 9

**A tempo**

*pp expressif*

*dim.*      *pppp*

*pppp*

Title: "Olivier Messiaen's Early Piano Music and His Modes of Limited Transpositions"

(Madeleine Forte, Pianist)

Introduce Madeleine: pianist extraordinaire and Messiaen expert.

Handout:

Outline

0. Chronology 1908-1992 (Tenth anniversary of Messiaen's death) Compare Webern b. 1883. Schoenberg 1874.

Emmanuel's modal compositions

I. Background (early date, Maurice Emmanuel (teacher of Debussy and Messiaen) at the Conservatoire was theoretically minded and must have influenced young Olivier in that direction.) Possible Paul Dukas, M's composition teacher had an influence as well. The influence of Debussy was basic of course, and M. questioned the limited aesthetic values of traditional tonal music. Octa? Scriabin?

Organization of the talk: Three Préludes after discussion of modes

I. La Colombe (The Dove)

III. Le Nombre Léger (The Light Number) meaning of title

VI. Cloches d'angoisse et larmes d'adieu (Bells of Anguish and Tears of Farewell)

VII. Plainte calme (Calm complaint)

II. The Preludes. 1929 (age 19) Completely immersed in music from early age. Later broad interests. Multi-facted personality (the colors)

↳ Hindu, Greek, Peruvian, T&I

Eight short pieces with evocative and sometimes obscure titles— pianistic. Not played often. Later: Vingt Regards and Catalogue d'Oiseaux. Focus on the organ works. My work on Messiaen: Livre d'orgue article, paper for Sheffield conference. Madeleine's book, our CD. European non-tonal music in 1929: Schoenberg, Stravinsky, Bartok, Berg, Webern. France: no successor to Debussy. (d. 1918) Except Ravel (d. 1937). Saint-Saens (d. 1921) Fauré d. 1924.

REFER TO HANDOUTS

III. Essentials of the Modes of Limited Transpositions (The four 'most distinctive' modes)

- 1. Review 'limited transpositions' (redundancy). Is major scale limited?
- 2. Two 'dimensions': the linear (scalar) form and the pc set subsets.

but inversionally redundant

Bach's 48

5-10 not redundant under T (or I)

"Most distinctive of seven"